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February 15, 2018

Mr. William Welling, Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233 – 7013

Re: Mr. C's Dry Cleaners Site, NYSDEC Site Number 915157, Work Assignment D007617-11, 2017 Long-term Groundwater Monitoring Results

Dear Mr. Welling:

Ecology and Environment Engineering, P.C. (EEEPC) is pleased to provide the 2017 Long-term Groundwater Monitoring Report for the Mr. C's Dry Cleaners site. At the request of NYSDEC, the summarized results of long-term groundwater monitoring will be presented in the 2017 Periodic Review Report (PRR). The complete monitoring results and pertinent field information are contained herein.

The groundwater monitoring program around the Mr. C's site has been performed under EEEPC's Standby Contract since 2003. Based on the analytical results for samples collected during this period, the groundwater beneath and around the Mr. C's site continues to contain elevated levels of several volatile organic compounds (VOCs), including chlorinated solvents, their breakdown by-products, and aromatic hydrocarbons. The primary contaminant of concern (COC) in the groundwater is tetrachloroethene (PCE). At the request of NYSDEC, 1,4-dioxane and perfluorinated compounds (PFCs) were also tested for during the 2017 long-term groundwater monitoring event.

Fieldwork was performed by EEEPC personnel from October 31 to November 15, 2017. A total of 30 wells and six piezometers were sampled during the 2017 groundwater sampling efforts.

Well Purging and Sampling Procedures

All monitoring wells sampled were purged prior to sampling. Five of the groundwater pumping wells (PW-4, PW-5, PW-6, PW-7, and PW-8) did not require purging because, as a part of the groundwater treatment system, they were pumped during the time of sampling.

The remaining monitoring wells were purged using a submersible pump with new polyethylene tubing or disposable polyethylene bailers on new polypropylene line. Prior to purging, static water levels were measured to within ±0.01 foot in each well using a Solinst water level meter. The field data measurements are provided in Appendix A.

With the exception of the groundwater pumping wells mentioned above, all of the wells were purged of approximately three to five times the volume (or greater) of water standing in the well. Purged water from the monitoring wells was containerized and transported to the treatment facility for processing. Temperature, pH, specific conductance, turbidity, and oxygen reduction potential (ORP) were measured and recorded, at a minimum, initially, after each well volume and just prior to sampling using a LaMotte 2020 Turbidity meter and a Myron 6P Ultrameter II (water parameter kit). Purging was performed until pH, specific conductance, and temperature had stabilized and turbidity was 50 nephelometric turbidity units (NTUs) or less. The well purge records are provided in Appendix B.

The monitoring and piezometers wells were sampled using disposable polyethylene bailers on new polypropylene line; the pumping wells were sampled using dedicated bailers. The samples were collected by Iyer Environmental Group PLLC and analyzed by EuroFins Spectrum Analytical Inc. (formerly Spectrum Analytical Inc.) for VOCs by the United States Environmental Protection Agency (EPA) Method 8260C. At the request of NYSDEC, the samples were also analyzed for 1,4-dioxane and PFCs by EPA Methods SW8270D and E537, respectively. Full analytical reports for the 2017 groundwater monitoring program are provided in Appendix C. The analytical results will be submitted in electronic form through New York State's Environment Data Base (EQuIS).

Quality Control and Quality Assurance (QA/QC)

Field duplicate, matrix spike/matrix spike duplicate (MS/MSD), and rinsate blank samples were collected for QA/QC purposes. Independent data validation of the analytical results was performed by EEEPC. The data usability summary reports (DUSRs) are provided in Appendix D.

Five potential impacts on data usability were noted: (1) chloromethane and 1,4-dioxane were detected in method blank samples; (2) carbon disulfide was detected in a trip blank sample; (3) the matrix spike recovery and relative percent difference (RPD) criteria were not met for PCE or cis-1,2-dichloroethene [cis-DCE] in MS/MSD analysis; and (4) PFCs were qualified as "U", or non-detect, in several samples. These issues did not affect the validity of the 2017 groundwater sampling results.

Analytical Results Review

Table 1 provides a summary of the analytical results of VOCs, 1,4-dioxane, and PFCs detected in groundwater samples from each monitoring well, piezometer, and groundwater pumping well sampled. Bold values shown in the table denote positive analytical results; highlighted boxes in the table denote values that exceed either NYSDEC's groundwater standards or guidance values.

Figures 1 and 2 summarize historical VOC concentrations detected across the site. Figures 3 and 4 present, respectively, iso-contour contaminant concentration maps showing the total chlorinated VOCs and PCE contaminant plumes; these figures were generated using Surfer Modeling Software for 2017. Figure 5 presents the groundwater elevation isopleths contour map.

Groundwater Monitoring Results for VOCs

The analytical results for VOCs indicate the following:

- Eleven VOCs (1,2-dichloroethane, acetone, chloroform, chloromethane, cis-DCE, ethylbenzene, methyl tert-butyl ether [MTBE], PCE, trans-1,2-dichloroehtene [trans-DCE], trichloroethene [TCE], and vinyl chloride) were detected in the groundwater samples at levels that exceed the NYSDEC Class GA groundwater standards and guidance values[1] used to screen the groundwater data.
- 1,2-dichloroethane was detected above its groundwater guidance value (0.6 µg/L), at a concentration of 2.24 µg/L, only in monitoring well MPI-3S. For clarity, 1,2-dichloroethane was not included in the interpolation of groundwater contaminant plume contours.
- Acetone was detected above its groundwater guidance value (50 micrograms per liter [µg/L]), at a concentration of 60.6 µg/L, only in piezometer PZ-7D. For clarity, acetone was not included in the interpolation of the groundwater contaminant plume contours.
- Chloroform was not detected above its groundwater guidance value (7 µg/L). However, it was detected above the total VOCs groundwater standard (5 µg/L) only in monitoring well MPI-2S-R. Chloroform was detected at a concentration of 6.08 µg/L and, for clarity, was not included in the interpolation of groundwater contaminant plume contours.
- Chloromethane was detected above its groundwater guidance value (5 µg/L), at a concentration of 20.5 µg/L, only in pumping well PW-5. For clarity, chloromethane was not included in the interpolation of groundwater contaminant plume contours.
- cis-DCE was detected above its groundwater guidance value (5 µg/L) in seven monitoring wells (EE-2, ESI-6, MPI-4I, MPI-4S, MPI-6S, MPI-8S-R, and MW-8), five pumping wells (PW-4, PW-5, PW-6, PW-7, and PW-8), and two piezometers (PZ-6A and PZ-7D). The highest concentration of cis-DCE (5,450 µg/L) was detected in a sample collected from pumping well PW-7.
- Ethylbenzene was detected above its groundwater guidance value (5 µg/L), at a concentration of 17.5 µg/L, only in pumping well PW-4. For clarity, ethylbenzene was not included in the interpolation of groundwater contaminant plume contours.
- MTBE was detected above its groundwater guidance value (10 µg/L) in four monitoring wells (EE-2, MPI-15B, MPI-3S, and MPI-4I), one pumping well (PW-8), and one piezometer (PZ-6A, PZ-8C). The highest concentration of MTBE (331 µg/L) was detected in a sample collected from monitoring well MPI-4I. For clarity, MTBE was not included in the interpolation of groundwater contaminant plume contours.
- PCE was detected above its groundwater standard (5 µg/L) in 11 monitoring wells (EE-2, ESI-3, ESI-6, MPI-1S, MPI-4I, MPI-5S, MPI-6S, MPI-8S-R, MW-11, MW-7, and MW-8), seven pumping wells (RW-1, PW-2, PW-4, PW-5, PW-6, PW-7, and PW-8), and five piezometers (PZ-1D, PZ-3B, PZ-5B, PZ-6A, and PZ-7D). The highest concentration of PCE (3,350 µg/L) was detected in a sample collected from pumping well PW-7.

[1] New York State Department of Conservation. 1998. Division of Water Technical and Operational Guidance Series (1.1.1): *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations,* Division of Water, Albany, New York.

- trans-DCE was detected above its groundwater standard (5 µg/L) in one monitoring well (MW-8), one pumping well (PW-7), and one piezometer (PZ-6A). The highest concentration of trans-DCE (34.5 µg/L) was detected in a sample collected from pumping well PW-7.
- TCE was detected above its groundwater standard (5 µg/L) in four monitoring wells (EE-2, ESI-6, MPI-4I, and MPI-8S-R), five pumping wells (PW-4, PW-5, PW-6, PW-7, and PW-8), and three piezometers (PZ-3B, PZ-5B, and PZ-6A). The highest concentration of TCE (572 µg/L) was detected in a sample collected from pumping well PW-7.
- Vinyl chloride was detected above its groundwater standard (2 µg/L) in four monitoring wells (MPI-4I, MPI-4S, MPI-6S, and MW-8), two pumping wells (PW-7 and PW-8), and two piezometers (PZ-7D and PZ-8C). The highest concentration of vinyl chloride (816 µg/L) was detected in a sample collected from pumping well PW-7.

Groundwater Monitoring Results for 1,4-dioxane and PFCs

The analytical results for 1,4-dioxane and PFCs indicate the following:

- 1,4-dioxane was not detected in any of the monitoring wells, pumping wells, or piezometers.
- PFCs were detected in 14 wells (ESI-2-R, ESI-3, MPI-14-B-R, MPI-2S-R, MPI-5S, MPI-6S, MPI-8S-R, MPI-9S-R, MW-11, MW-7, MW-8, PW-4, PZ-1D, and PZ-3B). None of the wells had detections greater than the EPA's drinking water health advisory of 70 ng/L for total PFCs. The highest concentration of total PFCs (64 ng/L) was detected in a sample collected from monitoring well ESI-2-R.
- Perfluorooctanesulfonic acid [PFOS] was detected in four monitoring wells (ESI-3, MPI-8S-R, MW-11, and MW-8) and one piezometer (PZ-1D). None of the monitoring wells or the piezometer had detections greater than the EPA's individual drinking water health advisory of 70 ng/L. The highest concentration of PFOS (13 ng/L) was detected in a sample collected from monitoring well MPI-8S-R.
- Perfluorooctanoic acid [PFOA] was detected in nine wells (ESI-2-R, ESI-3, MPI-5S, MPI-8S-R, MW-11, MW-7, MW-8, PW-4, and PZ-3B). None of the wells had detections greater than the EPA's individual drinking water health advisory of 70 ng/L. The highest concentration of PFOA (17 ng/L) was detected in samples collected from monitoring wells ESI-3 and MW-11.

Discussion of Findings

VOCs

The long-term groundwater monitoring program is performed as part of the engineering controls for the site under the approved Site Management Plan (SMP). At the Mr. C's site, and especially in the vicinity of the recent bioremediation pilot study, rebound may also occur as PCE and its degradation products are reduced. The November 2017 sampling was performed to assess the rebound, or increase, in contaminant levels that were expected to result from shut down and reactivation of the groundwater treatment system according to the pulsed-pumping schedule. Rebound is a phenomenon usually observed after pump-and-treat processes have stopped and sorbed chemicals equilibrate with aqueous concentrations. Pump-and-treat operations, such as those at the Mr. C's site, have several limitations, one of which is the sorption of chemicals onto the soil matrix. Equilibrium is not always achieved instantaneously; rather, it can occur over a long period, which would explain why rebound occurs only after a pump-and-treat operation stops.

The analytical results from the 2017 sampling event, which occurred while the treatment system and pumps to the west of Whaley Avenue were in operation, were compared to the results of the 2016 sampling event. The results of the comparison are provided below.

- PCE concentrations increased in eight monitoring wells (EE-2, ESI-6, MPI-1S, MPI-4S, MPI-6S, MPI-9SR, MW-7, and MW-8), five pumping wells (PW-3, PW-4, PW-5, PW-6, and PW-8), and one piezometer (PZ-3B).
- PCE concentrations decreased in nine monitoring wells (ESI-3, MPI-13BR, MPI-15B, MPI-2SR, MPI-4I, MPI-4S, MPI-5S, MPI-8SR, and MW-11), one pumping well (PW-2), and three piezometers (PZ-5A, PZ-6A, and PZ-8C).
- Of the monitoring wells, pumping wells, and piezometers that showed a decrease in PCE concentration from 2016 to 2017, four monitoring wells, one pumping well, and two piezometers showed an increase in the concentrations of daughter products of PCE.
- The results for monitoring wells MPI-4I and MPI-5S and for pumping well PW-2 showed an increase only in the concentration of cis-DCE.
- The results for monitoring well ESI-3 showed an increase only in the concentration of MTBE.
- The results for monitoring well MPI-4S and piezometer PZ-5A showed increases in the concentrations of both cis-DCE and MTBE.
- The results for piezometer PZ-8C showed an increase only in the concentration of trans-1,2-dichloroethene.
- The PCE results for five monitoring wells (EE-3, ESI-2R, ESI-5R, MPI-3S, and MPI-7IR) were non-detect in both 2016 and 2017.
- Two pumping wells (PW-7 and RW-1) were not sampled in 2016 or 2015. However, these pumping wells showed an increase in the concentration of PCE from the 2014 to the 2017 monitoring results.
- Two piezometers (PZ-1D and PZ-7D) had not been sampled prior to 2017.
- The Surfer-generated concentration contours on Figures 3 and 4 (PCE and Total VOCs in Groundwater) for 2016 and 2017 were generally similar. However, the contours indicate a continued increase in the amount of PCE breakdown by-products.

1,4-Dioxane and PFCs

As requested by NYSDEC, the monitoring wells samples were analyzed for 1,4-dioxane and PFCs as part of the 2017 Long-term Groundwater Monitoring event. The analysis of the results showed that there were no detections for 1,4-dioxane in any of the monitoring wells, pumping wells, or piezometers sampled in 2017. Although PFCs, and in particular PFOS and PFOA, were detected, the concentrations were below the EPA's drinking water health advisory for total PFCs and individual PFOS and PFOA (70 ng/L). No further sampling and analysis of 1,4-dioxane and PFCs is recommended.

If you have any questions or comments regarding this report, please contact me at (716) 684-8060.

Sincerely,

ECOLOGY AND ENVIRONMENT ENGINEERING, P.C.

Ashlee Patnode
Project Manager

Attachments:

Figures 1-5: Historical Results (2), Contaminant Iso-contours (2), Groundwater Contours (1)
Table: Summary of Detected VOCs
Appendices A - D

cc: Mr. Dave Szymanski, NYSDEC Region 9 – w/Attachments
1703074.0011.09

2017 LONG-TERM GROUNDWATER SAMPLING
MR. C's DRY CLEANER SITE
NYSDEC SITE NUMBER 9-15-157

TABLES and FIGURES

Table 1
Summary of Mr. C's 2017 Long-term
Groundwater Monitoring Results

Table 1 Summary of Positive Analytical Results for Groundwater Samples
Mr. C's Cleaners - Long Term Groundwater Monitoring, November 2017

Analyte	Screening Criteria [1,2]	Notes	Location ID: EE-2 Sample Name: EE-2-11917 Depth: 22 - 32 ft Date: 11/09/17	Location ID: EE-3 Sample Name: EE-3 111317 Depth: 18 - 28 ft Date: 11/13/17	Location ID: ESI-2-R Sample Name: ESI-2R-11317 Depth: 9 - 19 ft Date: 11/03/17
Volatile Organic Compounds by Method 8260C (µg/L)					
1,1,1-Trichloroethane	5		5.09 U	0.51 U	0.51 U
1,1-Dichloroethane	5		3.23 U	**0.35 J**	0.32 U
1,2-Dichloroethane	0.6		2.77 U	0.28 U	0.28 U
Acetone	50	G	8.04 U	0.8 U	0.8 U
Chloroform	7		3.26 U	0.33 U	0.33 U
Chloromethane	5		3.68 U	0.37 U	0.37 U
Cis-1,2-Dichloroethene	5		**299**	0.33 U	0.33 U
Ethylbenzene	5		3.29 U	0.33 U	0.33 U
Tert-Butyl Methyl Ether (MTBE)	10	G	**15.9**	0.24 U	0.24 U
Tetrachloroethylene (PCE)	5		**640**	0.57 U	0.57 U
Trans-1,2-Dichloroethene	5		3.77 U	0.38 U	0.38 U
Trichloroethylene (TCE)	5		**288**	0.5 U	0.5 U
Vinyl Chloride	2		4.72 U	0.47 U	0.47 U
Semi-Volatile Organics by Method SW8270D (µg/L)					
1,4-Dioxane (P-Dioxane)	N/A		0.052 U	0.051 U	0.049 U
Perfluorinated Compounds by Method E537 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)	N/A		0.7 U	0.7 U	**51**
Perfluoroheptanoic acid (PFHpA)	N/A		0.7 U	0.7 U	**6**
Perfluorohexanesulfonic acid (PFHxS)	N/A		1 U	1 U	0.4 U
Perfluorononanoic acid (PFNA)	N/A		0.7 U	0.7 U	0.3 U
Perfluorooctanesulfonic acid (PFOS)	70		2 U	2 U	0.8 U
Perfluorooctanoic acid (PFOA)	70		0.7 U	0.7 U	**7**

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Table 1 Summary of Positive Analytical Results for Groundwater Samples
Mr. C's Cleaners - Long Term Groundwater Monitoring, November 2017

Analyte	Screening Criteria [1,2]	Notes	Location ID: ESI-3 Sample Name: ESI-3-R11117 Depth: 7 - 17 ft Date: 11/01/17	ESI-5-R ESI-5R 111417 5 - 15 ft 11/14/17	ESI-6 ESI-6 111417 7 - 17 ft 11/14/17
Volatile Organic Compounds by Method 8260C (µg/L)					
1,1,1-Trichloroethane	5		**1.21**	0.51 U	5.09 U
1,1-Dichloroethane	5		**0.89 J**	0.32 U	3.23 U
1,2-Dichloroethane	0.6		0.28 U	0.28 U	2.77 U
Acetone	50	G	0.8 U	0.8 U	8.04 U
Chloroform	7		0.33 U	0.33 U	3.26 U
Chloromethane	5		0.37 U	0.37 U	3.68 U
Cis-1,2-Dichloroethene	5		0.33 U	0.33 U	**70.6**
Ethylbenzene	5		0.33 U	0.33 U	3.29 U
Tert-Butyl Methyl Ether (MTBE)	10	G	**0.58 J**	0.24 U	2.37 U
Tetrachloroethylene (PCE)	5		**100 J**	0.57 U	**393 J**
Trans-1,2-Dichloroethene	5		0.38 U	0.38 U	3.77 U
Trichloroethylene (TCE)	5		0.5 U	0.5 U	**23.9**
Vinyl Chloride	2		0.47 U	0.47 U	4.72 U
Semi-Volatile Organics by Method SW8270D (µg/L)					
1,4-Dioxane (P-Dioxane)	N/A		0.049 U	0.053 U	0.048 U
Perfluorinated Compounds by Method E537 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)	N/A		**2**	0.3 U	0.5 U
Perfluoroheptanoic acid (PFHpA)	N/A		**3**	0.3 U	0.5 U
Perfluorohexanesulfonic acid (PFHxS)	N/A		0.4 U	0.4 U	0.7 U
Perfluorononanoic acid (PFNA)	N/A		**1**	0.3 U	0.5 U
Perfluorooctanesulfonic acid (PFOS)	70		**4**	0.7 U	1 U
Perfluorooctanoic acid (PFOA)	70		**17**	0.3 U	0.5 U

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Table 1 Summary of Positive Analytical Results for Groundwater Samples
Mr. C's Cleaners - Long Term Groundwater Monitoring, November 2017

Analyte	Screening Criteria [1,2]	Notes	Location ID: MPI-13B-R Sample Name: MPI-13BR-11617 Depth: 17 - 32 ft Date: 11/06/17	Location ID: MPI-14B-R Sample Name: MPI-14BR 11717 Depth: 15 - 30 ft Date: 11/07/17	Location ID: MPI-15B Sample Name: MPI-15B 111417 Depth: 0 - 0 ft Date: 11/14/17
Volatile Organic Compounds by Method 8260C (µg/L)					
1,1,1-Trichloroethane	5		0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	5		0.32 U	0.32 U	0.32 U
1,2-Dichloroethane	0.6		0.28 U	0.28 U	0.28 U
Acetone	50	G	0.8 U	0.8 U	0.8 U
Chloroform	7		0.33 U	0.33 U	0.33 U
Chloromethane	5		0.37 U	0.37 U	0.37 U
Cis-1,2-Dichloroethene	5		0.33 U	**0.42 J**	0.33 U
Ethylbenzene	5		0.33 U	0.33 U	0.33 U
Tert-Butyl Methyl Ether (MTBE)	10	G	**0.37 J**	0.24 U	**10.8**
Tetrachloroethylene (PCE)	5		2 U	**2.21**	0.57 U
Trans-1,2-Dichloroethene	5		0.38 U	0.38 U	0.38 U
Trichloroethylene (TCE)	5		0.5 U	0.5 U	0.5 U
Vinyl Chloride	2		0.47 U	0.47 U	0.47 U
Semi-Volatile Organics by Method SW8270D (µg/L)					
1,4-Dioxane (P-Dioxane)	N/A		0.049 U	0.048 U	0.051 U
Perfluorinated Compounds by Method E537 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)	N/A		0.5 U	**3**	0.7 U
Perfluoroheptanoic acid (PFHpA)	N/A		0.5 U	0.5 U	0.7 U
Perfluorohexanesulfonic acid (PFHxS)	N/A		0.7 U	0.7 U	1 U
Perfluorononanoic acid (PFNA)	N/A		0.5 U	0.5 U	0.7 U
Perfluorooctanesulfonic acid (PFOS)	70		1 U	1 U	2 U
Perfluorooctanoic acid (PFOA)	70		0.5 U	0.5 U	0.7 U

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Table 1 Summary of Positive Analytical Results for Groundwater Samples
Mr. C's Cleaners - Long Term Groundwater Monitoring, November 2017

Analyte	Screening Criteria [1,2]	Notes	Location ID: MPI-1S Sample Name: MPI-1S 111317 Depth: 9 - 19 ft Date: 11/13/17	Location ID: MPI-2S-R Sample Name: MPI-2S-R 11717 Depth: 8 - 18 ft Date: 11/07/17	Location ID: MPI-3S Sample Name: MPI-3S 111317 Depth: 8 - 18 ft Date: 11/13/17
Volatile Organic Compounds by Method 8260C (µg/L)					
1,1,1-Trichloroethane	5		0.51 U	**2.63**	0.51 U
1,1-Dichloroethane	5		0.32 U	0.32 U	0.32 U
1,2-Dichloroethane	0.6		0.28 U	0.28 U	**2.24**
Acetone	50	G	0.8 U	0.8 U	0.8 U
Chloroform	7		0.33 U	**6.08**	0.33 U
Chloromethane	5		0.37 U	0.37 U	0.37 U
Cis-1,2-Dichloroethene	5		**1.24**	0.33 U	0.33 U
Ethylbenzene	5		0.33 U	0.33 U	0.33 U
Tert-Butyl Methyl Ether (MTBE)	10	G	0.24 U	0.24 U	**19.1**
Tetrachloroethylene (PCE)	5		**20.6 J**	**2.37**	0.57 U
Trans-1,2-Dichloroethene	5		0.38 U	0.38 U	0.38 U
Trichloroethylene (TCE)	5		**0.92 J**	0.5 U	0.5 U
Vinyl Chloride	2		0.47 U	0.47 U	**1.02**
Semi-Volatile Organics by Method SW8270D (µg/L)					
1,4-Dioxane (P-Dioxane)	N/A		0.052 U	0.048 U	0.05 U
Perfluorinated Compounds by Method E537 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)	N/A		0.3 U	**3**	0.5 U
Perfluoroheptanoic acid (PFHpA)	N/A		0.3 U	0.3 U	0.5 U
Perfluorohexanesulfonic acid (PFHxS)	N/A		0.4 U	0.4 U	0.7 U
Perfluorononanoic acid (PFNA)	N/A		0.3 U	0.3 U	0.5 U
Perfluorooctanesulfonic acid (PFOS)	70		0.7 U	0.8 U	1 U
Perfluorooctanoic acid (PFOA)	70		0.3 U	0.3 U	0.5 U

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Table 1 Summary of Positive Analytical Results for Groundwater Samples
Mr. C's Cleaners - Long Term Groundwater Monitoring, November 2017

Analyte	Screening Criteria [1,2]	Notes	Location ID: MPI-4I Sample Name: MPI-4I-11917 Depth: 32 - 42 ft Date: 11/09/17	Location ID: MPI-4S Sample Name: MPI-4S-11917 Depth: 11 - 21 ft Date: 11/09/17	Location ID: MPI-5S Sample Name: MPI-5S-11317 Depth: 8 - 18 ft Date: 11/03/17
Volatile Organic Compounds by Method 8260C (µg/L)					
1,1,1-Trichloroethane	5		2.54 U	0.51 U	0.51 U
1,1-Dichloroethane	5		1.62 U	0.32 U	0.32 U
1,2-Dichloroethane	0.6		1.38 U	0.28 U	0.28 U
Acetone	50	G	4.02 U	0.8 U	**1.51 J**
Chloroform	7		1.63 U	0.33 U	0.33 U
Chloromethane	5		1.84 U	0.37 U	0.37 U
Cis-1,2-Dichloroethene	5		**343**	**42.2**	**4.38**
Ethylbenzene	5		1.64 U	0.33 U	0.33 U
Tert-Butyl Methyl Ether (MTBE)	10	G	**331**	**0.73 J**	0.24 U
Tetrachloroethylene (PCE)	5		**276**	**4.89**	**30.4**
Trans-1,2-Dichloroethene	5		1.88 U	0.38 U	**1.35**
Trichloroethylene (TCE)	5		**62.3**	**1.46**	**4.21**
Vinyl Chloride	2		**428**	**3.99**	0.47 U
Semi-Volatile Organics by Method SW8270D (µg/L)					
1,4-Dioxane (P-Dioxane)	N/A		0.05 U	0.049 U	0.049 U
Perfluorinated Compounds by Method E537 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)	N/A		0.4 UJ	0.3 U	**2**
Perfluoroheptanoic acid (PFHpA)	N/A		0.4 UJ	0.3 U	0.5 U
Perfluorohexanesulfonic acid (PFHxS)	N/A		0.5 UJ	0.4 U	0.6 U
Perfluorononanoic acid (PFNA)	N/A		0.4 UJ	0.3 U	0.5 U
Perfluorooctanesulfonic acid (PFOS)	70		1 UJ	0.7 U	1 U
Perfluorooctanoic acid (PFOA)	70		0.4 UJ	0.3 U	**5**

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Table 1 Summary of Positive Analytical Results for Groundwater Samples
Mr. C's Cleaners - Long Term Groundwater Monitoring, November 2017

Analyte	Screening Criteria [1,2]	Notes	Location ID: MPI-5S-FD Sample Name: MPI-5S-11317Q Depth: 8 - 18 ft Date: 11/03/17	MPI-6S MPI-6S-11817 12 - 22 ft 11/08/17	MPI-7I-R MPI-7I-R11117 29 - 39 ft 11/01/17
Volatile Organic Compounds by Method 8260C (µg/L)					
1,1,1-Trichloroethane	5		0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	5		0.32 U	0.32 U	0.32 U
1,2-Dichloroethane	0.6		0.28 U	0.28 U	0.28 U
Acetone	50	G	0.8 U	**7.33 J**	0.8 U
Chloroform	7		0.33 U	0.33 U	0.33 U
Chloromethane	5		0.37 U	0.37 UJ	0.37 U
Cis-1,2-Dichloroethene	5		**4.24**	**39.2**	0.33 U
Ethylbenzene	5		0.33 U	0.33 U	0.33 U
Tert-Butyl Methyl Ether (MTBE)	10	G	0.24 U	0.24 U	**0.42 J**
Tetrachloroethylene (PCE)	5		**30.2**	**7.42 J**	0.57 UJ
Trans-1,2-Dichloroethene	5		**1.55**	**0.44 J**	0.38 U
Trichloroethylene (TCE)	5		**4.38**	**1.54**	0.5 U
Vinyl Chloride	2		0.47 U	**18.2**	0.47 U
Semi-Volatile Organics by Method SW8270D (µg/L)					
1,4-Dioxane (P-Dioxane)	N/A		0.048 U	0.049 U	0.048 U
Perfluorinated Compounds by Method E537 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)	N/A		0.5 U	**1**	0.4 U
Perfluoroheptanoic acid (PFHpA)	N/A		0.5 U	0.4 U	0.4 U
Perfluorohexanesulfonic acid (PFHxS)	N/A		0.7 U	0.5 U	0.5 U
Perfluorononanoic acid (PFNA)	N/A		0.5 U	0.4 U	0.4 U
Perfluorooctanesulfonic acid (PFOS)	70		1 U	1 U	1 U
Perfluorooctanoic acid (PFOA)	70		**4**	0.4 U	0.4 U

**** Key at end of table.***

Table 1 Summary of Positive Analytical Results for Groundwater Samples
Mr. C's Cleaners - Long Term Groundwater Monitoring, November 2017

Analyte	Screening Criteria [1,2]	Notes	Location ID: MPI-8S-R Sample Name: MPI-8SR-11617 Depth: 8 - 18 ft Date: 11/06/17	Location ID: MPI-9S-R Sample Name: MPI-9SR-11617 Depth: 8 - 18 ft Date: 11/06/17	Location ID: MW-11 Sample Name: MW-11 11717 Depth: 10 - 20 ft Date: 11/07/17
Volatile Organic Compounds by Method 8260C (µg/L)					
1,1,1-Trichloroethane	5		0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	5		0.32 U	0.32 U	0.32 U
1,2-Dichloroethane	0.6		0.28 U	0.28 U	0.28 U
Acetone	50	G	0.8 U	0.8 U	0.8 U
Chloroform	7		**1.2**	0.33 U	0.33 U
Chloromethane	5		0.37 U	0.37 U	0.37 U
Cis-1,2-Dichloroethene	5		**55.4**	0.33 U	0.33 U
Ethylbenzene	5		0.33 U	0.33 U	0.33 U
Tert-Butyl Methyl Ether (MTBE)	10	G	0.24 U	0.24 U	0.24 U
Tetrachloroethylene (PCE)	5		**76.6**	**0.6 J**	**61.5**
Trans-1,2-Dichloroethene	5		**0.95 J**	0.38 U	0.38 U
Trichloroethylene (TCE)	5		**7.31**	0.5 U	0.5 U
Vinyl Chloride	2		0.47 U	0.47 U	0.47 U
Semi-Volatile Organics by Method SW8270D (µg/L)					
1,4-Dioxane (P-Dioxane)	N/A		0.05 U	0.048 U	0.048 U
Perfluorinated Compounds by Method E537 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)	N/A		**5 J**	**3**	**4**
Perfluoroheptanoic acid (PFHpA)	N/A		**4**	0.5 U	**7**
Perfluorohexanesulfonic acid (PFHxS)	N/A		**3**	0.7 U	**3**
Perfluorononanoic acid (PFNA)	N/A		**1 J**	0.5 U	0.3 U
Perfluorooctanesulfonic acid (PFOS)	70		**13**	1 U	**4**
Perfluorooctanoic acid (PFOA)	70		**13**	0.5 U	**17**

**** Key at end of table.***

Table 1 Summary of Positive Analytical Results for Groundwater Samples
Mr. C's Cleaners - Long Term Groundwater Monitoring, November 2017

Analyte	Screening Criteria [1,2]	Notes	Location ID: MW-7 Sample Name: MW-7 11717 Depth: 5 - 15 ft Date: 11/07/17	MW-8 MW-8-11317 5 - 15 ft 11/03/17	PW-2 PW-2-111017 18 - 28 ft 11/10/17
Volatile Organic Compounds by Method 8260C (µg/L)					
1,1,1-Trichloroethane	5		10.2 U	0.51 U	0.51 U
1,1-Dichloroethane	5		6.46 U	0.32 U	0.32 U
1,2-Dichloroethane	0.6		5.54 U	0.28 U	0.28 U
Acetone	50	G	16.1 U	0.8 U	0.8 U
Chloroform	7		6.52 U	0.33 U	0.33 U
Chloromethane	5		7.36 U	0.37 U	0.37 U
Cis-1,2-Dichloroethene	5		6.54 U	**24.6**	**3.08**
Ethylbenzene	5		6.58 U	0.33 U	0.33 U
Tert-Butyl Methyl Ether (MTBE)	10	G	4.74 U	0.24 U	0.24 U
Tetrachloroethylene (PCE)	5		**701**	**8.03**	**12.7 J**
Trans-1,2-Dichloroethene	5		7.54 U	**7.06**	0.38 U
Trichloroethylene (TCE)	5		9.94 U	**3.43**	**0.6 J**
Vinyl Chloride	2		9.44 U	**11.8**	0.47 U
Semi-Volatile Organics by Method SW8270D (µg/L)					
1,4-Dioxane (P-Dioxane)	N/A		0.049 U	0.049 U	0.048 U
Perfluorinated Compounds by Method E537 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)	N/A		**3**	**2**	0.5 U
Perfluoroheptanoic acid (PFHpA)	N/A		**5**	**2**	0.5 U
Perfluorohexanesulfonic acid (PFHxS)	N/A		**2**	0.7 U	0.7 U
Perfluorononanoic acid (PFNA)	N/A		0.3 U	0.5 U	0.5 U
Perfluorooctanesulfonic acid (PFOS)	70		0.8 U	**10**	1 U
Perfluorooctanoic acid (PFOA)	70		**12**	**8**	0.5 U

**** Key at end of table.***

Table 1 Summary of Positive Analytical Results for Groundwater Samples
Mr. C's Cleaners - Long Term Groundwater Monitoring, November 2017

Analyte	Screening Criteria [1,2]	Notes	Location ID: PW-3 Sample Name: PW-3-111017 Depth: 18 - 28 ft Date: 11/10/17	PW-4 PW-4-111017 18 - 28 ft 11/10/17	PW-5 PW-5-111017 18 - 28 ft 11/10/17
Volatile Organic Compounds by Method 8260C (µg/L)					
1,1,1-Trichloroethane	5		0.51 U	25.4 U	25.4 U
1,1-Dichloroethane	5		0.32 U	16.2 U	16.2 U
1,2-Dichloroethane	0.6		0.28 U	13.8 U	13.8 U
Acetone	50	G	**2.86 J**	40.2 U	40.2 U
Chloroform	7		0.33 U	16.3 U	16.3 U
Chloromethane	5		0.37 U	18.4 U	**20.5 J**
Cis-1,2-Dichloroethene	5		**0.4 J**	**102**	**17 J**
Ethylbenzene	5		0.33 U	**17.5 J**	16.4 U
Tert-Butyl Methyl Ether (MTBE)	10	G	0.24 U	11.8 U	11.8 U
Tetrachloroethylene (PCE)	5		**4.56 J**	**2590 J**	**1590 J**
Trans-1,2-Dichloroethene	5		0.38 U	18.8 U	18.8 U
Trichloroethylene (TCE)	5		0.5 U	**220**	**45.5 J**
Vinyl Chloride	2		0.47 U	23.6 U	23.6 U
Semi-Volatile Organics by Method SW8270D (µg/L)					
1,4-Dioxane (P-Dioxane)	N/A		0.048 U	0.049 U	0.049 U
Perfluorinated Compounds by Method E537 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)	N/A		0.5 U	0.5 U	0.5 U
Perfluoroheptanoic acid (PFHpA)	N/A		0.5 U	0.5 U	0.5 U
Perfluorohexanesulfonic acid (PFHxS)	N/A		0.7 U	0.7 U	0.7 U
Perfluorononanoic acid (PFNA)	N/A		0.5 U	0.5 U	0.5 U
Perfluorooctanesulfonic acid (PFOS)	70		1 U	1 U	1 U
Perfluorooctanoic acid (PFOA)	70		0.5 U	**8 J**	0.5 U

**** Key at end of table.***

Table 1 Summary of Positive Analytical Results for Groundwater Samples
Mr. C's Cleaners - Long Term Groundwater Monitoring, November 2017

Analyte	Screening Criteria [1,2]	Notes	Location ID: PW-6 Sample Name: PW-6-11817 Depth: 18 - 28 ft Date: 11/08/17	PW-7 PW-7-11817 18 - 28 ft 11/08/17	PW-8 PW-8-11817 18 - 28 ft 11/08/17
Volatile Organic Compounds by Method 8260C (µg/L)					
1,1,1-Trichloroethane	5		25.4 U	25.4 U	2.54 U
1,1-Dichloroethane	5		16.2 U	16.2 U	1.62 U
1,2-Dichloroethane	0.6		13.8 U	13.8 U	1.38 U
Acetone	50	G	40.2 UJ	40.2 UJ	4.02 UJ
Chloroform	7		16.3 U	16.3 U	1.63 U
Chloromethane	5		18.4 UJ	18.4 UJ	1.84 UJ
Cis-1,2-Dichloroethene	5		**228**	**5450**	**461**
Ethylbenzene	5		16.4 U	16.4 U	1.64 U
Tert-Butyl Methyl Ether (MTBE)	10	G	11.8 U	11.8 U	**12.8**
Tetrachloroethylene (PCE)	5		**1850 J**	**3350 J**	**181 J**
Trans-1,2-Dichloroethene	5		18.8 U	**34.5 J**	1.88 U
Trichloroethylene (TCE)	5		**166**	**572**	**12.6**
Vinyl Chloride	2		23.6 U	**816**	**308**
Semi-Volatile Organics by Method SW8270D (µg/L)					
1,4-Dioxane (P-Dioxane)	N/A		0.049 U	0.048 U	0.05 U
Perfluorinated Compounds by Method E537 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)	N/A		0.4 U	0.5 U	0.5 UJ
Perfluoroheptanoic acid (PFHpA)	N/A		0.4 U	0.5 U	0.5 UJ
Perfluorohexanesulfonic acid (PFHxS)	N/A		0.5 U	0.6 U	0.7 UJ
Perfluorononanoic acid (PFNA)	N/A		0.4 U	0.5 U	0.5 UJ
Perfluorooctanesulfonic acid (PFOS)	70		1 U	1 U	1 UJ
Perfluorooctanoic acid (PFOA)	70		0.4 U	0.5 U	0.5 UJ

**** Key at end of table.***

Table 1 Summary of Positive Analytical Results for Groundwater Samples
Mr. C's Cleaners - Long Term Groundwater Monitoring, November 2017

Analyte	Screening Criteria [1,2]	Notes	Location ID: PZ-1D Sample Name: PZ-1D-11617 Depth: 18 - 28 ft Date: 11/06/17	PZ-3B PZ-3B-11317 18 - 28 ft 11/03/17	PZ-5B PZ-5B 111517 18 - 28 ft 11/15/17
Volatile Organic Compounds by Method 8260C (µg/L)					
1,1,1-Trichloroethane	5		0.51 U	2.54 U	25.4 U
1,1-Dichloroethane	5		0.32 U	1.62 U	16.2 U
1,2-Dichloroethane	0.6		0.28 U	1.38 U	13.8 U
Acetone	50	G	0.8 U	4.02 U	40.2 U
Chloroform	7		**0.42 J**	1.63 U	16.3 U
Chloromethane	5		0.37 U	1.84 U	18.4 U
Cis-1,2-Dichloroethene	5		**2.31**	1.64 U	16.4 U
Ethylbenzene	5		0.33 U	1.64 U	16.4 U
Tert-Butyl Methyl Ether (MTBE)	10	G	0.24 U	1.18 U	11.8 U
Tetrachloroethylene (PCE)	5		**17.4**	**174**	**1970 J**
Trans-1,2-Dichloroethene	5		**0.84 J**	1.88 U	18.8 U
Trichloroethylene (TCE)	5		**2.67**	**5.9**	**120**
Vinyl Chloride	2		0.47 U	2.36 U	23.6 U
Semi-Volatile Organics by Method SW8270D (µg/L)					
1,4-Dioxane (P-Dioxane)	N/A		0.048 U	0.048 U	0.051 U
Perfluorinated Compounds by Method E537 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)	N/A		**2**	**2**	0.3 U
Perfluoroheptanoic acid (PFHpA)	N/A		**1**	**1**	0.3 U
Perfluorohexanesulfonic acid (PFHxS)	N/A		0.4 U	0.4 U	0.4 U
Perfluorononanoic acid (PFNA)	N/A		0.3 U	0.3 U	0.3 U
Perfluorooctanesulfonic acid (PFOS)	70		**3**	0.8 U	0.7 U
Perfluorooctanoic acid (PFOA)	70		0.3 U	**4**	0.3 U

**** Key at end of table.***

Table 1 Summary of Positive Analytical Results for Groundwater Samples
Mr. C's Cleaners - Long Term Groundwater Monitoring, November 2017

Analyte	Screening Criteria [1,2]	Notes	Location ID: PZ-6A Sample Name: PZ-6A-11817 Depth: 18 - 28 ft Date: 11/08/17	PZ-7D PZ-7D-11817 18 - 28 ft 11/08/17	PZ-8C PZ-8C-11917 18 - 28 ft 11/09/17
Volatile Organic Compounds by Method 8260C (µg/L)					
1,1,1-Trichloroethane	5		10.2 U	2.54 U	0.51 U
1,1-Dichloroethane	5		6.46 U	1.62 U	0.32 U
1,2-Dichloroethane	0.6		5.54 U	1.38 U	0.28 U
Acetone	50	G	16.1 UJ	**60.6 J**	0.8 U
Chloroform	7		6.52 U	1.63 U	0.33 U
Chloromethane	5		7.36 UJ	1.84 UJ	0.37 U
Cis-1,2-Dichloroethene	5		**1720**	**485**	**1.19**
Ethylbenzene	5		6.58 U	1.64 U	0.33 U
Tert-Butyl Methyl Ether (MTBE)	10	G	**11.6 J**	1.18 U	**33.8**
Tetrachloroethylene (PCE)	5		**1670 J**	**8.1 J**	0.57 U
Trans-1,2-Dichloroethene	5		**8 J**	**3.8 J**	**0.53 J**
Trichloroethylene (TCE)	5		**346**	2.48 U	0.5 U
Vinyl Chloride	2		9.44 U	**108**	**15.2**
Semi-Volatile Organics by Method SW8270D (µg/L)					
1,4-Dioxane (P-Dioxane)	N/A		0.051 U	0.048 U	0.052 U
Perfluorinated Compounds by Method E537 (ng/L)					
Perfluorobutanesulfonic acid (PFBS)	N/A		0.4 U	0.8 UJ	0.5 U
Perfluoroheptanoic acid (PFHpA)	N/A		0.4 U	0.8 U	0.5 U
Perfluorohexanesulfonic acid (PFHxS)	N/A		0.5 U	1 U	0.7 U
Perfluorononanoic acid (PFNA)	N/A		0.4 U	0.8 U	0.5 U
Perfluorooctanesulfonic acid (PFOS)	70		1 U	2 U	1 U
Perfluorooctanoic acid (PFOA)	70		0.4 U	0.8 U	0.5 U

**** Key at end of table.***

Table 1 Summary of Positive Analytical Results for Groundwater Samples
Mr. C's Cleaners - Long Term Groundwater Monitoring, November 2017

Analyte	Screening Criteria [1,2]	Notes	Location ID: RW-1 Sample Name: RW-1-111017 Depth: 18 - 28 ft Date: 11/10/17
Volatile Organic Compounds by Method 8260C (µg/L)			
1,1,1-Trichloroethane	5		0.51 U
1,1-Dichloroethane	5		0.32 U
1,2-Dichloroethane	0.6		0.28 U
Acetone	50	G	0.8 U
Chloroform	7		0.33 U
Chloromethane	5		0.37 U
Cis-1,2-Dichloroethene	5		**2.53**
Ethylbenzene	5		0.33 U
Tert-Butyl Methyl Ether (MTBE)	10	G	0.24 U
Tetrachloroethylene (PCE)	5		**22.1 J**
Trans-1,2-Dichloroethene	5		0.38 U
Trichloroethylene (TCE)	5		**1.29**
Vinyl Chloride	2		0.47 U
Semi-Volatile Organics by Method SW8270D (µg/L)			
1,4-Dioxane (P-Dioxane)	N/A		0.049 U
Perfluorinated Compounds by Method E537 (ng/L)			
Perfluorobutanesulfonic acid (PFBS)	N/A		0.5 U
Perfluoroheptanoic acid (PFHpA)	N/A		0.5 U
Perfluorohexanesulfonic acid (PFHxS)	N/A		0.7 U
Perfluorononanoic acid (PFNA)	N/A		0.5 U
Perfluorooctanesulfonic acid (PFOS)	70		1 U
Perfluorooctanoic acid (PFOA)	70		0.5 U

**** Key at end of table.***

Table 1 Summary of Positive Analytical Results for Groundwater Samples
Mr. C's Cleaners - Long Term Groundwater Monitoring, November 2017

Key:

Qualifiers

J = Estimated value

U = Not detected (method detection limit shown)

UJ = Not detected/estimated detection limit

Other

µg/L = Micrograms per liter

ng/L = Nanograms per liter

G = Guidance value (no standard available)

N/A = Not regulated/no available criteria

Notes

1. New York State Department of Environmental Conservation, Technical and Operational Guidance Series Memorandum #1.1.1:
2. United States Environmental Protection Agency, *PFOA & PFOS Drinking Water Health Advisories* [Fact Sheet].
3. Bold values denote positive hits.
4. Shaded cells exceeds groundwater guidance value.

Figures 1 and 2
Historical Summary of VOC's Across the Site

EE-2	6/04	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Chloroform	0.346	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	1660	670	130	83 J	54	52	31	19	13 J	15.9
Methylene chloride	0.208	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	0.387	ND	ND	ND	ND	ND	2.2 J	97	400	640
Vinyl chloride	–	ND	38	12 J	18	9.9 J	8.2	4.7 J	ND	ND
cis-1,2-Dichloroethene	–	ND	ND	6.7 J	190	210	260	230	200	299
1,1-Dichloroethane	NA	NA	NA	NA	1.0 J	ND	0.96 J	0.82 J	ND	ND
1,1-Dichloroethene	NA	NA	NA	NA	.98 J	ND	1.1 J	0.80 J	ND	ND
Chloromethane	NA	NA	NA	NA	1.0 J	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	NA	NA	NA	NA	25	71	74	140	210	288
trans-1,2-Dichloroethene	NA	NA	NA	NA	1.2 J	ND	3.4 J	1.6 J	ND	ND

MPI-3S	5/02	9/03	6/04	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Benzene	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-Butyl Ether	1700	560	390	240	190 J	110 J	81	54	45	35	27	19.1
Tetrachloroethene (PCE)	ND	ND	0.495	ND	ND	2.6 J	ND	ND	1.9 J	ND	ND	ND
1,2-Dichloroethane	ND	1.4	0.538	ND	ND	ND	ND	2.2 J	ND	2.2 J	ND	2.24
Tert-Butyl Methyl Ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	1.02

MPI-4S	5/02	9/03	6/04	8/07	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Tetrachloroethene (PCE)	2	2	1.63	5.0	2.3 J	ND	3.3 J	4.3 J	4.4 J	4.9 J	4.89
cis-1,2-Dichloroethene	14	16	97.8	140	61	ND	65	55	41	11	42.2
Methyl tert-Butyl Ether	8	11	4.26	ND	ND	ND	ND	ND	1.3 J	ND	0.73 J
Vinyl Chloride	4	ND	5.53	20	6.0	ND	11	8.6	6.4	1.7 J	3.99
Acetone	9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	5	ND	1.22	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	0.722	ND	ND	2.7 J	ND	ND	ND	ND	ND
Isopropylbenzene	ND	ND	0.108 J	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	1.05	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ND	ND	4.27	2.4	1.1 J	ND	ND	1.2 J	1.6 J	ND	1.46
Trihalomethanes, Total	NA	NA	0.722 J	ND	NA	ND	ND	ND	ND	ND	NS
Bromodichloromethane	NA	NA	NA	NA	NA	3.4 J	ND	ND	ND	ND	ND
Bromoform	NA	NA	NA	NA	NA	1.2 J	ND	ND	ND	ND	ND
Dibromochloromethane	NA	NA	NA	NA	NA	3.5 J	ND	ND	ND	ND	ND

PW-6	5/02	10/03	6/04	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Acetone	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	12	ND
Methyl tert-Butyl Ether	8	ND	45.5	18	37	27	4.0 J	NS	ND	1.4 J	ND	ND
Trichloroethylene (TCE)	3 J	ND	41.3	100	120	82	79	NS	0.97 J	130 J	ND	166
Tetrachloroethene (PCE)	37	ND	463	1100	340 J	970 J	1000	NS	23	2000	27	1850 J
Ethylbenzene	5 J	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND
Xylene	2 J	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	11.6	50	300 J	130	76	NS	7.9	61 J	1.3 J	228
trans-1,2-Dichloroethene	ND	ND	0.400	ND	3.9 J	ND	ND	NS	ND	0.84 J	ND	ND
1,1-Dichloroethane	ND	ND	0.150	ND	ND	ND	0.59 J	NS	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	0.861	ND	ND	ND	ND	NS	ND	1.8 J	ND	ND

PZ-6A	10/14	10/15	4/16	11/17
Methyl tert-butyl ether	26	6.8	ND	11.6 J
trans-1,2-Dichloroethene	5.8	3.0 J	ND	8 J
1,1-Dichloroethene	2.2 J	4.2 J	ND	ND
Vinyl chloride	1.1 J	0.85 J	ND	ND
cis-1,2-Dichloroethene	930	410	910	1720
Trichloroethylene (TCE)	400	190	120	346
Tetrachloroethene (PCE)	1500	670	790	1670 J
Carbon Disulfide	ND	2.1 J	ND	ND

PW-7	5/02	10/03	6/04	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Acetone	280	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Methyl tert-Butyl Ether	85 J	ND	35.0	5.2 J	ND	2.8 J	ND	ND	1.5 J	NS	NS	ND
2-Butanone	680	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Ethylbenzene	63 J	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Xylene	290	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Styrene	160	ND	NA	ND	ND	ND	ND	ND	ND	NS	NS	ND
Trichloroethylene (TCE)	92 J	10	41.5	94	29	68 J	8.9	8.5 J	1.1 J	NS	NS	572
Tetrachloroethene (PCE)	4200	800	2760	2400	1400 J	950 J	550	300	4.0 J	NS	NS	3350 J
1,1-Dichloroethene	ND	ND	1.06	ND	ND	ND	ND	ND	ND	NS	NS	ND
cis-1,2-Dichloroethene	ND	ND	7.92	25	5.7	17 J	2.2 J	4.9 J	99	NS	NS	5450
Toluene	ND	ND	0.186	ND	ND	ND	ND	ND	ND	NS	NS	ND
trans-1,2-Dichloroethene	ND	ND	0.776	ND	ND	ND	ND	ND	ND	NS	NS	34.5 J
Vinyl chloride	ND	ND	0.171	ND	ND	ND	ND	ND	13	NS	NS	816

MPI-15B	5/02	6/04	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
2-Butanone	NS	1.61	ND	ND	ND	180	ND	ND	ND	ND	ND
Methyl tert-butyl ether	NS	6.39	6.3 J	7.4	3.3 J	4.1 J	7.4	6.2	1.1 J	ND	10.8
Acetone	NA	NA	NA	NA	NA	2300	ND	ND	ND	ND	ND
Chloromethane	NA	NA	NA	NA	NA	1.5 J	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	NA	NA	NA	NA	NA	1.1 J	ND	ND	ND	7.2	ND

PW-8	5/02	9/03	6/04	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
1,1-Dichloroethene	ND	2	0.302	ND	ND	ND	ND	ND	1.6 J	ND	ND	ND
2-Butanone	ND	46	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	4	66	25.2	15	28	12	11	20 J	23	8.4	11	12.6
trans-1,2-Dichloroethene	ND	2	0.722	ND	ND	ND	ND	ND	2.8 J	ND	ND	ND
Tetrachloroethene (PCE)	43	110	243	150	200 J	100	140	360	260	170	60	181 J
cis-1,2-Dichloroethene	1	5	8.45	13	30	15	13	91	980	150	66	461
Methyl tert-Butyl Ether	16	79	10.1	3.5 J	4.2 J	5.1	2.3 J	4.4 J	14	2.7 J	1.2 J	12.8
Acetone	26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	190	8.9	2.9 J	308
Carbon Disulfide	–	–	–	7.2 J	ND	ND	ND	ND	ND	ND	ND	ND

PZ-8C	10/14	10/15	4/16	11/17
Methyl tert-butyl ether	33	26	36	33.8
cis-1,2-Dichloroethene	30	56	19	1.19
Trichloroethylene (TCE)	2.0 J	ND	ND	ND
Tetrachloroethene (PCE)	22	ND	3.7 J	ND
trans-1,2-Dichloroethene	ND	1.1 J	ND	0.53 J
Vinyl chloride	63	110	57	15.2
Carbon Disulfide	ND	3.0 J	ND	ND

PZ-7D	11/17
Acetone	60.6 J
cis-1,2-Dichloroethene	485
Tetrachloroethene (PCE)	8.1 J
trans-1,2-Dichloroethene	3.8 J
Vinyl chloride	108

MPI-6S	5/02	9/03	6/04	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Acetone	ND	20	ND	ND	ND	ND	ND	ND	ND	12 J	7.4	7.33 J
Trichloroethylene (TCE)	ND	15	125	58	94	69	30 J	3.2 J	1.5 J	ND	ND	1.54
Tetrachloroethene (PCE)	ND	1200	3480	4900	8100 J	6200 J	6800	40	15	ND	ND	7.42 J
cis-1,2-Dichloroethene	ND	2	3.26	3.8 J	14	27	ND	27	1300	18 J	27	39.2
Methyl tert-Butyl Ether	1000	23	2.59	ND	1.8 J	3.6 J	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	0.48	ND	ND	ND	ND	ND	16	ND	1.7 J	0.44 J
2-Butanone	NA	NA	1.28	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	0.167	ND	ND	ND	ND	ND	3.2 J	ND	ND	ND
Vinyl Chloride	–	–	–	–	–	–	–	1.5 J	380	14 J	13	18.2
Mythyl Acetate	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	1.8 J	ND

MPI-13B/MPI-13BR	5/02	9/03	6/04	8/07	6/12	10/13	10/14	10/15	4/16	11/17
Trichloroethylene (TCE)	ND	0.57	ND	ND	0.8 J	ND	0.81 J	ND	ND	ND
Benzene	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	ND	3.2	0.403	5.0 J	3.6 J	4.5 J	3.7 J	6.7	2.1 J	ND
2-Butanone	NA	NA	0.979	ND	ND	ND	ND	ND	ND	ND
Acetone	NA	NA	4.01	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	NA	NA	0.440	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	–	–	–	–	–	–	–	–	–	0.37 J

PW-4	5/02	10/03	6/04	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Trichloroethylene (TCE)	ND	35	57.9	74 J	100	120	170	110	170	110	1.6 J	220
Tetrachloroethene (PCE)	50	200	2850	1600	2400 J	2300 J	2200 J	1800	2600	2000	120	2590 J
cis-1,2-Dichloroethene	ND	490	8.68	19	34	36	44	28 J	190 J	81 J	ND	102
Acetone	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	17	ND
2-Butanone	1400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	210	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17.5 J
Xylene	1200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	360	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	22.0	23	64	33	0.95 J	ND	9.3	8.5	ND	ND
Toluene	ND	ND	0.193	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	0.981	3.3 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	0.680	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	0.485	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	0.211	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	0.121	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	1.2	ND	3.9 J	ND	1.8 J	ND	2.1 J	1.4 J	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	1.4 J	NA	ND	ND

PW-5	5/02	10/03	6/04	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Acetone	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	3300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	170	2000	3220	2000	4000 J	4300 J	3100 J	700	2700	2300	620	1590 J
Ethylbenzene	310	ND	0.209	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	510	ND	NA	ND	ND	ND	ND	13	ND	ND	ND	ND
Trichloroethylene (TCE)	ND	99	78.6	95	140	190	87	ND	69	31	59	45.5 J
cis-1,2-Dichloroethene	ND	8	8.17	21	21	16	16	ND	170	99	120	17 J
Xylene	1100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	0.801	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	0.346	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	0.194	ND	ND	ND	ND	ND	0.62 J	ND	ND	ND
Benzene	ND	ND	0.114	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	10.1	3.7 J	2.6 J	4.8 J	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	2.61	6.5 J	12	6.4	5.9	ND	4.2 J	3.5 J	ND	ND
Vinyl chloride	ND	ND	0.415	ND	ND	ND	ND	ND	ND	8.8	ND	ND

MPI-14B/MW-14BR	5/02	9/03	6/04	8/07	2/12	10/13	10/14	10/15	4/16	11/17
Vinyl chloride	ND	ND	1.06	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	2.93	2.8 J	1.3 J	ND	ND	ND	ND	0.42 J
Methyl tert-butyl ether	ND	ND	2.99	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	1	ND	0.175	ND	10 J	2.5 J	6.2	2.3	ND	2.21
Trichloroethylene (TCE)	ND	ND	0.191	ND	1.0 J	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	1.60	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	4.06	9.6 J	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	0.340	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NA	NA	NA	NA	0.6 J	ND	ND	ND	ND	ND

MPI-12B	5/02	9/03	6/04	8/07	5/09	5/10	10/15	4/16	11/17
cis-1,2-Dichloroethene	NS	NS	3.46	9.4 J	16	17	NS	NS	NS
Methyl tert-butyl ether	NS	NS	341	170	90	110	NS	NS	NS
Tetrachloroethene (PCE)	NS	NS	0.422	ND	2.8 J	ND	NS	NS	NS
Trichloroethylene (TCE)	NS	NS	0.294	ND	ND	ND	NS	NS	NS

ESI-6	5/02	9/03	6/04	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
1,1-Dichloroethane	ND	0.67	0.616	ND	ND	ND	1.0 J	ND	1.3 J	ND	ND	ND
Trichloroethylene (TCE)	44	16	19.2	14	17	10 J	13	38	22	21	14	23.9
Tetrachloroethene (PCE)	1180	230	514	240	320 J	140 J	200 J	480	410	320	240	393 J
cis-1,2-Dichloroethene	130	26	23.6	20	37	5.9 J	17	160	59	32	7.6 J	70.6
Methyl tert-Butyl Ether	48	53	29.2	7.5 J	7.4	3.5 J	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	0.290	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	0.605	ND	ND	ND	ND	ND	ND	ND	ND	ND

EE-3	2/12	10/13	10/14	10/15	4/16	11/17
cis-1,2-Dichloroethene	0.7 J	11	20	15	11	ND
Methyl tert-butyl ether	29	18	23 J	22	20	ND
Tetrachloroethene (PCE)	3.3 J	1.4 J	1.1 J	1.3 J	ND	ND
Vinyl chloride	13	2.1 J	ND	ND	ND	ND
Tert-Butyl Methyl Ether	NA	NA	NA	ND	ND	0.35 J

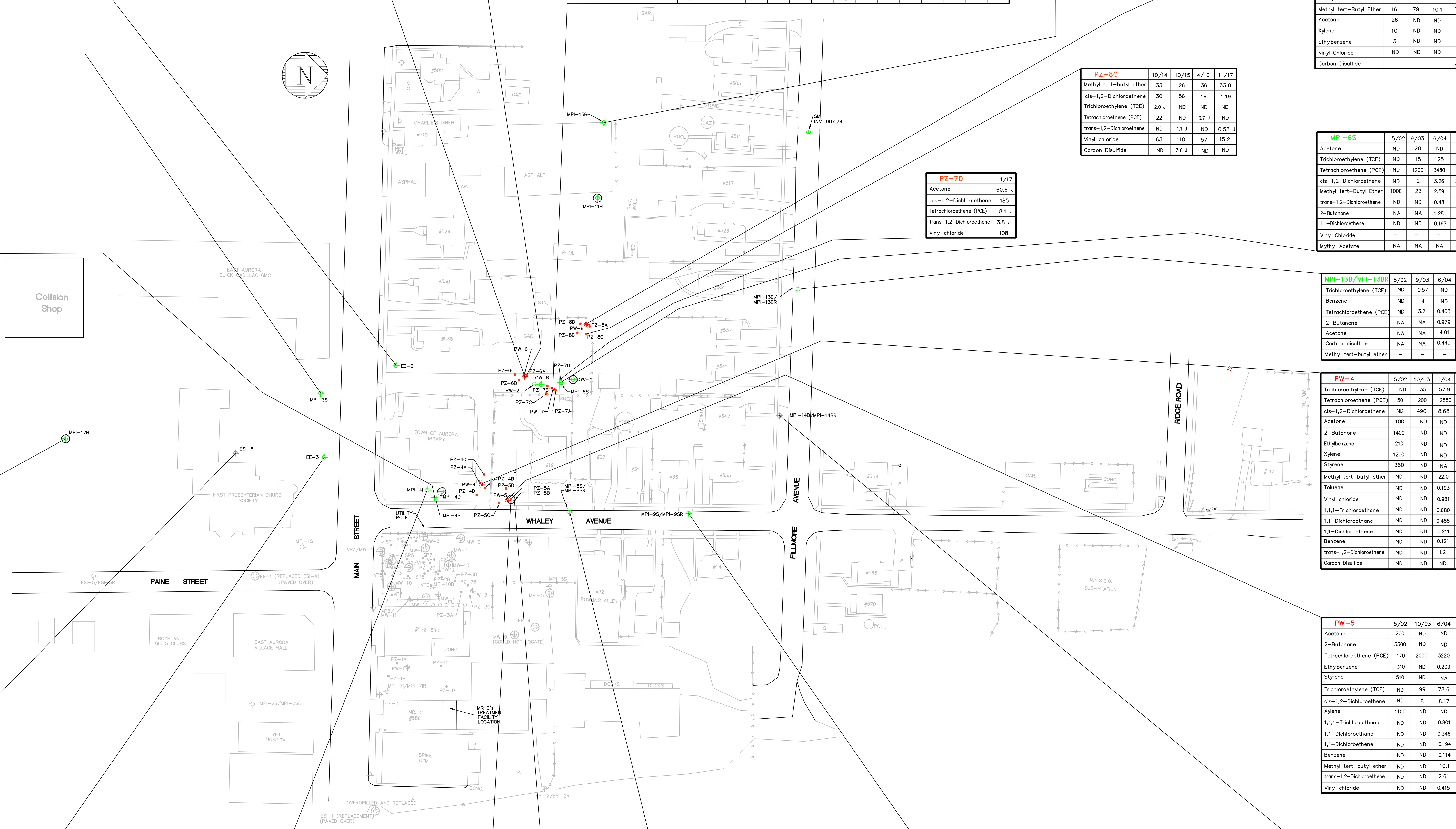
MPI-4I	5/02	9/03	6/04	8/07	5/09	5/10	2/12	10/14	10/15	4/16	11/17
Trichloroethylene (TCE)	120	280	137	580	180	120 J	2.2 J	41	31	4.3 J	62.3
Tetrachloroethene (PCE)	160	690	556	1300	640 J	400 J	14 J	150	71	9.1	276
cis-1,2-Dichloroethene	16	48	49.4	160	780 J	880 J	74	650	720	290	343
Methyl tert-Butyl Ether	140	40	26.3	23	13	14 J	ND	240	310	340	331
trans-1,2-Dichloroethene	ND	ND	1.53	21	4.4 J	2.0 J	ND	2.1 J	1.6 J	ND	ND
Vinyl chloride	ND	ND	0.196	ND	ND	ND	13	130	180	110	428
1,1-Dichloroethene	–	–	–	ND	ND	1.0 J	ND	ND	ND	ND	ND
Benzene	NA	NA	NA	NA	NA	NA	.62 J	ND	ND	ND	ND

PZ-5A	10/14	10/15	4/16	11/17
Trichloroethylene (TCE)	NS	NS	75 J	NS
Tetrachloroethene (PCE)	NS	NS	5600	NS

PZ-5B	10/14	10/15	4/16	11/17
trans-1,2-Dichloroethene	8.0 J	20 J	NS	ND
cis-1,2-Dichloroethene	6.0 J	14 J	NS	ND
Trichloroethylene (TCE)	66	70	NS	120
Tetrachloroethene (PCE)	2100	3000	NS	1970 J

MPI-8S/MPI-8SR	5/02	9/03	6/04	8/07	6/12	10/13	10/14	10/15	4/16	11/17
cis-1,2-Dichloroethene	NA	NA	NA	NA	5.0	10	37	71	62	55.4
Methyl tert-butyl ether	NA	NA	NA	NA	0.58 J	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	NA	NA	NA	NA	180	120	130	150	140	76.6
trans-1,2-Dichloroethene	NA	NA	NA	NA	1.6 J	1.3 J	1.8 J	1.6 J	2.2 J	0.95 J
Trichloroethylene (TCE)	NA	NA	NA	NA	22	17	18	17	13	7.31
Vinyl chloride	NA	NA	NA	NA	ND	ND	0.55 J	ND	1.4 J	ND
Chloroform	–	–	–	–	–	–	–	–	–	1.2

MPI-9S/MPI-9SR	5/02	9/03	6/04	8/07	6/12	10/13	10/14	10/15	4/16	11/17
Tetrachloroethene (PCE)	NA	NA	NA	NA	.75 J	ND	1.7 J	1.2 J	ND	0.6 J
Methyl tert-butyl ether	NA	NA	NA	NA	NA	ND	ND	ND	7.5	ND



LEGEND

- SANITARY SEWER MANHOLE
- MONITORING WELL
- PUMPING WELL
- PIEZOMETER
- EXISTING STRUCTURES AND FEATURES
- FENCE
- PAINE STREET — MAJOR AREA STREETS
- WELLS OR PIEZOMETERS CIRCLED = NOT FOUND (EITHER ABANDONED, DECOMMISSIONED, OR MISSING)

WELL ABBREVIATIONS

EEI	(ECOLOGY & ENVIRONMENT)	PW	PUMPING WELL (TYREE)
ESI	EMPIRE SOILS WELL (ENVIRONMENTAL SCIENCE)	PZ	PIEZOMETER (TYREE)
MPI	OBSERVATION WELL (MALCOLM-PIRNIE)	RW	RECOVERY WELL (BY OTHERS)
MW	MONITORING WELL (MATRIX)	SP	SPARGE POINT
NA	DATA NOT AVAILABLE	VP	VAPOR COLLECTION POINT
OW	OBSERVATION WELL	MPI-7IR	REPLACEMENT WELL

ANALYTICAL ABBREVIATIONS

ug/L	MICROGRAMS PER LITER
ND	NOT DETECTED
NS	NOT SAMPLED
NA	NOT ANALYZED
–	NOT ANALYZED OR NOT DETECTED
J	ESTIMATED VALUE
(U)	ANALYZED FOR BUT NOT DETECTED AT THE DETECTION LIMIT INDICATED

NOTES:

1. ONLY DETECTED COMPOUNDS ARE PRESENTED.
2. HORIZONTAL CONTROL IS BASED UPON THE NEW YORK STATE PLANE COORDINATE SYSTEM, WEST ZONE, 1983 ADJUSTMENT (NAD 83).
3. ELEVATIONS ARE BASED UPON NORTH GEODETIC VERTICAL DATUM, 1929 (NGVD 1929).
4. BENCHMARK IS LOCATED NEAR THE NORTHEAST CORNER OF MAIN STREET AND PAINE STREET, BEING A BRASS DISC SET IN THE TOP OF CONCRETE BASE – ELEVATION 916.64'
5. ALL ANALYTICAL WORK PERFORMED IN JUNE 2004 WAS ANALYZED USING METHOD 524.1 FOR VOLATILE ORGANIC COMPOUNDS.
6. AUGUST 2007 ANALYTICAL WORK PERFORMED USING CLP METHOD OLM04.2.
7. ALL RESULTS ARE SHOWN IN μg/L.

SCALE IN FEET: 0 60 120 180

DWG NO.	DATE	DESCRIPTION
DEC 31 ISO.dwg	7/18/94	ISOPOTENTIAL MAP AND CROSS SECTIONS 4/13/94 GROUNDWATER LEVELS MALCOLM PIRNIE INC.
0266G003.dwg	10/17/00	REMEDIAL DESIGN PIPING AND WELL LAYOUT PLAN MALCOLM PIRNIE INC.

REFERENCE DRAWINGS

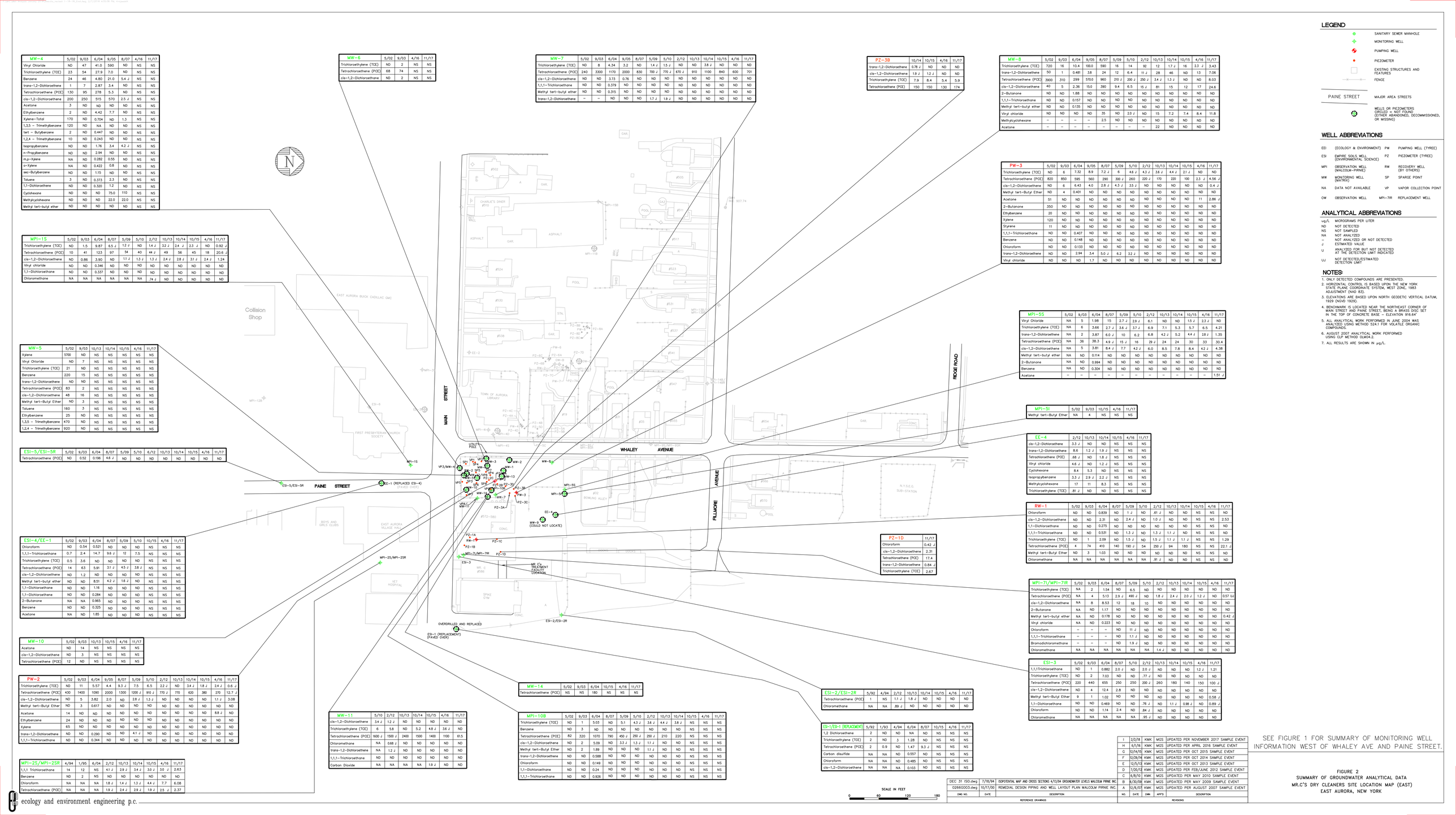
NO.	DATE	DWN	APP'D	DESCRIPTION
I	2/2/18	KMK	MGS	UPDATED PER NOVEMBER 2017 SAMPLE EVENT
H	6/1/16	KMK	MGS	UPDATED PER APRIL 2016 SAMPLE EVENT
G	12/18/15	KMK	MGS	UPDATED PER OCT 2015 SAMPLE EVENT
F	12/29/14	KMK	MGS	UPDATED PER OCT 2014 SAMPLE EVENT
E	12/5/13	KMK	MGS	UPDATED PER OCT 2013 SAMPLE EVENT
D	7/20/12	KMK	MGS	UPDATED PER FEB/JUNE 2012 SAMPLE EVENT
C	6/8/10	KMK	MGS	UPDATED PER MAY 2010 SAMPLE EVENT
B	6/30/09	KMK	MGS	UPDATED PER MAY 2009 SAMPLE EVENT
A	12/6/07	KMK	MGS	UPDATED PER AUGUST 2007 SAMPLE EVENT

REVISIONS

SEE FIGURE 2 FOR SUMMARY OF MONITORING WELL INFORMATION EAST OF WHALEY AVE AND PAINE STREET.

FIGURE 1
SUMMARY OF GROUNDWATER ANALYTICAL DATA
MR.C'S DRY CLEANERS SITE LOCATION MAP (WEST)
EAST AURORA, NEW YORK

ecology and environment engineering p.c.



MW-4	5/02	9/03	6/04	9/05	8/07	4/16	11/17
Vinyl Chloride	ND	47	41.0	590	ND	NS	NS
Trichloroethylene (TCE)	23	54	27.9	7.0	ND	NS	NS
Benzene	24	46	4.80	21.0	5.4 J	NS	NS
trans-1,2-Dichloroethene	1	7	2.87	3.4	ND	NS	NS
Tetrachloroethene (PCE)	130	95	278	5.3	ND	NS	NS
cis-1,2-Dichloroethene	200	250	515	570	2.5 J	NS	NS
Acetone	3	ND	ND	ND	ND	NS	NS
Ethylbenzene	2	ND	4.42	7.7	ND	NS	NS
Xylene-Total	170	ND	0.704	ND	1.3	NS	NS
1,3,5 - Trimethylbenzene	120	ND	NA	ND	ND	NS	NS
tert - Butylbenzene	2	ND	0.447	ND	ND	NS	NS
1,2,4 - Trimethylbenzene	10	ND	0.243	ND	ND	NS	NS
Isopropylbenzene	ND	ND	1.76	3.4	4.2 J	NS	NS
n-Propylbenzene	ND	ND	2.94	ND	ND	NS	NS
m,p-Xylene	NA	ND	0.282	0.55	ND	NS	NS
o-Xylene	NA	ND	0.422	0.8	ND	NS	NS
sec-Butylbenzene	ND	ND	1.15	ND	ND	NS	NS
Toluene	3	ND	0.373	2.3	ND	NS	NS
1,1-Dichloroethene	ND	ND	0.320	1.2	ND	NS	NS
Cyclohexane	ND	ND	ND	75.0	110	NS	NS
Methylcyclohexane	ND	ND	ND	22.0	22.0	NS	NS
Methyl tert-butyl ether	ND	ND	ND	ND	ND	NS	NS

MW-6	5/02	9/03	4/16	11/17
Trichloroethylene (TCE)	ND	2	NS	NS
Tetrachloroethene (PCE)	68	74	NS	NS
cis-1,2-Dichloroethene	ND	2	NS	NS

MW-7	5/02	9/03	6/04	9/05	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Trichloroethylene (TCE)	ND	8	4.34	3.2	ND	1.4 J	1.5 J	ND	ND	3.8 J	ND	ND	ND
Tetrachloroethene (PCE)	240	3300	1170	2000	830	700 J	700 J	670 J	910	1100	840	600	701
cis-1,2-Dichloroethene	ND	ND	3.73	0.76	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	0.379	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	0.315	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	–	–	ND	ND	ND	1.7 J	1.9 J	ND	ND	ND	ND	ND	ND

PZ-3B	10/14	10/15	4/16	11/17
trans-1,2-Dichloroethene	0.78 J	ND	ND	ND
cis-1,2-Dichloroethene	1.9 J	1.2 J	ND	ND
Trichloroethylene (TCE)	7.9	8.4	5.4	5.9
Tetrachloroethene (PCE)	150	150	130	174

MW-8	5/02	9/03	6/04	9/05	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Trichloroethylene (TCE)	720	16	10.4	100.0	590	16	14	92	12	1.7 J	16	2.3 J	3.43
trans-1,2-Dichloroethene	50	1	0.481	3.8	24	12	6.4	11 J	28	46	ND	13	7.06
Tetrachloroethene (PCE)	3900	310	299	570.0	960	210 J	200 J	250 J	3.4 J	1.3 J	ND	ND	8.03
cis-1,2-Dichloroethene	40	5	2.36	15.0	390	9.4	6.5	15 J	81	15	12	17	24.6
2-Butanone	ND	ND	1.88	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	0.157	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	0.135	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	35	ND	2.0 J	ND	15	7.2	7.4	8.4	11.8
Methylcyclohexane	–	–	–	–	2.5	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	–	–	–	–	–	–	–	22	ND	ND	ND	ND	ND

PW-3	5/02	9/03	6/04	9/05	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Trichloroethylene (TCE)	ND	6	7.32	8.9	7.2 J	6	4.8 J	4.3 J	3.6 J	4.4 J	2.1 J	ND	ND
Tetrachloroethene (PCE)	820	850	595	560	290	300 J	260	220 J	170	220	100	2.3 J	4.56 J
cis-1,2-Dichloroethene	ND	6	6.43	4.0	2.8 J	4.3 J	3.5 J	ND	ND	ND	ND	ND	0.4 J
Methyl tert-Butyl Ether	ND	4	0.401	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	2.86 J
2-Butanone	350	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	0.407	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	0.148	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	0.133	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	2.94	3.4	5.0 J	6.2	3.2 J	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND

MPI-1S	5/02	9/03	6/04	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Trichloroethylene (TCE)	ND	1.5	9.87	6.5 J	1.2 J	ND	1.4 J	3.2 J	2.4 J	2.3 J	ND	0.92 J
Tetrachloroethene (PCE)	10	41	123	97	54	40	44 J	49	56	45	18	20.6 J
cis-1,2-Dichloroethene	ND	0.86	3.90	ND	1.1 J	1.3 J	1.3 J	2.4 J	2.8 J	3.1 J	2.4 J	1.24
Vinyl chloride	ND	ND	0.346	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	0.337	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NA	NA	NA	NA	NA	NA	74 J	ND	ND	ND	ND	ND

MPI-5S	5/02	9/03	6/04	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Vinyl Chloride	NA	5	1.98	15	2.7 J	2.9 J	6.1	ND	ND	1.5 J	2.3 J	ND
Trichloroethylene (TCE)	NA	6	3.66	2.7 J	3.6 J	3.7 J	6.9	7.1	5.3	5.7	6.5	4.21
trans-1,2-Dichloroethene	NA	2	3.87	6.0 J	10	6.2	6.8	4.2 J	5.2	4.4 J	2.8 J	1.35
Tetrachloroethene (PCE)	NA	36	38.3	4.9 J	15 J	16	29 J	24	24	30	33	30.4
cis-1,2-Dichloroethene	NA	5	3.81	8.4 J	7.7	4.2 J	6.0	8.5	7.8	8.4	4.2 J	4.38
Methyl tert-butyl ether	NA	ND	0.114	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	NA	ND	0.994	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	NA	ND	0.304	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	–	–	–	–	–	–	–	–	–	–	–	1.51 J

MPI-5I	5/02	9/03	10/15	4/16	11/17
Methyl tert-Butyl Ether	NA	4	NS	NS	NS

MW-5	5/02	9/03	10/13	10/14	10/15	4/16	11/17
Xylene	5700	ND	NS	NS	NS	NS	NS
Vinyl Chloride	ND	7	NS	NS	NS	NS	NS
Trichloroethylene (TCE)	21	ND	NS	NS	NS	NS	NS
Benzene	220	15	NS	NS	NS	NS	NS
trans-1,2-Dichloroethene	ND	ND	NS	NS	NS	NS	NS
Tetrachloroethene (PCE)	83	2	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	48	16	NS	NS	NS	NS	NS
Methyl tert-Butyl Ether	ND	3	NS	NS	NS	NS	NS
Toluene	160	3	NS	NS	NS	NS	NS
Ethylbenzene	25	ND	NS	NS	NS	NS	NS
1,3,5 - Trimethylbenzene	470	ND	NS	NS	NS	NS	NS
1,2,4 - Trimethylbenzene	920	ND	NS	NS	NS	NS	NS

EE-4	2/12	10/13	10/14	10/15	4/16	11/17
cis-1,2-Dichloroethene	3.3 J	ND	ND	NS	NS	NS
trans-1,2-Dichloroethene	8.6	1.2 J	1.9 J	NS	NS	NS
Tetrachloroethene (PCE)	68 J	ND	1.8 J	NS	NS	NS
Vinyl chloride	4.6 J	ND	1.2 J	NS	NS	NS
Cyclohexane	8.4	5.3	ND	NS	NS	NS
Isopropylbenzene	3.3 J	2.9 J	2.2 J	NS	NS	NS
Methylcyclohexane	17	11	8.3	NS	NS	NS
Trichloroethylene (TCE)	81 J	ND	ND	NS	NS	NS

ESI-5/ESI-5R	5/02	9/03	6/04	8/07	5/09	5/10	6/12	10/13	10/14	10/15	4/16	11/17
Tetrachloroethene (PCE)	ND	0.52	0.196	4.8 J	ND	ND	ND	ND	ND	ND	ND	ND

RW-1	5/02	9/03	6/04	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Chloroform	ND	ND	0.839	ND	1 J	ND	81 J	ND	ND	NS	NS	ND
cis-1,2-Dichloroethene	ND	ND	2.31	ND	2.4 J	ND	1.0 J	ND	ND	NS	NS	2.53
1,1-Dichloroethene	ND	ND	0.275	ND	ND	ND	ND	ND	ND	NS	NS	ND
1,1,1-Trichloroethane	ND	ND	0.531	ND	1.3 J	ND	1.3 J	1.1 J	ND	NS	NS	ND
Trichloroethylene (TCE)	ND	1	2.09	ND	1.5 J	ND	1.5 J	1.1 J	1.1 J	NS	NS	1.29
Tetrachloroethene (PCE)	4	74	410	140	190 J	54	250 J	94	180	NS	NS	22.1 J
Methyl tert-Butyl Ether	ND	3	1.03	ND	ND	ND	ND	ND	ND	NS	NS	ND
Chloromethane	NA	NA	NA	NA	NA	NA	91 J	ND	ND	NS	NS	ND

ESI-4/EE-1	5/02	9/03	6/04	8/07	5/09	5/10	10/15	4/16	11/17
Chloroform	ND	0.54	0.521	ND	ND	ND	NS	NS	NS
1,1,1-Trichloroethane	0.7	2.4	14.7	9.8 J	12	7.5	NS	NS	NS
Trichloroethylene (TCE)	0.5	3.6	ND	ND	ND	ND	NS	NS	NS
Tetrachloroethene (PCE)	14	63	5.91	3.1 J	4.5 J	3.8 J	NS	NS	NS
cis-1,2-Dichloroethene	ND	1.2	ND	ND	ND	ND	NS	NS	NS
Methyl tert-butyl ether	ND	ND	8.51	4.2 J	1.6 J	ND	NS	NS	NS
1,1-Dichloroethene	ND	ND	1.16	ND	ND	ND	NS	NS	NS
1,1-Dichloroethane	ND	ND	0.284	ND	ND	ND	NS	NS	NS
2-Butanone	NA	NA	0.985	ND	ND	ND	NS	NS	NS
Benzene	ND	ND	0.325	ND	ND	ND	NS	NS	NS
Acetone	NA	ND	1.85	ND	ND	ND	NS	NS	NS

MPI-7I/MPI-7IR	5/02	9/03	6/04	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Trichloroethylene (TCE)	NA	2	1.54	ND	6.5	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	NA	4	5.13	2.9 J	490 J	ND	1.8 J	2.4 J	2.0 J	1.2 J	ND	0.57 U
cis-1,2-Dichloroethene	NA	8	8.53	12	18	10	ND	ND	ND	ND	ND	ND
2-Butanone	NA	ND	1.17	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	NA	ND	0.178	ND	ND	ND	ND	ND	ND	ND	ND	0.42 J
Vinyl chloride	NA	NA	0.223	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	–	–	–	ND	11 J	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	–	–	–	ND	1.1 J	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	–	–	–	ND	1.9 J	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NA	NA	NA	NA	NA	NA	1.4 J	ND	ND	ND	ND	ND

MW-10	5/02	9/03	10/13	10/15	4/16	11/17
Acetone	ND	14	NS	NS	NS	NS
cis-1,2-Dichloroethene	ND	3	NS	NS	NS	NS
Tetrachloroethene (PCE)	12	ND	NS	NS	NS	NS

ESI-3	5/02	9/03	6/04	8/07	5/10	2/12	10/13	10/14	10/15	4/16	11/17
1,1,1-Trichloroethane	ND	1	0.882	2.0 J	ND	2.0 J	ND	ND	ND	1.2 J	1.21
Trichloroethylene (TCE)	ND	2	7.03	ND	ND	.77 J	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	220	440	655	250	250	200 J	260	180	140	150	100 J
cis-1,2-Dichloroethene	ND	4	12.4	2.8	ND	ND	ND	ND	ND	ND	ND
Methyl tert-Butyl Ether	9	1	1.02	ND	ND	ND	ND	ND	ND	ND	0.58 J
1,1-Dichloroethane	ND	ND	0.469	ND	ND	.76 J	ND	1.1 J	0.98 J	ND	0.89 J
Chloroform	ND	ND	1.14	2.4	ND	.84 J	ND	ND	ND	ND	ND
Chloromethane	NA	NA	NA	NA	NA	.95 J	ND	ND	ND	ND	ND

PW-2	5/02	9/03	6/04	9/05	8/07	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Trichloroethylene (TCE)	ND	11	5.57	4.4	9.3 J	7.5	6.5	2.2 J	ND	3.4 J	1.8 J	2.4 J	0.6 J
Tetrachloroethene (PCE)	430	1400	1090	2000	1300	1200 J	910 J	770 J	770	620	380	270	12.7 J
cis-1,2-Dichloroethene	ND	5	3.82	2.0	ND	2.8 J	1.3 J	ND	ND	ND	ND	1.1 J	3.08
Methyl tert-Butyl Ether	ND	3	0.617	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.8 J	ND
Ethylbenzene	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	0.290	ND	ND	4.1 J	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	0.344	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

MW-14	5/02	9/03	6/04	10/15	4/16	11/17
Tetrachloroethene (PCE)	NS	NS	180	NS	NS	NS

ESI-2/ESI-2R	5/92	4/94	2/12	10/13	10/14	10/15	4/16	11/17
Tetrachloroethene (PCE)	1	NS	1.1 J	1.8 J	ND	ND	ND	ND
Chloromethane	NA	NA	.89 J	ND	ND	ND	ND	ND

MW-11	5/10	2/12	10/13	10/14	10/15	4/16	11/17
cis-1,2-Dichloroethene	3.4 J	1.2 J	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	6	5.8	ND	5.2	4.8 J	3.6 J	ND
Tetrachloroethene (PCE)	1600 J	1500 J	2400	1500	1400	1100	61.5
Chloromethane	NA	0.88 J	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	NA	1.2 J	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Carbon Dioxide	NA	NA	NA	NA	1.9 J	ND	ND

MPI-10B	5/02	9/03	6/04	5/09	5/10	2/12	10/13	10/14	10/15	4/16	11/17
Trichloroethylene (TCE)	ND	1	5.03	ND	5.1	4.3 J	3.6 J	4.4 J	3.8 J	NS	NS
Benzene	ND	3	ND	ND	ND	ND	ND	ND	ND	NS	NS
Tetrachloroethene (PCE)	82	320	1070	790	400 J	250 J	250 J	210	220	NS	NS
cis-1,2-Dichloroethene	ND	2	5.09	ND	3.3 J	1.3 J	1.1 J	ND	ND	NS	NS
Methyl tert-Butyl Ether	ND	2	1.89	ND	ND	ND	1.1 J	ND	ND	NS	NS
trans-1,2-Dichloroethene	ND	ND	0.588	ND	ND	ND	ND	ND	ND	NS	NS
Chloroform	ND	ND	0.149	ND	ND	ND	ND	ND	ND	NS	NS
1,1-Dichloroethene	ND	ND	0.24	ND	ND	ND	ND	ND	ND	NS	NS
1,1,1-Trichloroethane	ND	ND	0.926	ND	ND	ND	ND	ND	ND	NS	NS

ESI-1/ESI-1 (REPLACEMENT)	5/92	1/93	4/94	6/04	8/07	10/15	4/16	11/17
1,2 Dichloroethane	2	ND	ND	NA	ND	NS	NS	NS
Trichloroethylene (TCE)	2	ND	3	1.28	ND	NS	NS	NS
Tetrachloroethene (PCE)	2	0.9	ND	1.47	9.3 J	NS	NS	NS
Carbon disulfide	NA	NA	ND	0.557	ND	NS	NS	NS
Chloroform	NA	NA	ND	0.485	ND	NS	NS	NS
cis-1,2-Dichloroethene	NA	NA	NA	0.103	ND	NS	NS	NS

MPI-2S/MPI-2SR	4/94	1/95	6/04	2/12	10/13	10/14	10/15	4/16	11/17
1,1,1 Trichloroethane	14	12	NS	4.1 J	2.9 J	3.4 J	3.0 J	3.0 J	2.63
Benzene	ND	2	NS	ND	ND	ND	ND	ND	ND
Chloroform	NA	NA	NA	1.8 J	1.4 J	1.3 J	4.4 J	7.7	6.08
Tetrachloroethene (PCE)	NA	NA	NA	1.9 J	2.4 J	2.9 J	1.9 J	2.5 J	2.37

PZ-1D	11/17
Chloroform	0.42 J
cis-1,2-Dichloroethene	2.31
Tetrachloroethene (PCE)	17.4
trans-1,2-Dichloroethene	0.84 J
Trichloroethylene (TCE)	2.67

LEGEND

- SANITARY SEWER MANHOLE
- MONITORING WELL
- PUMPING WELL
- PIEZOMETER
- EXISTING STRUCTURES AND FEATURES
- FENCE
- PAINE STREET — MAJOR AREA STREETS
- WELLS OR PIEZOMETERS CIRCLED = NOT FOUND (EITHER ABANDONED, DECOMMISSIONED, OR MISSING)

WELL ABBREVIATIONS

EEI	(ECOLOGY & ENVIRONMENT)	PW	PUMPING WELL (TYREE)
ESI	EMPIRE SOILS WELL (ENVIRONMENTAL SCIENCE)	PZ	PIEZOMETER (TYREE)
MPI	OBSERVATION WELL (MALCOLM-PIRNIE)	RW	RECOVERY WELL (BY OTHERS)
MW	MONITORING WELL (MATRIX)	SP	SPARGE POINT
NA	DATA NOT AVAILABLE	VP	VAPOR COLLECTION POINT
OW	OBSERVATION WELL	MPI-7IR	REPLACEMENT WELL

ANALYTICAL ABBREVIATIONS

ug/L	MICROGRAMS PER LITER
ND	NOT DETECTED
NS	NOT SAMPLED
NA	NOT ANALYZED
–	NOT ANALYZED OR NOT DETECTED
J	ESTIMATED VALUE
U	ANALYZED FOR BUT NOT DETECTED AT THE DETECTION LIMIT INDICATED
UJ	NOT DETECTED/ESTIMATED DETECTION LIMIT

NOTES:

1. ONLY DETECTED COMPOUNDS ARE PRESENTED.
2. HORIZONTAL CONTROL IS BASED UPON THE NEW YORK STATE PLANE COORDINATE SYSTEM, WEST ZONE, 1983 ADJUSTMENT (NAD 83).
3. ELEVATIONS ARE BASED UPON NORTH GEODETIC VERTICAL DATUM, 1929 (NGVD 1929).
4. BENCHMARK IS LOCATED NEAR THE NORTHEAST CORNER OF MAIN STREET AND PAINE STREET, BEING A BRASS DISC SET IN THE TOP OF CONCRETE BASE – ELEVATION 916.64'.
5. ALL ANALYTICAL WORK PERFORMED IN JUNE 2004 WAS ANALYZED USING METHOD 524.1 FOR VOLATILE ORGANIC COMPOUNDS.
6. AUGUST 2007 ANALYTICAL WORK PERFORMED USING CLP METHOD OLMO.2.
7. ALL RESULTS ARE SHOWN IN µg/L.

SEE FIGURE 1 FOR SUMMARY OF MONITORING WELL INFORMATION WEST OF WHALEY AVE AND PAINE STREET.

REFERENCE DRAWINGS		
DWG NO.	DATE	DESCRIPTION
DEC 31 ISO.dwg	7/18/94	ISOPOTENTIAL MAP AND CROSS SECTIONS 4/13/94 GROUNDWATER LEVELS MALCOLM PIRNIE INC.
02660003.dwg	10/17/00	REMEDIAL DESIGN PIPING AND WELL LAYOUT PLAN MALCOLM PIRNIE INC.

REVISIONS				
NO.	DATE	DWN.	APP'D.	DESCRIPTION
I	2/2/18	KMK	MGS	UPDATED PER NOVEMBER 2017 SAMPLE EVENT
H	6/7/16	KMK	MGS	UPDATED PER APRIL 2016 SAMPLE EVENT
G	12/14/15	KMK	MGS	UPDATED PER OCT 2015 SAMPLE EVENT
F	12/29/14	KMK	MGS	UPDATED PER OCT 2014 SAMPLE EVENT
E	12/5/13	KMK	MGS	UPDATED PER OCT 2013 SAMPLE EVENT
D	7/20/12	KMK	MGS	UPDATED PER FEB/JUNE 2012 SAMPLE EVENT
C	6/8/10	KMK	MGS	UPDATED PER MAY 2010 SAMPLE EVENT
B	8/30/09	KMK	MGS	UPDATED PER MAY 2009 SAMPLE EVENT
A	12/8/07	KMK	MGS	UPDATED PER AUGUST 2007 SAMPLE EVENT

FIGURE 2
SUMMARY OF GROUNDWATER ANALYTICAL DATA
MR.C'S DRY CLEANERS SITE LOCATION MAP (EAST)
EAST AURORA, NEW YORK

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Figure 3 and 4
Iso-contour Contaminant Concentration Maps
for Total VOCs and PCE Across the Site

1703074.0011.04
MrC_cVOC_in_GW_2017.srf - 01/12/2018

FEET
0 120 240 360

Total chlorinated VOCs in micrograms per liter
5000
1000
500
100
50
10
5
0

Legend
ND = not detected
blank = not sampled
cVOC = sum of PCE + daughter product concentrations
= groundwater flow direction
PW-8 60 Well ID with PCE concentration in µg/L

MPI-15B ND
MPI-13B-R ND
MPI-14B-R 2.6
MPI-9S-R 0.6
MPI-8S-R 140
MPI-5S 39
PW-8 650
PW-6 2200
PZ-6A 3700
PZ-7D 500
PW-7 9400
EE-2 1200
EE-3 0.35
PW-4 2900
PW-5 1700
PZ-5B 2100
MPI-4I 680
MPI-4S 49
MPI-3S ND
ESI-6 490
MPI-1S 23
ESI-5-R ND
MW-8 36
MW-11 62
MW-7 700
PZ-3B 180
RW-1 26
MPI-2S-R 2.4
ESI-3 100
PZ-1D 23
ESI-2-R ND

EAST AURORA BUICK CADILLAC GMC
Collision Shop
WHALEY AVENUE
MAIN STREET
PAINE STREET
FILLMORE AVENUE
RIDGE ROAD
AURORA OUTFITTERS
MR. C's #586
DOCKS
N.Y.S.E.G. SUB-STATION
ELEC. OUTLET
POOL
FIRE PLACE

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Figure 3
Total Chlorinated VOCs in Groundwater
Mr. C's Dry Cleaners Site
East Aurora, New York
November 2017

170003074.0011.09
MrC_PCE_in_GW_2017.srf - 01/11/2017

FEET
0 120 240 360

N W S E

Tetrachloroethene in micrograms per liter
5000
1000
500
100
50
10
5
0

Legend
ND = not detected
blank = not sampled
PCE = Tetrachloroethene (a.k.a. perchloroethylene)
= groundwater flow direction
PW-8 60 Well ID with PCE concentration in µg/L

MPI-15B ND
MPI-13B-R ND
PW-8 181 J
PZ-6A 1670 J
EE-2 640
PW-6 1850 J
PW-7 3350 J
MPI-14B-R 2.21
MPI-3S ND
ESI-6 393 J
EE-3 ND
PW-4 2590 J
PZ-5B 1970 J
MPI-4I 276
MPI-8S-R 76.6
MPI-9S-R 0.6 J
PW-5 1590 J
MPI-1S 20.6 J
MW-8 8.03
PW-2 12.7 J
ESI-5-R ND
MW-11 61.5
MW-7 701
PZ-3B 174
MPI-5S 30.4
RW-1 22.1 J
MPI-2S-R 2.37
ESI-3 100 J
PZ-1D 17.4
ESI-2-R ND

Collision Shop
EAST AURORA BUICK PONTIAC GMC
PAINE STREET
MAIN STREET
WHALEY AVENUE
FILLMORE AVENUE
RIDGE ROAD
BOYS AND GIRLS CLUBS
EAST AURORA VILLAGE HALL
MR. C's #586
AURORA OUTFITTERS
DOCKS
ELEC. OUTLET
N.Y.S.E.G. SUB-STATION
POOL
FIRE PLACE

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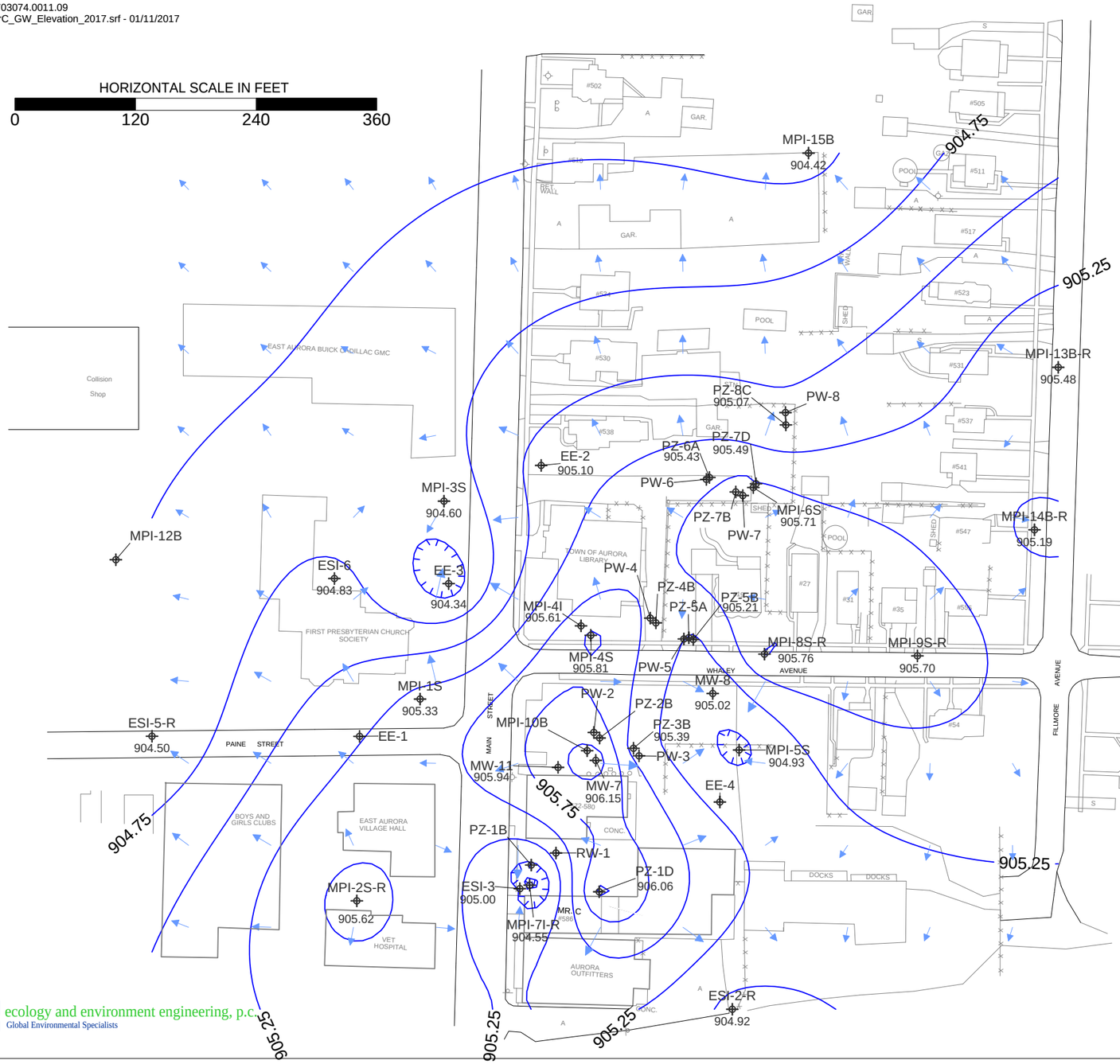
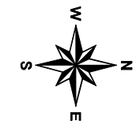
Figure 4
Tetrachloroethene in Groundwater
Mr. C's Dry Cleaners Site
East Aurora, New York
November 2017

Figure 5
Site Groundwater Elevation Isopleths Contour Map

1703074.0011.09
MrC_GW_Elevation_2017.srf - 01/11/2017

HORIZONTAL SCALE IN FEET
0 120 240 360





Legend

MW-8 ⌖ 904.55	Well ID with Measured Groundwater Elevation in Feet Above Mean Sea Level
905	Estimated Groundwater Elevation Isopleth (Feet Above Mean Sea Level) Contour Interval = 0.25 Foot
	Groundwater Depression
	Groundwater Flow Direction and Relative Magnitude of Gradient

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Figure 5
Groundwater Elevation Isopleths
For the Outwash Aquifer, November 2017
Mr. C's Dry Cleaners Site
East Aurora, New York

Appendix A
2017 Field Measurements

A-1 Mr. C. 2017 Long-term Groundwater Monitoring Field Measurements

1 - MS/MSD + 2 - Dup To Date 11/8/17

Groundwater Monitoring Well Inspection Checklist, Mr. C's Dry Cleaners site - NYSDEC Site No. 915157

	Well Number	Water Level (feet TOIC)	Current Depth (feet TOIC)	Well Paint (G/F/P)	Well Label (G/F/P)	Casing Lock (G/F/P)	Protective Cover (G/F/P)	Inner Well Cap (G/F/P)	Equipment in Well (B/U/H)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Concrete Pad (G/F/P)	Inspection Date
1	MPI-7IR	10.89	38.19	P (label inside J-plug)	G	G	G	G	NONE	NONE/N	N	N/A (Asphalt)	11/1/17
2	ESI-3	10.85	15.15	P	P	G	G	G	NONE	NONE/N	N	N/A	11/1/17
3	PZ-1D	12.15	31.18	G	G	G	G	G	NONE	NONE/N	N	N/A	11/1/17
4	MPI-5S	11.52	17.79	G	G	G	G	G	NONE	N	Y	Asphalt Fresh Ashpalt	11/2/17
5	MW-8	10.60	13.85	G	G	G	G	G	NONE	N	Y	Asphalt	11/3/17
6	PZ-3B	10.87	29.28	G	G	G	G	G	NONE	N	Y	G	11/3/17
7	EST-2R	12.52	19.04	G	G	G	G	G	NONE	N	N	G	11/3/17
8	MPI-9SR	7.68	17.49	P (G)	P	G	G	G	NONE	N	Y	Asphalt Street	11/6/17
9	MPI-8SR	8.20	17.38	G	G	G	G	G	NONE	N	Y	Asphalt Street	11/6/17
10	MPI-13BR (→ MPI-13BR)	7.21	30.87	G	F	G	G	G	NONE	N	N	Asphalt Street	11/6/17
11	MPI-2S	10.01	18.35	P	P	G	G	G	NONE	N	N	Concrete Pad on Asphalt	11/7/17
12	MW-11	8.45	18.20	G	G	G	G	G	NONE	N	N	No Pad	11/7/17
13	MW-7	9.81	14.39	G	G	G	G	G	NONE	N	Y	No Pad	11/7/17
14	MPI-14BR	8.52	28.18	G	G	G	G	G	NONE	N	N	No Pad	11/7/17
15	PZ-6A	10.13	28.89	G	G	G	G	G	NONE	N	N	P	11/8/17
16	MPI-6S	9.32	21.54	G	G	G	G	G	NONE	N	N	F	11/8/17
17	PW-7	-	-	G	G	G	G	G	Pump	N	N	G	11/8/17
18	PW-8	-	-	G	G	G	G	G	Pump	N	N	G	11/8/17
19	PW-6	-	-	G	G	G	G	G	Pump	N	N	G	11/8/17
20	PZ-7D	9.46	26.66	G	G	G	G	G	NONE	N	N	G	11/8/17
21	PZ-8C	6.63	29.30	G	G	G	G	G	NONE	N	N	G	11/9/17
22	EE-2	11.20	31.75	G	G	G	G	G	NONE	N	Y	G	11/9/17
23	MPI-4I	10.05	41.90	G	G	G	G	G	NONE	N	N/		
24	MPI-4S	9.01	20.70	G	G	G	G	G	NONE				

* Not Completed Controller + Lines Frozen 11/10/17

ESI-6 Completed on 11/14/17

1 MS/MSD 11/14/17 TO DATE

Groundwater Monitoring Well Inspection Checklist, Mr. C's Dry Cleaners site - NYSDEC Site No. 915157

	Well Number	Water Level (feet TOIC)	Current Depth (feet TOIC)	Well Paint (G/F/P)	Well Label (G/F/P)	Casing Lock (G/F/P)	Protective Cover (G/F/P)	Inner Well Cap (G/F/P)	Equipment in Well (B/U/H)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Concrete Pad (G/F/P)	Inspection Date
*													Note: Revised 11/14/17
*	25 ESI-6	9.65	15.30	11/14/17 G	11/14/17 G	G	G	G	NONE	N	N	P	11/10/17
	26 RW-1	-	-	G	G	NA/G	G	G	pump	N	N	G	11/10/17
	27 PW-3	-	-	G	G	NA/G	G	G	pump	N	N	G	11/10/17
	28 PW-5	-	-	G	G	G	G	G	pump	N	N	G	11/10/17
	29 PW-4	-	-	G	G	G	G	G	pump	N	N	G	11/10/17
	30 PW-2	-	-	G	G	G	G	G	pump	N	N	G	11/10/17
	31 MPI-3S	9.80	17.87	G	G	G	G	G	NONE	N	N		11/13/17
	32 EE-3	10.30	27.98	G	G	G	G	G	NONE	N	N	G	11/13/17
	33 MPI-1S	9.75	18.98	G	G	G	G	G	NONE	N	N	G	11/13/17
ESISR →	34 ESI-5R	7.69	14.50	G	G	G	G	G	WELL	N	N	G	11/14/17
	35 MPI-15B	9.30	18.29	P	P	P	G	G	NONE	N	N	ASPHALT	11/14/17
	36 PZ-5B	10:00	29.45	G	G	G	G	G	NONE	N	N	G	11/15/17
	37												11/15/17
	38												
	39												
	40												
	41												
	42												
	43												

Groundwater Monitoring Well Inspection Checklist, Mr. C's Dry Cleaners site - NYSDEC Site No. 915157

Well Number	Water Level (feet TOIC)	Current Depth (feet TOIC)	Well Paint (G/F/P)	Well Label (G/F/P)	Casing Lock (G/F/P)	Protective Cover (G/F/P)	Inner Well Cap (G/F/P)	Equipment in Well (B/U/H)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Concrete Pad (G/F/P)	Inspectio Date

Key:

B = Bailer.
F = Fair.
G = Good.
H = PDB Harness.
N = No.
P = Poor.
TOIC = Top of inner casing.
U = Bladder Pump.
Y = Yes.

Appendix B
2017 Well Purge and Sample Record

B-1 Mr. C's 2017 Long-term Groundwater Monitoring Well Purge and Sample Record

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: MR C's Dry Cleaners Well ID: MPI-15B
EEEPC Project No.: 10C3074.0011.09 Date: 11/14/17

Initial Depth to Water: 9.30 feet TOIC Start Time: 1323
Total Well Depth: 18.29 feet TOIC End Time: 1430
Depth to Pump: 17.29 feet TOIC ☐ Bailer ☒ Pump
Initial Pump Rate: 100 mL/PM Lpm / gpm Pump Type: QED
adjusted to: _____ at _____ minutes Well Diameter: 2 inches
adjusted to: _____ at _____ minutes 1x Well Volume: 1.46 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C °F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1325	0	7.17	13.0	39.8	1.65	8.63	>1000	9.72
1330	500 mL	7.22	13.0	19.4	1.66	3.90	>1000	9.72
1335 (11/14/17)	1.0	7.19	12.9	-34.7	1.73	1.79	>1000	9.72
1340	1.5	7.19	12.8	-65.4	1.77	0.94	106	9.78
1345	2.0	7.19	12.8	-78.7	1.78	0.53	89.4	9.78
1350	2.5	7.19	12.6	-84.0	1.79	0.41	66.8	9.78
1355	3.0	7.22	12.6	-88.9	1.79	0.32	59.8	9.78
1400	3.5	7.20	12.7	-92.0	1.79	0.27	55.6	9.78
1405	4.0	7.22	12.6	-94.3	1.79	0.24	50.9	9.78
1410	4.5	7.22	12.6	-97.4	1.79	0.21	46.4	9.78
1415	5.0	7.22	12.6	-98.1	1.79	0.18	37.6	9.78
1420	5.5	7.22	12.6	-100.5	1.79	0.17	26.4	9.78
1425	6.0	7.22	12.6	-102.6	1.79	0.15	25.1	9.78
1430	6.5	7.22	12.6	-101.8	1.79	0.16	24.7	9.78
Final Sample Data:		7.22	12.6	-101.8	1.79	0.16	24.7	9.78

11/14/17

Sample ID: MPI-15B 111417 Duplicate? ☐ Dupe Samp ID: _____
Sample Time: 1433 MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow RATE = 100mL/PM

Sampler(s): L. Roedl / J. Mays

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: MR C's Dry Cleaners Well ID: PZ-5B

EEEPC Project No.: 10C3074.0011.09 Date: 11/15/17

Initial Depth to Water: 10.00 feet TOIC Start Time: 0924

Total Well Depth: 29.45 feet TOIC End Time: 1016

Depth to Pump: 28.45 feet TOIC ☐ Bailer ☒ Pump

Initial Pump Rate: 300 mL/PM Lpm / gpm Pump Type: QED

adjusted to: _____ at _____ minutes Well Diameter: _____ inches

adjusted to: _____ at _____ minutes 1x Well Volume: 3.17 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0925	0	7.35	13.2	98.6	2.25	1.51	18.9	10.10
0930	1.5	7.28	13.1	100.3	2.52	0.66	7.90	10.10
0935	3.0	7.27	13.2	101.9	2.57	0.57	8.14	10.10
0940	4.5	7.24	13.1	105.5	2.69	0.39	9.11	10.10
0945	6.0	7.23	13.2	108.4	2.75	0.48	10.75	10.10
0950	7.5	7.22	13.2	111.6	2.82	0.61	11.14	10.10
0955	9.0	7.22	13.3	112.9	2.85	0.45	10.03	10.10
1000	10.5	7.21	13.2	115.0	2.87	0.69	9.61	10.10
1005	12.0	7.21	13.2	116.2	2.87	0.57	12.5	10.10
1010	13.5	7.20	13.2	117.6	2.88	0.58	10.04	10.10
1015	15.0	7.21	13.2	118.4	2.89	0.57	8.52	10.10
Final Sample Data:		7.21	13.2	118.4	2.89	0.57	8.52	10.10

Sample ID: PZ-5B111517 Duplicate? ☐ Dupe Samp ID: _____

Sample Time: 1019 MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow Rate = 150mL/PM

Sampler(s): L. Roedl / J. Mays

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International Specialists in the Environment
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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaner
Well ID: ESI-5R
EEEPC Project No.: 10C3074.0011.09
Date: 11/14/17

Initial Depth to Water: 7.69 feet TOIC
Start Time: 10:30
Total Well Depth: 14.50 feet TOIC
End Time:
Depth to Pump: 13.50 feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: 200 mL/M Lpm / gpm
Pump Type: QED
adjusted to: _____ at _____ minutes
Well Diameter: 2 inches
adjusted to: _____ at _____ minutes
1x Well Volume: 1.1 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
10:30	1.0	7.35	14.9	146.5	1.50	4.10	71000	7.78
10:35	2.0	7.41	14.9	141.8	1.45	4.09	71000	7.78
10:40	3.0	7.40	15.0	141.5	1.41	3.24	21.1	7.78
10:45	4.0	7.38	15.1	140.6	1.32	3.26	20.9	7.78
10:50	5.0	7.37	15.2	140.5	1.29	3.21	18.2	7.78
10:55	6.0	7.36	15.1	140.7	1.28	3.18	13.3	7.78
11:00	7.0	7.36	15.2	140.6	1.23	3.09	9.81	7.78
11:05	8.0	7.36	15.3	140.4	1.21	3.01	4.99	7.78
11:10	9.0	7.36	15.3	140.6	1.20	3.00	4.26	7.78
11:15	10.0	7.36	15.2	140.6	1.21	2.99	4.20	7.78
Final Sample Data:		7.36	15.2	140.6	1.21	2.99	4.20	7.78

Sample ID: ESI-5R111417
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: 11:20
MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1-40 only
☒ 1,4-D	☐ _____

Comments: Sample Flow Rate 125mL/pm
Sampler(s): C. Boyd C / J Mays

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BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners Well ID: ESI-6

EEEPC Project No.: 10C3074.0011.09 Date: 11/14/17

Initial Depth to Water: 9.65 feet TOIC Start Time: 0803

Total Well Depth: 15.30 feet TOIC End Time: 0855

Depth to Pump: 14.30 feet TOIC ☐ Bailer ☒ Pump

Initial Pump Rate: >500 mL/PM Lpm / gpm Pump Type: QED

adjusted to: 200mL at 0810 minutes Well Diameter: 2 inches

adjusted to: _____ at _____ minutes 1x Well Volume: 0.92 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0805	1.0	7.29	13.1	176.9	3.60	1.45	>1000	9.95
0810	2.0	7.37	13.2	167.8	3.55	0.40	>1000	9.99
0815	3.0	7.37	13.3	166.2	3.56	0.38	71.9	9.99
0820	4.0	7.37	13.3	164.1	3.56	0.39	45.4	9.99
0825	5.0	7.37	13.3	162.7	3.57	0.53	32.6	9.99
0830	6.0	7.37	13.3	161.3	3.57	0.42	38.5	9.99
0835	7.0	7.37	13.3	157.9	3.58	0.30	25.1	9.99
0840	8.0	7.37	13.3	155.6	3.59	0.26	18.3	9.99
0845	9.0	7.37	13.3	152.7	3.61	0.23	15.0	9.99
0850	10.0	7.37	13.3	150.3	3.62	0.21	11.3	9.99
0855	11.0	7.37	13.3	147.9	3.63	0.20	12.0	9.99
Final Sample Data:		7.37	13.3	147.9	3.63	0.20	12.0	9.99

Sample ID: ESI-6 111417 Duplicate? ☐ Dupe Samp ID: _____

Sample Time: 0858 MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow Rate = 100mL/PM

Sampler(s): L. Roell / J. Mays

ecology and environment engineering, p.c.
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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners
Well ID: MPI-15
EEEPC Project No.: 10c.3074.0011.09
Date: 11/13/17

Initial Depth to Water: 9.75 feet TOIC
Total Well Depth: 18.98 feet TOIC
Depth to Pump: 17.98 feet TOIC
Initial Pump Rate: 400ML/PM Lpm / gpm
adjusted to: _____ at _____ minutes
adjusted to: _____ at _____ minutes

Start Time: 1943
End Time: 1440
☐ Bailer ☑ Pump
Pump Type: QED
Well Diameter: 2 inches
1x Well Volume: 1.50 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1345	①	7.28	14.0	56.2	1.48	2.49	29.3	10.01
1350	2.0	7.28	14.0	6.6	1.41	4.90	9.35	10.01
1355	4.0	7.28	14.0	2.1	11/13/17 1.42	3.01	7.89	10.01
1400	6.0	7.29	14.0	-0.6	1.43	2.38	7.31	10.01
1405	8.0	7.28	13.9	-1.4	1.46	2.16	7.02	10.01
1410	10.0	7.28	13.9	-1.2	1.47	2.14	6.62	10.01
1415	12.0	7.27	13.8	2.3	11/13/17 1.53	2.07	5.54	10.01
1420	14.0	7.28	13.8	7.7	1.61	1.95	5.25	10.01
1425	16.0	7.28	13.7	11.3	1.67	1.92	4.65	10.01
1430	18.0	7.28	13.8	18.6	1.81	1.78	4.97	10.01
1435	20.0	7.28	13.7	19.9	1.84	1.76	6.46	10.01
1440	22.0	7.28	13.8	20.9	1.86	1.74	7.86	10.01
Final Sample Data:		7.28	13.8	20.9	1.86	1.74	7.86	10.01

Sample ID: MPI-15 111317
Sample Time: 1445
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☑ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow RATE =
Sampler(s): J. Mays

ecology and environment engineering, p.c.
International Specialists in the Environment
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WELL PURGE & SAMPLE RECORD

Site Name/Location: MR C's DRY CLEANERS
Well ID: EE-3
EEEPC Project No.: 10C3074.0011.09
Date: 11/13/17

Initial Depth to Water: 10.30 feet TOIC
Total Well Depth: 27.98 feet TOIC
Depth to Pump: 26.98 feet TOIC
Initial Pump Rate: 200 mL/PM Lpm / gpm
adjusted to: _____ at _____ minutes
adjusted to: _____ at _____ minutes

Start Time: 1046
End Time: 1248
☐ Bailer ☒ Pump
Pump Type: QED
Well Diameter: 2 inches
1x Well Volume: 2.88 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm, mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1048	0	7.12	12.3	6.2	4.17	4.27	>1000	10.42
1053	1.0	7.20	12.5	-26.3	4.14	0.67	>1000	10.42
1058	2.0	7.20	12.6	-32.7	4.17	0.58	>1000	10.42
1103	3.0	7.19	12.4	-36.3	4.17	0.53	>1000	10.42
1108	4.0	7.19	12.5	-37.3	4.17	0.55	>1000	10.42
1113	5.0	7.19	12.5	-39.6	4.16	0.51	>1000	10.42
1118	6.0	7.19	12.7	-41.2	4.14	0.56	>1000	10.42
1123	7.0	7.19	12.7	-41.9	4.14	0.54	>1000	10.42
1128	8.0	7.19	12.6	-42.8	4.12	0.56	>1000	10.42
1133	9.0	7.19	12.6	-45.0	4.13	0.51	774	10.42
1138	10.0	7.19	12.5	-46.3	4.14	0.52	763	10.42
1143	11.0	7.19	12.3	-46.5	4.15	0.54	733	10.42
1148	12.0	7.19	12.5	-47.9	4.15	0.51	611	10.42
~~1153~~	13.0	7.19	12.5	-48.1	4.15	0.53	600	10.42
~~1158~~	14.0	7.19	12.5	-49.3	4.16	0.51	145	10.42
Final Sample Data:								

Sample ID: EE-3 111317
Sample Time: 1250
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: SAMPLE FLOW RATE = 100mL/PM

Sampler(s): J. MAYS

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners
Well ID: EE-3
EEEPC Project No.: 10C3074.0011.09
Date: 11/13/17

Initial Depth to Water: 10.30 feet TOIC
Total Well Depth: 27.98 feet TOIC
Depth to Pump: 26.98 feet TOIC
Initial Pump Rate: 200 mL/pm Lpm / gpm
adjusted to: _____ at _____ minutes
adjusted to: _____ at _____ minutes

Start Time: 1046
End Time: 1248
☐ Bailer ☒ Pump
Pump Type: QED
Well Diameter: 2 inches
1x Well Volume: 2.88 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1203	15.0	7.19	12.5	-50.0	4.16	0.50	117	10.42
1208	16.0	7.18	12.5	-51.0	4.17	0.51	97	10.42
1213	17.0	7.18	12.6	-51.3	4.16	0.53	81	10.42
1218	18.0	7.18	12.5	-51.6	4.17	0.57	66	10.42
1223	19.0	7.18	12.3	-52.1	4.16	0.53	51.6	10.42
1228	20.0	7.18	12.6	-52.3	4.16	0.54	49.9	10.42
1233	21.0	7.19	12.5	-53.1	4.16	0.57	42.2	10.42
1238	22.0	7.18	12.5	-53.7	4.16	0.53	46.1	10.42
1243	23.0	7.18	12.5	-53.2	4.16	0.56	41.9	10.42
1248	24.0	7.18	12.5	-54.6	4.16	0.54	40.3	10.42
Final Sample Data:		7.18	12.5	-54.6	4.16	0.54	40.3	10.42

Lauren Kuck 11/13/17

Sample ID: EE-3 111317
Sample Time: 1250
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____

Analyses: / Methods:
☒ VOCs / ☐ CLP
☐ SVOCs / ☑ SW846
☐ PCBs / ☐ Drink. Wtr.
☐ Metals / ☒ 1,4 Dioxane
☒ PFAS / ☐ _____

Comments: Sample Flow Rate = 100 mL/pm

Sampler(s): J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: MR C's Dry Cleaners | Well ID: MPI-3S
EEEPC Project No.: 10C 3074.0011.09 | Date: 11/13/17

Initial Depth to Water: 9.80 feet TOIC | Start Time: 0846
Total Well Depth: 17.87 feet TOIC | End Time: 0945
Depth to Pump: 16.87 feet TOIC | ☐ Bailer ☒ Pump
Initial Pump Rate: 200 mL/PM Lpm / gpm | Pump Type: QED
adjusted to: _____ at _____ minutes | Well Diameter: 2 inches
adjusted to: _____ at _____ minutes | 1x Well Volume: 1.31 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0850	0	7.38	13.0	-95.5	2.38	0.47	>1000	9.92
0855	1.0	7.33	13.2	-90.1	2.36	0.40	150	9.92
0900	2.0	7.29	13.2	-83.6	2.36	0.61	86	9.92
0905	3.0	7.28	13.3	-81.3	2.36	0.83	75.4	9.92
0910	4.0	7.27	13.2	-77.8	2.37	0.76	36.8	9.92
0915	5.0	7.26	13.2	-76.4	2.37	0.56	34.3	9.92
0920	6.0	7.26	13.2	-76.8	2.37	0.38	23.7	9.92
0925	7.0	7.25	13.2	-75.0	2.37	0.27	19.3	9.92
0930	8.0	7.25	13.2	-73.2	2.37	0.21	15.7	9.92
0935	9.0	7.25	13.4	-73.4	2.37	0.18	12.3	9.92
0940	10.0	7.25	13.2	-74.8	2.37	0.16	10.6	9.92
0945	11.0	7.25	13.2	-74.3	2.37	0.14	10.2	9.92
Final Sample Data:		7.25	13.2	-74.3	2.37	0.14	10.2	9.92

Sample ID: MPI-3S 11/3 17 | Duplicate? ☐ | Dupe Samp ID: _____
Sample Time: 0950 | MS/MSD? ☐

Analyses: | Methods: | Comments: Sample Flow Rate = 150 mL/PM
☑ VOCs | ☐ CLP
☐ SVOCs | ☑ SW846
☐ PCBs | ☐ Drink. Wtr.
☐ Metals | ☒ 1,4 Dioxane
☒ PFAS | ☐ _____ | Sampler(s): L. Rowell / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners
Well ID: PW-2
EEEPC Project No.: 10c3074.0011.09
Date: 11/10/17

Initial Depth to Water: _____ feet TOIC
Total Well Depth: _____ feet TOIC
Depth to Pump: _____ feet TOIC
Initial Pump Rate: _____ Lpm / gpm
adjusted to: _____ at _____ minutes
adjusted to: _____ at _____ minutes

Start Time: _____
End Time: _____
☐ Bailer ☒ Pump
Pump Type: Peristaltic Pump
Well Diameter: 4 inches
1x Well Volume: _____ gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
Final Sample Data:								

Sam Roedl 11/10/17

Sample ID: PW-2 111017
Sample Time: 1220
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: NO PARAMETERS Needed
PERISTALTIC Pump
Sampler(s): L. Roedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: MRC's Dry Cleaners
Well ID: PW-4
EEEPC Project No.: 10C3074.0011.09
Date: 11/10/17

Initial Depth to Water: _____ feet TOIC
Start Time: _____
Total Well Depth: _____ feet TOIC
End Time: _____
Depth to Pump: _____ feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: _____ Lpm / gpm
Pump Type: peristaltic pump
adjusted to: _____ at _____ minutes
Well Diameter: 4 inches
adjusted to: _____ at _____ minutes
1x Well Volume: _____ gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
Final Sample Data:								

11/10/17

Sample ID: PW-4 111017
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: 1200
MS/MSD? ☐

Analyses:	Methods:	Comments: No Parameters Needed
☑ VOCs	☐ CLP	
☐ SVOCs	☑ SW846	
☐ PCBs	☐ Drink. Wtr.	
☐ Metals	☒ 1,4 Dioxane	
☒ PFAS	☐ _____	Sampler(s): L. Roedl / J. Mays.

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners Well ID: PW-5

EEEPC Project No.: 10c3074.0011.09 Date: 11/10/17

Initial Depth to Water: _____ feet TOIC Start Time: _____

Total Well Depth: _____ feet TOIC End Time: _____

Depth to Pump: _____ feet TOIC ☐ Bailer ☒ Pump

Initial Pump Rate: _____ Lpm / gpm Pump Type: Peristaltic pump

adjusted to: _____ at _____ minutes Well Diameter: _____ inches

adjusted to: _____ at _____ minutes 1x Well Volume: _____ gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
Final Sample Data:								

Lewis Roedl 11/10/17

Sample ID: PW-5 111017 Duplicate? ☐ Dupe Samp ID: _____

Sample Time: 1050 MS/MSD? ☐

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: No parameters needed

E+E Peristaltic Pump

Sampler(s): L. Roedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: MRC's Dry Cleaners
Well ID: PW-3
EEEPC Project No.: 10C3074.60.11.09
Date: 11/10/17

Initial Depth to Water: _____ feet TOIC
Start Time: _____
Total Well Depth: _____ feet TOIC
End Time: _____
Depth to Pump: _____ feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: _____ Lpm / gpm
Pump Type: Peristaltic pump
adjusted to: _____ at _____ minutes
Well Diameter: 4 inches
adjusted to: _____ at _____ minutes
1x Well Volume: _____ gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
Final Sample Data:								

Laura Roell 11/10/17

Sample ID: PW-3 111017
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: 1020
MS/MSD? ☐

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: No parameters needed
EHE Peristaltic pump
Sampler(s): L. Roell / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners
Well ID: RW-1
EEEPC Project No.: 10C3074.0011.09
Date: 11/10/17

Initial Depth to Water: _____ feet TOIC
Total Well Depth: _____ feet TOIC
Depth to Pump: _____ feet TOIC
Initial Pump Rate: _____ Lpm / gpm
adjusted to: _____ at _____ minutes
adjusted to: _____ at _____ minutes

Start Time: _____
End Time: _____
☐ Bailer ☒ Pump
Pump Type: Peristaltic pump
Well Diameter: 4 inches
1x Well Volume: _____ gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
Final Sample Data:								

Laurence Roedl 11/10/17

Sample ID: RW-1 111017
Sample Time: 0955
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: NO parameters needed
ETE Peristaltic pump.

Sampler(s): L. Roedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners — Well ID: MPT-45

EEEPC Project No.: 10C3074.0011.09 — Date: 11/9/17

Initial Depth to Water: 9.01 feet TOIC — Start Time: 1506

Total Well Depth: 20.70 feet TOIC — End Time: 1553

Depth to Pump: 19.70 feet TOIC — ☐ Bailer ☒ Pump

Initial Pump Rate: 300 mL/PM Lpm / gpm — Pump Type: QED

adjusted to: _____ at _____ minutes — Well Diameter: 2 inches

adjusted to: _____ at _____ minutes — 1x Well Volume: 1.90 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1508	0	7.09	13.7	1.0	4.74	1.35	>1000	10.00
1513	1.5	7.10	13.8	-40.0	4.97	0.47	82.9	10.25
1518	3.0	7.11	13.8	-43.7	4.95	0.41	48.3	10.25
1523	4.5	7.11	13.8	-44.5	4.96	0.35	36.6	10.25
1528	6.0	7.11	13.8	-43.0	4.96	0.31	26.5	10.25
1533	7.5	7.11	13.8	-42.7	4.96	0.65	21.7	10.25
1538	9.0	7.11	13.8	-40.8	4.98	0.31	13.3	10.25
1543	10.5	7.11	13.8	-40.1	4.99	0.25	8.42	10.25
1548	12.0	7.11	13.8	-39.9	4.99	0.21	6.98	10.25
1553	12.5	7.11	13.8	-40.5	4.99	0.18	5.76	10.25
Final Sample Data:		7.11	13.8	-40.5	4.99	0.18	5.76	10.25

Laura Roedl 11/9/17

Sample ID: MPT-45 11917 — Duplicate? ☐ — Dupe Samp ID: _____

Sample Time: 1555 — MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow RATE = 200mls

Sampler(s): L. Roedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners — Well ID: MPI-4I
EEEPC Project No.: 10C3074.08 11.09 — Date: 11/9/17

Initial Depth to Water: 10.05 feet TOIC — Start Time: 1248
Total Well Depth: 41.90 feet TOIC — End Time: 1430
Depth to Pump: 40.90 feet TOIC — ☐ Bailer ☒ Pump
Initial Pump Rate: 300 mL/pm Lpm / gpm — Pump Type: QED
adjusted to: _____ at _____ minutes — Well Diameter: 2 inches
adjusted to: _____ at _____ minutes — 1x Well Volume: 5.19 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm / mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1405	22.5	7.23	12.4	-108.5	2.49	0.20	6.06	11.00
1410	24.0	7.23	12.3	-109.1	2.50	0.19	6.67	11.00
1415	25.5	7.24	12.4	-110.3	2.50	0.17	6.33	11.00
1420	27.0	7.23	12.4	-110.6	2.49	0.16	5.02	11.00
1425	28.5	7.23	12.4	-110.9	2.49	0.14	5.68	11.00
1430	30.5	7.23	12.4	-111.3	2.49	0.17	4.30	11.00
Final Sample Data:		7.23	12.4	-111.3	2.49	0.17	4.30	11.00

Laura Roedl 11/8/17

Sample ID: MPI-4I 11917 — Duplicate? ☐ — Dupe Samp ID: _____
Sample Time: 1433 — MS/MSD? ☐

Analyses: / Methods:
☒ VOCs — ☐ CLP
☐ SVOCs — ☐ SW846
☐ PCBs — ☐ Drink. Wtr.
☐ Metals — ☒ 1,4 Dioxane
☒ PFAS — ☐ _____

Comments: Sample Flow Rate = 100mL/pm

Sampler(s): L. Roedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners Well ID: MPI-4I

EEEPC Project No.: 10C3074.0011.09 Date: 11/9/17

Initial Depth to Water: 10.05 feet TOIC Start Time: 1248

Total Well Depth: 41.90 feet TOIC End Time:

Depth to Pump: 40.90 feet TOIC ☐ Bailer ☒ Pump

Initial Pump Rate: 300 mL/PM Lpm / gpm Pump Type: QED

adjusted to: _____ at _____ minutes Well Diameter: 2 inches

adjusted to: _____ at _____ minutes 1x Well Volume: 5.19 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm or S/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1250	0	7.20	12.8	-34.6	2.13	4.39	38.4	10.95
1255	1.5	7.23	12.6	-77.3	2.45	0.88	49.1	11.00
1300	3.0	7.22	12.3	-87.6	2.33	0.55	30.5	11.00
1305	4.5	7.22	12.3	-87.5	2.27	0.57	17.5	11.00
1310	6.0	7.22	12.5	-84.6	2.33	0.53	16.2	11.00
1315	7.5	7.20	12.6	-86.6	2.44	0.43	13.2	11.00
1320	9.0	7.22	12.6	-89.8	2.49	0.63	11.8	11.00
1325	10.5	7.22	12.6	-92.8	2.51	0.36	10.46	11.00
1330	12.0	7.22	12.5	-95.6	2.52	0.29	10.40	11.00
1335	13.5	7.22	12.6	-99.2	2.53	0.26	12.7	11.00
1340	15.0	7.22	12.5	-101.5	2.52	0.23	9.33	11.00
1345	16.5	7.22	12.4	-104.0	2.52	0.21	8.46	11.00
1350	18.0	7.23	12.3	-105.5	2.52	0.20	7.93	11.00
1355	19.5	7.23	12.4	-108.7	2.51	0.31	7.25	11.00
1400	21.0	7.23	12.3	-107.6	2.50	0.28	7.03	11.00
Final Sample Data:								

11.00

Sample ID: MPI-4I Duplicate? ☐ Dupe Samp ID: _____

Sample Time: _____ MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow Rate: —

Sampler(s): L. Rocal / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners Well ID: EE-2

EEEPC Project No.: 10c3074.0011.09 Date: 11/9/17

Initial Depth to Water: 11.20 feet TOIC Start Time: 1020

Total Well Depth: 31.75 feet TOIC End Time: 1132

Depth to Pump: 30.75 feet TOIC ☐ Bailer ☒ Pump

Initial Pump Rate: 300 mL/PM Lpm / gpm Pump Type: QED

adjusted to: _____ at _____ minutes Well Diameter: 2 inches

adjusted to: _____ at _____ minutes 1x Well Volume: 3.34 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1022	0	7.26	14.0	-70.6	2.89	6.14	>1000	12.05
1027	1.5	7.23	14.1	-78.2	2.87	0.84	>1000	12.50
1032	3.0	7.22	14.1	-84.3	2.86	0.58	>1000	12.60
1037	4.5	7.21	14.2	-86.8	2.86	0.45	>1000	12.60
1042	6.0	7.21	14.4	-87.7	2.85	0.39	127	12.60
1047	7.5	7.21	14.3	-88.9	2.84	0.55	106	12.60
1052	9.0	7.21	14.4	-90.3	2.84	0.38	126	12.60
1057	10.5	7.21	14.3	-93.0	2.84	0.31	92.4	12.70
1102	12.0	7.21	14.3	-94.4	2.84	0.28	70.0	12.70
1107	13.5	7.21	14.2	-95.5	2.83	0.26	53.4	12.70
1112	16.0 15.0	7.20	14.1	-96.8	2.82	0.25	46.6	12.70
1117	16.5	7.20	14.1	-97.2	2.82	0.26	44.7	12.70
1122	18.0	7.20	14.1	-97.5	2.82	0.29	35.0	12.70
1127	19.5	7.20	14.1	-98.2	2.82	0.32	34.0	12.70
1132	21.0	7.20	14.1	-98.2	2.82	0.30	34.1	12.70
Final Sample Data:		7.20	14.1	-98.2	2.82	0.30	34.1	12.70

Sample ID: EE-2 11917 Duplicate? ☐ Dupe Samp ID: _____

Sample Time: 1135 MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow Rate = 100 mL/PM

Sampler(s): L. Roedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners
Well ID: PZ-8C
EEEPC Project No.: 10C3074.00011.09
Date: 11/9/17

Initial Depth to Water: 6.63 feet TOIC
Start Time: 0759
Total Well Depth: 29.30 feet TOIC
End Time: 0902
Depth to Pump: 28.30 feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: 300 mL/m Lpm / gpm
Pump Type: QED
adjusted to: _____ at _____ minutes
Well Diameter: 2 inches
adjusted to: _____ at _____ minutes
1x Well Volume: 3.69 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm / mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0802	0	7.03	10.5	-119.6	2.92	1.02	>1000	6.71
0807	1.5	7.03	10.5	-111.9	2.92	4.36	>1000	6.71
0812	3.0	7.03	10.5	-101.2	2.92	2.98	>1000	6.71
0817	4.5	7.03	10.5	-90.8	2.92	3.48	109	6.71
0822	6.0	7.05	10.5	-131.1	3.09	0.76	85	6.71
0827	7.5	7.05	10.5	-137.6	3.13	2.52	43.1	6.71
0832	9.0	7.07	10.5	-142.5	3.17	2.71	20.2	6.71
0837	10.5	7.07	10.5	-143.6	3.18	1.03	13.2	6.71
0842	12.0	7.07	10.5	-146.9	3.18	0.87	10.3	6.71
0847	13.5	7.07	10.5	-147.7	3.19	6.45	9.99	6.71
0852	15.0	7.07	10.5	-149.6	3.24	0.40	8.61	6.71
0857	16.5	7.07	10.5	-151.6	3.24	0.37	5.94	6.71
0902	18.0	7.07	10.5	-153.2	3.24	0.41	6.38	6.71
Final Sample Data:		7.07	10.5	-153.2	3.24	0.41	6.38	6.71

L. Rowell 11/9/17

Sample ID: PZ-8C 11917
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: 0909
MS/MSD? ☐

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow Rate = 150mL/pm

Sampler(s): L. Rowell / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners
Well ID: PZ-7D
EEEPC Project No.: 10C3074.0011.09
Date: 11/8/17

Initial Depth to Water: 9.46 feet TOIC
Start Time: 1229
Total Well Depth: 26.66 feet TOIC
End Time:
Depth to Pump: 25.66 feet TOIC
☐ Bailer ☐ Pump
Initial Pump Rate: 500 mL/pm Lpm / gpm
Pump Type: QED
adjusted to: _____ at _____ minutes
Well Diameter: 4 inches
adjusted to: _____ at _____ minutes
1x Well Volume: 11.2 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1225	0	6.22	12.3	-120.7	2.62	4.09	106.6	9.46
1230	2.5	6.21	12.5	-121.2	2.60	0.78	88.1	10.29
1235	5.0	6.19	12.7	-115.6	2.59	0.67	60.9	12.96
1240	7.5	6.13	12.8	-110.9	2.57	0.49	45.6	12.55
1245	9.0	6.23	12.9	-109.4	2.56	0.55	37.8	13.10
1250	11.5	6.24	12.9	-94.4	2.57	0.46	34.1	13.71
1255	14.0	6.25	12.9	-88.3	2.56	0.91	37.4	14.20
1300	16.5	6.28	12.8	-66.2	2.56	0.52	27.3	14.85
1305	19.0	6.28	12.8	-60.6	2.56	0.53	26.5	15.00
1310	21.5	6.30	12.8	-92.7	2.56	0.50	22.9	15.30
1315	24.0	6.32	12.8	-53.6	2.55	0.45	28.1	15.60
1320	26.5	6.33	12.7	-48.3	2.55	0.41	24.0	15.95
1325	29.0	6.35	12.8	-45.9	2.56	0.65	26.5	16.10
1330	31.5	6.35	12.7	-45.7	2.56	0.44	27.6	16.30
1335	34.0	6.38	12.7	-47.0	2.54	0.46	28.8	16.50
Final Sample Data:								

Sample ID: PZ-7D 11817
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: 1358
MS/MSD? ☐

Analyses: Methods:
☑ VOCs ☐ CLP
☐ SVOCs ☑ SW846
☐ PCBs ☐ Drink. Wtr.
☐ Metals ☒ 1,4 Dioxane
☒ PFAS ☐ _____

Comments: Sample Flow RATE = 100 mL/pm
*Notice when Filling VOA's w/ HCL Observed reaction.

Sampler(s): L. Roesl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: SEE PG 1 Well ID: PZ-7D

EEEPC Project No.: Date: 11/8/17

Initial Depth to Water: 9.46 feet TOIC Start Time: 1223

Total Well Depth: 24.66 feet TOIC End Time: 1355

Depth to Pump: 25.66 feet TOIC ☐ Bailer ☒ Pump

Initial Pump Rate: 500 mL/pm Lpm / gpm Pump Type: QED

adjusted to: _____ at _____ minutes Well Diameter: 4 inches

adjusted to: _____ at _____ minutes 1x Well Volume: 11.2 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm or mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1340	36.5	6.41	12.7	-44.0	2.54	0.48	25.0	16.75
1345	39.0	6.41	12.6	-44.5	2.54	0.51	21.3	16.77
1350	41.5	6.42	12.6	-44.4	2.54	0.49	24.7	16.80
1355	44.0	6.42	12.6	-44.1	2.52	0.52	17.7	16.88
		6.42	12.6	-44.1	2.52	0.52	17.7	16.88
Final Sample Data:								

Lauren Keel 11/8/17

Sample ID: PZ-7D 110817 Duplicate? ☐ Dupe Samp ID: _____

Sample Time: 1358 MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow Rate = 100mL/PM

Sampler(s): L. Keel / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners
Well ID: PW-8
EEEPC Project No.: 10C3074.0011.09
Date: 11/8/17

Initial Depth to Water: _____ feet TOIC
Start Time: 1340
Total Well Depth: _____ feet TOIC
End Time: _____
Depth to Pump: _____ feet TOIC
☐ Bailer ☐ Pump E+E
Initial Pump Rate: _____ Lpm / gpm
Pump Type: Peristaltic Pump
adjusted to: _____ at _____ minutes
Well Diameter: 4 inches Sampling
adjusted to: _____ at _____ minutes
1x Well Volume: _____ gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
								13.85
Final Sample Data:								

11/8/17

Sample ID: PW-8 11817
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: 1340
MS/MSD? ☐

Analyses:	Methods:	Comments: SEE PW-6 (Comments)
☑ VOCs	☐ CLP	No parameters
☐ SVOCs	☑ SW846	
☐ PCBs	☐ Drink. Wtr.	
☐ Metals	☒ 1,4 Dioxane	
☒ PFAS	☐ _____	Sampler(s): L. Roell / J. Mays

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PJ
1 of 2

WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners — Well ID: MPI-6S
EEEPC Project No.: 10C 3674.0011.09 — Date: 11/8/17

Initial Depth to Water: 9.32 feet TOIC — Start Time: 1008
Total Well Depth: 21.54 feet TOIC — End Time: 1133
Depth to Pump: 20.54 feet TOIC — ☐ Bailer ☒ Pump
Initial Pump Rate: 100 mL/pm Lpm / gpm — Pump Type: QED
adjusted to: _____ at _____ minutes — Well Diameter: 2 inches
adjusted to: _____ at _____ minutes — 1x Well Volume: 1.99 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1010	①	6.76	12.4	-164.2	2.07	1.10	>1000	10.21
1015	500mL	6.76	12.4	-168.3	2.07	1.21	>1000	10.21
1020	1.0	6.73	12.5	-189.7	2.07	0.87	27.6	10.21
1025	1.5	6.73	12.5	-193.6	2.07	0.80	16.8	10.21
1030	2.0	6.72	12.6	-192.4	2.07	0.76	14.8	10.21
1035	2.5	6.71	12.6	-199.8	2.08	0.74	11.0	10.21
1040	3.0	6.69	12.6	-240.7	2.08	1.52	17.6	10.21
1045	3.5	6.69	12.7	-241.9	2.07	0.94	15.7	10.21
1050	4.0	6.68	12.8	-219.9	2.08	0.67	14.9	10.21
1055	4.5	6.68	13.0	-216.7	2.08	0.75	10.2	10.21
1100	5.0	6.67	13.0	-215.4	2.08	0.80	9.79	10.21
1105	5.5	6.67	13.1	-237.6	2.08	1.11	11.4	10.21
1110	6.0	6.66	12.8	-216.8	2.09	1.43	11.6	10.21
1115	6.5	6.65	13.1	-214.5	2.08	0.87	8.05	10.21
1120	7.0	6.66	13.2	-214.7	2.08	0.85	9.14	10.21
Final Sample Data:								

Sample ID: MPI-6S 11817 — Duplicate? ☐ — Dupe Samp ID: _____
Sample Time: 1133 — MS/MSD? ☐

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow Rate = 100mL/pm

Sampler(s): L. Roedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: MR C's — Well ID: MPI-6S

EEEPC Project No.: 10C3074.0011.09 — Date: 11/8/17

Initial Depth to Water: 9.32 feet TOIC — Start Time: 1008

Total Well Depth: 21.54 feet TOIC — End Time: 1130

Depth to Pump: 20.54 feet TOIC — ☐ Bailer ☒ Pump

Initial Pump Rate: 100 mL/PM Lpm / gpm — Pump Type: QED

adjusted to: _____ at _____ minutes — Well Diameter: 2 inches

adjusted to: _____ at _____ minutes — 1x Well Volume: 1.99 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1125	7.5	6.65	13.0	-214.3	2.09	0.87	8.11	10.21
1130	8.0	6.64	12.9	-215.4	2.09	0.83	8.73	10.21
Final Sample Data:		6.64	12.9	-215.4	2.09	0.83	8.73	10.21

L. Roedl 11/8/17

Sample ID: MPI-6S 11817 — Duplicate? ☐ — Dupe Samp ID: _____

Sample Time: 1133 — MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☒ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: SAMPLE FLOW RATE = 100 mL/PM

Sampler(s): L. Roedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners
Well ID: PW-7
EEEPC Project No.: 10C3074.0011.09
Date: 11/8/17

Initial Depth to Water: _____ feet TOIC
Total Well Depth: _____ feet TOIC
Depth to Pump: _____ feet TOIC
Initial Pump Rate: _____ Lpm / gpm
adjusted to: _____ at _____ minutes
adjusted to: _____ at _____ minutes

Start Time: _____
End Time: _____
☐ Bailer ☐ Pump
Pump Type: Peristaltic E+E Pump for Sampling
Well Diameter: 4 inches
1x Well Volume: _____ gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
Final Sample Data:								

L. Rowell 11/8/17

Sample ID: PW-7 11817
Sample Time: 1115
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: SEE PW-6 (Purge sheet for Comments) No parameters collected.

Sampler(s): L. Rowell / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners
Well ID: PW-6
EEEPC Project No.: 10C3074.0011.09
Date: 11/8/17

Initial Depth to Water: _____ feet TOIC
Start Time: 1045
Total Well Depth: _____ feet TOIC
End Time: —
Depth to Pump: _____ feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: _____ Lpm / gpm
Pump Type: Peristaltic pump E+E for Sampling
adjusted to: _____ at _____ minutes
Well Diameter: 4 inches
adjusted to: _____ at _____ minutes
1x Well Volume: _____ gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
Final Sample Data:								

Sample ID: PW-6 11817
Duplicate? ☒
Dupe Samp ID: PW-6 11817 D
Sample Time: 1045 / 1046
MS/MSD? ☐

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Rick + Darma - Sub contractors Turned on Treatment Plant Sys. Pumping Wells from 11/8/17 ~~were~~ Pumping Prior to E+E collecting Samples. Pulling Transducers stops Pumping Wells prior to placing Tubing in PW-wells.

Sampler(s): L. Roehl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners — Well ID: PZ-6A
EEEPC Project No.: 10C3074.0011.09 — Date: 11/8/17

Initial Depth to Water: 10.13 feet TOIC — Start Time: 0758
Total Well Depth: 28.89 feet TOIC — End Time: 0900
Depth to Pump: 27.89 feet TOIC — ☐ Bailer ☒ Pump
Initial Pump Rate: 300 mL/min Lpm / gpm — Pump Type: QED
adjusted to: _____ at _____ minutes — Well Diameter: 2 inches
adjusted to: _____ at _____ minutes — 1x Well Volume: 3.05 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0800	0	7.04	10.8	26.7	3.29	2.51	>1000	10.39
0805	1.5	7.06	10.8	34.2	3.27	1.79	>1000	10.39
0810	3.0	7.12	11.2	31.9	3.27	1.27	107.2	10.39
0815	4.5	7.13	11.4	30.7	3.28	1.12	95.1	10.39
0820	6.0	7.14	11.5	36.6	3.27	1.26	79.1	10.39
0825	7.5	7.15	11.2	32.3	3.26	1.07	61.6	10.39
0830	9.0	7.16	11.4	31.2	3.27	1.04	45.1	10.39
0835	10.5	7.15	11.5	29.8	3.27	1.19	36.6	10.39
0840	12.0	7.17	11.5	29.6	3.28	1.16	31.9	10.39
0845	13.5	7.17	11.7	31.5	3.29	0.93	28.0	10.39
0850	15.0	7.17	11.7	28.2	3.30	0.94	24.7	10.39
0855	16.5	7.17	11.7	25.0	3.31	0.97	27.5	10.39
0900	18.0	7.17	11.7	24.6	3.32	0.93	26.0	10.39
Final Sample Data:		7.17	11.7	24.6	3.32	0.93	26.0	10.39

Laura Roedl 11/8/17

Sample ID: PZ-6A 11817 — Duplicate? ☐ — Dupe Samp ID: _____
Sample Time: 0903 — MS/MSD? ☐

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow Rate = 108 mL/s

Sampler(s): L. Roedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners Well ID: MPI-14BR
EEEPC Project No.: 10C3074.0011.09 Date: 11/7/17

Initial Depth to Water: 8.52 feet TOIC Start Time: 1323
Total Well Depth: 28.18 feet TOIC End Time: 1435
Depth to Pump: 27.18 feet TOIC ☐ Bailer ☒ Pump
Initial Pump Rate: 100 mL/PM Lpm / gpm Pump Type: QED
adjusted to: 400 mL/PM at 1340 minutes Well Diameter: 2 inches
adjusted to: _____ at _____ minutes 1x Well Volume: 3.20 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1325	0	6.84	13.7	23.7	2.10	2.01	>1000	8.52
1330	500mL	7.01	13.7	-64.5	2.13	0.35	>1000	8.52
1335	1.0	7.01	13.6	-65.1	2.13	0.28	>1000	8.52
1340	3.0	6.97	13.8	-68.0	2.13	0.22	>1000	8.52
1345	5.0	7.00	13.8	-70.5	2.13	0.18	>1000	8.52
1350	7.0	6.99	13.9	-70.1	2.13	1.01	>1000	8.52
1355	9.0	7.00	14.0	-69.7	2.13	0.32	>1000	8.52
1400	11.0	6.99	14.1	-68.1	2.13	0.27	138	8.52
1405	13.0	6.98	14.2	-64.9	2.13	0.29	97.3	8.52
1410	15.0	6.99	14.2	-63.2	2.12	0.31	84.9	8.52
1415	17.0	6.98	14.1	-61.4	2.12	0.32	68.6	8.52
1420	19.0	6.99	14.1	-60.8	2.11	0.28	50.1	8.52
1425	21.0	6.99	14.1	-60.5	2.10	0.38	40.8	8.52
1430	23.0	6.99	14.1	-59.8	2.10	0.36	43.4	8.52
1435	25.0	6.99	14.1	-59.2	2.09	0.32	39.8	8.52
Final Sample Data:		6.99	14.1	-59.2	2.09	0.32	39.8	8.52

Sample ID: MPI-13BR-11717 Duplicate? ☐ Dupe Samp ID: _____
Sample Time: 1437 MS/MSD? ☐

Analyses: / Methods:
☑ VOCs / ☐ CLP
☐ SVOCs / ☑ SW846
☐ PCBs / ☐ Drink. Wtr.
☐ Metals / ☒ 1,4 Dioxane
☒ PFAS / ☐ _____

Comments: Sample Flow Rate 100mls

Sampler(s): L. Reedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners — Well ID: MW-7
EEEPC Project No.: 10C3074.0011.09 — Date: 11/7/17

Initial Depth to Water: 9.81 feet TOIC — Start Time: 1134
Total Well Depth: 14.39 feet TOIC — End Time:
Depth to Pump: 13.39 feet TOIC — ☐ Bailer ☒ Pump
Initial Pump Rate: 300 mL/PM Lpm / gpm — Pump Type: QED
adjusted to: ____ at ____ minutes — Well Diameter: 2 inches
adjusted to: ____ at ____ minutes — 1x Well Volume: 0.74 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1135	0	7.31	13.1	134.7	1.86	3.24	>1000	9.82
1140	1.5	7.34	13.4	138.2	1.72	4.06	49.9	9.82
1145	3.0	7.35	13.5	148.8	1.62	4.73	14.9	9.82
1150	4.5	7.35	13.7	153.2	1.59	4.81	9.99	9.82
1155	6.0	7.37	13.6	155.5	1.55	5.22	6.27	9.82
1200	7.5	7.35	13.6	158.2	1.53	5.23	4.45	9.82
1205	9.0	7.35	13.4	161.3	1.50	5.48	2.60	9.82
1210	10.5	7.35	13.3	164.9	1.48	5.42	2.30	9.82
1215	12.0	7.35	13.4	165.3	1.48	5.40	1.60	9.82
Final Sample Data:		7.35	13.4	165.3	1.48	5.40	1.60	9.82

Sample ID: MW-7 11717 — Duplicate? ☐ — Dupe Samp ID:
Sample Time: 1218 — MS/MSD? ☐

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☑ PFAS	☐ ____

Comments: Sample Flow Rate - 150mL/PM

Sampler(s): L. Roedl / J. Mays / MK. Mooney

Laura Roedl 11/7/17

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Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: MR C's Dry Cleaners — Well ID: MW-11
EEEPC Project No.: 10C3074.0011.09 — Date: 11/7/17

Initial Depth to Water: 8.45 feet TOIC — Start Time: 0938
Total Well Depth: 18.20 feet TOIC — End Time: 1050
Depth to Pump: 17.20 feet TOIC — ☐ Bailer ☑ Pump
Initial Pump Rate: 500 ML/PM Lpm / gpm — Pump Type: QED
adjusted to: _____ at _____ minutes — Well Diameter: 2 inches
adjusted to: _____ at _____ minutes — 1x Well Volume: 1.58 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0940	(1)	7.36	13.8	233.1	1.97	0.62	>1000	8.49
0945	2.0 2.5	7.34	13.7	224.3	1.97	0.33	>1000	8.49
0950	4.0 5.0	7.33	13.7	219.2	1.95	0.40	>1000	8.49
0955	6.0 7.5	7.33	13.7	216.5	1.95	0.38	166	8.49
1000	8.0 10.0	7.33	13.7	214.0	1.93	0.74	116	8.49
1005	10.0 12.5	7.33	13.7	213.0	1.91	0.40	122	8.49
1010	12.0 15.0	7.33	13.7	211.8	1.91	0.35	112	8.49
1015	14.0 17.5	7.32	13.7	209.8	1.90	0.32	71.8	8.49
1020	16.0 20.0	7.33	13.8	207.2	1.89	0.33	55.3	8.49
1025	18.0 22.5	7.33	13.5	203.9	1.89	0.33	~~52~~ 38.8	8.49
1030	25.0	7.32	13.8	195.1	1.88	0.81	28.8	8.49
1035	27.5 ~~30.0~~	7.32	13.6	191.7	1.88	0.51	18.6	8.49
1040	30.0	7.32	13.7	188.6	1.87	0.45	16.8	8.49
1045	32.5	7.31	13.7	181.8	1.87	0.44	13.3	8.49
1050	35.0	7.31	13.7	174.0	1.87	0.43	11.5	8.49
Final Sample Data:		7.31	13.7	174.0	1.87	0.43	11.5	8.49

Sample ID: MW-11 11717 — Duplicate? ☐ — Dupe Samp ID: _____
Sample Time: 1100 — MS/MSD? ☐

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	~~☒~~ 1,4 Dioxane
~~☒~~ PFAS	☐ _____

Comments: Sample Flow Rate = 200 mL/min

Sampler(s): L. Roell / J. Mays / MK. Mooney

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners
Well ID: MPI-2S
EEEPC Project No.: 10C3074.0011.09
Date: 11/7/17

Initial Depth to Water: 10.01 feet TOIC
Start Time: 0754
Total Well Depth: 18.35 feet TOIC
End Time: 0850
Depth to Pump: 17.35 feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: 400 mL/pm Lpm / gpm
Pump Type: QED
adjusted to: _____ at _____ minutes
Well Diameter: 2 inches
adjusted to: _____ at _____ minutes
1x Well Volume: 1.35 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C /°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0755	0	7.15	13.6	220.7	2.19	12.10	>1000	10.03
0800	2.0	7.16	13.9	220.1	2.19	9.43	114	10.03
0805	4.0	7.16	13.9	220.4	2.19	9.65	98.0	10.03
0810	6.0	7.16	14.0	222.2	2.19	9.23	71.6	10.03
0815	8.0	7.16	13.9	223.8	2.19	8.67	60.4	10.03
0820	10.0	7.16	14.0	225.5	2.19	8.34	27.8	10.03
0825	12.0	7.16	13.9	226.4	2.19	8.03	16.1	10.03
0830	14.0	7.16	14.0	227.4	2.19	8.39	11.6	10.03
0835	16.0	7.16	13.9	227.5	2.19	8.08	7.86	10.03
0840	18.0	7.16	13.9	227.3	2.19	7.88	6.44	10.03
0845	20.0	7.16	13.9	226.6	2.19	7.71	4.06	10.03
0850	22.0	7.16	14.0	225.8	2.19	7.57	3.91	10.03
			Laurence Roedl 11/7/17					
Final Sample Data:		7.16	14.0	225.8	2.19	7.57	3.91	10.03

Sample ID: MPI-2S-11717
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: 0853
MS/MSD? ☐

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow Rate = 100mL/pm

Sampler(s): L. Roedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners
Well ID: MPI-13BR
EEEPC Project No.: 10C3074.0011.09
Date: 11/6/17

Initial Depth to Water: 7.21 feet TOIC
Start Time: 1339
Total Well Depth: 30.87 feet TOIC
End Time: 1450
Depth to Pump: 29.87 feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: 200 mL/PM Lpm / gpm
Pump Type: QED
adjusted to: _____ at _____ minutes
Well Diameter: 2 inches
adjusted to: _____ at _____ minutes
1x Well Volume: 3.85 gallons

	Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
	1340	0	7.04	12.6	-21.4	1.55	1.15	>1000	7.21
	1345	1.0	7.08	12.4	-27.2	0.78 1.57	0.70	>1000	7.21
	1350	2.0	7.08	12.4	-34.4	1.57	0.53	>1000	7.21
	1355	3.0	7.07	12.4	-36.0	1.59	0.37	>1000	7.21
*	1400	4.0	7.08	12.5	-36.6	1.61	0.32	699	7.21
	1405	5.0	7.08	12.6	-40.8	1.63	0.25	171	7.21
	1410	6.0	7.08	12.6	-40.1	1.68	0.59	142	7.21
	1415	7.0	7.08	12.4	-39.9	1.72	0.38	151	7.21
	1420	8.0	7.08	12.4	-39.2	1.76	0.23	129	7.21
	1425	9.0	7.09	12.3	-39.6	1.77	0.19	82.1	7.21
	1430	10.0	7.08	12.3	-37.8	1.79	0.17	70.0	7.21
	1435	11.0	7.07	12.4	-37.1	1.80	0.15	56.7	7.21
	1440	12.0	7.08	12.3	-37.6	1.81	0.16	47.1	7.21
	1445	13.0	7.08	12.4	-36.8	1.83	0.21	42.1	7.21
	1450	14.0	7.07	12.3	-36.0	1.84	0.17	39.6	7.21
	Final Sample Data:		7.07	12.3	-36.0	1.84	0.17	39.6	7.21

Sample ID: MPI-13BR-11617 (MPI-13BR-11617)
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: 1453
MS/MSD? ☐

Analyses:	Methods:
☑ VOCs	☐ CLP
☐ SVOCs	☑ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow Rate = 100mL/PM
Sampler(s): L. Roedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr. C's Dry Cleaners
Well ID: MPI-85R
EEEPC Project No.: 10C3574.0011.09
Date: 11/6/17

Initial Depth to Water: 8.20 feet TOIC
Total Well Depth: 17.38 feet TOIC
Depth to Pump: 16.38 feet TOIC
Initial Pump Rate: 300 mL/PM Lpm / gpm
adjusted to: _____ at _____ minutes
adjusted to: _____ at _____ minutes

Start Time: 1130
End Time: 1210
☐ Bailer ☒ Pump
Pump Type: QED
Well Diameter: 2 inches
1x Well Volume: 1.49 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1130	0	7.38	15.3	135.1	5.74	6.91	34.4	8.28
1135	1.5	7.38	15.5	157.7	5.87	6.82	8.75	8.28
1140	3.0	7.36	15.6	173.0	5.91	6.91	4.61	8.28
1145	4.5	7.38	15.5	178.7	5.91	6.87	3.18	8.28
1150	6.0	7.37	15.6	187.5	5.92	6.92	2.33	8.28
1155	7.5	7.37	15.5	195.0	5.90	6.90	1.65	8.28
1200	9.0	7.37	15.6	201.5	5.89	6.94	1.29	8.28
1205	10.5	7.37	15.5	206.0	5.89	6.96	1.41	8.28
1210	12.0	7.37	15.5	210.2	5.87	6.94	1.09	8.28
Final Sample Data:		12.0	15.5	210.2	5.87	6.94	1.09	8.28

3.79 L/Gallon = 1.0 gallon

L. Reedl 11/6/17

Sample ID: MPI-85R-111617
Sample Time: 1213
Duplicate? ☐
MS/MSD? ☒
Dupe Samp ID: _____

Analyses: / Methods:
☒ VOCs ☐ CLP
☐ SVOCs ☐ SW846
☐ PCBs ☐ Drink. Wtr.
☐ Metals ☒ 1,4 Dioxane
☒ PFAS ☐ _____

Comments: Sample Flow Rate = 100 mL/PM

Sampler(s): L. Reedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: MR C's Dry Cleaners Well ID: MPI-9SR

EEEPC Project No.: 10C 3074.0011.09 Date: 11/6/17

Initial Depth to Water: 7.68 feet TOIC Start Time: 0949

Total Well Depth: 17.49 feet TOIC End Time: 1045

Depth to Pump: 16.49 feet TOIC ☐ Bailer ☒ Pump

Initial Pump Rate: 200 mL/PM Lpm / gpm Pump Type: QED

adjusted to: _____ at _____ minutes Well Diameter: 2 inches

adjusted to: _____ at _____ minutes 1x Well Volume: 1.59 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0950	0	7.12	12.6	28.7	2.56	1.02	>1000	7.70
0955	1.0	7.04	13.1	42.6	2.56	0.49	>1000	7.70
1000	2.0	7.09	13.1	59.1	2.52	0.42	808	7.70
1005	3.0	7.08	13.4	66.1	2.44	0.52	45	7.70
1010	4.0	7.09	13.5	62.5	2.47	0.51	59.5	7.70
1015	5.0	7.08	13.6	62.4	2.45	0.85	62.4	7.70
1020	6.0	7.09	13.5	62.1	2.43	0.90	42.7	7.70
1025	7.0	7.07	13.5	64.7	2.39	0.92	35.9	7.70
1030	8.0	7.07	13.5	66.1	2.36	0.97	35.5	7.70
1035	9.0	7.07	13.6	69.2	2.31	1.26	35.7	7.70
1040	10.0	7.07	13.7	70.3	2.30	1.30	37.6	7.70
1045	11.0	7.08	13.5	70.7	2.30	1.28	39.1	7.70
Final Sample Data:		7.08	13.5	7.07	2.30	1.28	39.1	7.70

3.3 mL/PM = 1.0 gal

Sample ID: 11/6/17 TOY Rev MPI-9SR-11617 Duplicate? ☐ Dupe Samp ID: _____

Sample Time: 1048 MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow Rate = 100 mL/PM

Sampler(s): L. Reed / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry cleaners
Well ID: PZ-1D
EEEPC Project No.: 10C3074.0011.09
Date: 11/06/17

Initial Depth to Water: 11.20 feet TOIC
Start Time: 0800
Total Well Depth: 30.19 feet TOIC
End Time: 0900
Depth to Pump: 29.19 feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: 400 mL/PM Lpm / gpm
Pump Type: QED
adjusted to: _____ at _____ minutes
Well Diameter: 2 inches
adjusted to: _____ at _____ minutes
1x Well Volume: 3.09 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0800	0	7.65	13.9	214.4	3.30	1.34	702	11.21
0805	2.0	9.08	13.9	169.5	2.98	0.73	93.9	11.21
0810	4.0	9.12	13.9	158.1	2.95	0.67	63.1	11.21
0815	6.0	9.28	13.6	149.3	2.94	0.57	62.4	11.21
0820	8.0	9.06	13.6	129.8	2.95	0.46	33.5	11.21
0825	10.0	8.76	13.5	124.3	2.97	0.42	39.5	11.21
0830	12.0	8.40	13.5	129.3	2.99	1.35	20.6	11.21
0835	14.0	8.34	13.6	123.0	3.01	0.47	18.7	11.21
0840	16.0	8.17	13.7	119.4	3.03	0.39	14.1	11.21
0845	18.0	7.91	13.8	117.1	3.06	0.34	11.8	11.21
0850	20.0	7.77	13.6	115.0	3.08	0.37	10.9	11.21
0855	22.0	7.72	13.7	112.2	3.10	0.33	10.2	11.21
0900	24.0	7.70	13.7	110.9	3.11	0.31	8.9	11.21
Final Sample Data:		7.70	13.7	110.9	3.11	0.31	8.9	11.21

3.79 LITER = 1 gal →

Sample ID: PZ-1D 11617
Duplicate? ☐
Dupe Samp ID: PZ-1D-11617
Sample Time: 0930
MS/MSD? ☐

Analyses: Methods: Comments: Sample Flow Rate = 150mL/PM

☒ VOCs ☐ CLP
☐ SVOCs ☐ SW846
☐ PCBs ☐ Drink. Wtr.
☐ Metals ☒ 1,4 Dioxane
☒ PFAS ☐ _____

Sampler(s): L. Rodd / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: MR C's Dry Cleaners Well ID: ESI-2R

EEEPC Project No.: 10C3074.0011.09 Date: 11/3/17

Initial Depth to Water: 12.52 feet TOIC Start Time: 14:20

Total Well Depth: 19.04 feet TOIC End Time: 1455

Depth to Pump: 18.04 feet TOIC ☐ Bailer ☒ Pump

Initial Pump Rate: 200 mL/min Lpm / gpm Pump Type: QED

adjusted to: _____ at _____ minutes Well Diameter: 2 inches

adjusted to: _____ at _____ minutes 1x Well Volume: 1.06 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1420	0	6.82	12.9	53.3	2.82	2.79	>1000	12.58
1425	1.0	6.82	13.1	64.2	2.63	4.35	>1000	12.58
1430	2.0	6.81	13.1	73.3	2.42	3.65	151	12.58
1435	3.0	6.82	13.1	79.3	2.24	3.33	101.1	12.58
1440	4.0	6.82	13.0	81.5	2.19	3.27	58.4	12.58
1445	5.0	6.82	13.0	80.6	2.18	3.22	32.8	12.58
1450	6.0	6.81	13.0	81.4	2.18	3.17	24.3	12.58
1455	7.0	6.82	13.0	80.9	2.19	3.23	22.7	12.58
Final Sample Data:		6.82	13.0	80.9	2.19	3.23	22.7	12.58

Removed 11/3/17

Sample ID: ESI-2R-1117 Duplicate? ☐ Dupe Samp ID: ~~ESI-2R-1117~~ 11/3/17

Sample Time: 1458 MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow Rate = 100 mL/

Sampler(s): L. Roedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: MR C's Dry CLEANERS — Well ID: PZ-3B

EEEPC Project No.: 100 3074.0011.09 — Date: 11/3/17

Initial Depth to Water: 10.87 feet TOIC — Start Time: 1129

Total Well Depth: 29.28 feet TOIC — End Time: ~~1235~~ 9am 1241

Depth to Pump: 28.28 feet TOIC — ☐ Bailer ☒ Pump

Initial Pump Rate: 150 mL/PM Lpm / gpm — Pump Type: QED

adjusted to: 400 mL/PM at 1140 minutes — Well Diameter: 2 inches

adjusted to: _____ at _____ minutes — 1x Well Volume: 3.0 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1140	0	7.25	13.3	52.1	2.48	4.42	939	11.15
1141	400mL	7.23	13.2	71.5	2.50	2.01	101	11.15
1146	2.4	7.24	13.2	78.7	2.49	1.62	68	11.15
1151	4.4	7.25	13.2	90.6	2.48	2.94	76.1	11.15
1156	6.4	7.25	13.2	84.2	2.49	3.44	59.3	11.15
1201	8.4	7.25	13.2	99.8	2.50	1.90	48.6	11.15
1206	10.4	7.26	13.2	107.8	2.51	2.34	34.7	11.15
1211	12.4	7.25	13.2	109.9	2.51	1.09	~~29.8~~	11.15
1216	14.4	7.25	13.1	116.8	2.52	0.81	23.3	11.15
1221	16.4	7.25	13.2	120.2	2.52	0.88	20.4	11.15
1226	18.4	7.25	13.1	123.4	2.52	0.75	16.3	11.15
1231	20.4	7.25	13.2	129.8	2.52	0.69	15.4	11.15
1236	22.4	7.26	13.2	132.7	2.52	0.73	12.1	11.15
1241	24.4	7.26	13.2	135.6	2.52	0.67	14.2	11.15
		7.26	13.2	135.6	2.52	0.67		
Final Sample Data:		↓	↓	↓	↓	↓	14.2	11.15

Sample ID: PZ-3B-11317 — Duplicate? ☐ — Dupe Samp ID: _____

Sample Time: 1245 — MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 Dioxane
☒ PFAS	☐ _____

Comments: Sample Flow Rate = 100mL/PM

Sampler(s): L. Rocell / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: MR C's Dry CLEANERS — Well ID: MW-8

EEEPC Project No.: 10C3074.00M.09 — Date: 11/3/17

Initial Depth to Water: 10.60 feet TOIC — Start Time: 0955

Total Well Depth: 13.65 feet TOIC — End Time: 1046

Depth to Pump: 12.85 feet TOIC — ☐ Bailer ☐ Pump

Initial Pump Rate: 200 mL/pm Lpm / gpm — Pump Type: QED

adjusted to: 100 mL/pm at 0959 minutes — Well Diameter: 2 inches

adjusted to: _____ at _____ minutes — 1x Well Volume: 0.52 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C °F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1000	0	6.99	16.4	-54.5	1.79	1.37	37.1	10.59
1001	500 mL	6.96	16.7	-34.2	1.65	1.25	8.59	10.59
1006	1.0	6.96	16.8	-36.2	1.64	1.34	6.50	10.59
1011	1.5	6.95	16.8	-40.7	1.63	1.30	5.33	10.59
1016	2.0	6.95	16.8	-33.1	1.60	1.39	3.25	10.59
1021	2.5	6.95	16.7	-53.6	1.56	2.57	3.43	10.59
1026	3.0	6.96	16.7	-62.9	1.56	1.73	4.83	10.59
1031	3.5	6.95	16.7	-54.9	1.55	1.68	2.62	10.59
1036	4.0	6.95	16.8	-49.2	1.54	1.44	2.07	10.59
1041	4.5	6.95	16.7	-56.2	1.53	1.40	2.08	10.59
1046	5.0	6.95	16.8	-49.6	1.52	1.37	2.15	10.59
Final Sample Data:		6.95	16.8	-49.6	1.52	1.37	2.15	10.59

11/3/17

Sample ID: MW-8-11317 — Duplicate? ☐ — Dupe Samp ID: _____

Sample Time: 1050 — MS/MSD? ☐

Analyses: / Methods:

- ☒ VOCs / ☐ CLP
- ☐ SVOCs / ☐ SW846
- ☐ PCBs / ☐ Drink. Wtr.
- ☐ Metals / ☒ 1,4 Dioxane
- ☒ PFAS / ☐ _____

Comments: Sample Flow Rate 100mL/PM

Sampler(s): L. Rocelli / J. Mays

*MPI-5S was Dup

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaners — Well ID: MPI-5S

EEEPC Project No.: 10C3074.0011.09 — Date: 11/3/17

Initial Depth to Water: 11.52 feet TOIC — Start Time: 0805

Total Well Depth: 17.79 feet TOIC — End Time: 0855

Depth to Pump: 16.79 feet TOIC — ☐ Bailer ☒ Pump

Initial Pump Rate: 200 mL/PM Lpm / gpm — Pump Type: QED

adjusted to: _____ at _____ minutes — Well Diameter: 2 inches

adjusted to: _____ at _____ minutes — 1x Well Volume: 1.02 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm/mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0805	0	7.10	15.9	-10.9	2.36	4.54	83	11.35
0810	1.0	7.15	15.9	-9.3	2.36	3.00	101.5	11.35
0815	2.0	7.16	16.1	-2.7	2.37	3.18	88.3	11.35
0820	3.0	7.16	15.9	-3.6	2.35	3.19	53.7	11.35
1 gal → 0825	3.79	7.15	16.0	-8.6	2.31	3.48	43.0	11.35
0830	5.0	7.11	16.0	-14.6	2.23	4.25	32.7	11.35
0835	6.0	6.95	15.6	-1.9	1.65	4.49	12.0	11.35
0840	7.0	6.97	15.6	-8.5	1.69	4.68	8.50	11.35
2 gal → 0845	7.58	7.03	15.7	12.6	1.66	5.02	23.6	11.35
0850	9.0	7.05	15.6	12.3	1.71	5.05	22.1	11.35
0855	10.0	7.05	15.6	12.9	1.78	4.98	19.6	11.35
Final Sample Data:		7.05	15.6	12.9	1.78	4.98	19.6	11.35

Sample ID: MPI-5S-11317 — Duplicate? ☒ — Dupe Samp ID: MPI-5S-11317-D

Sample Time: 0858 — MS/MSD? ☐

Analyses: / Methods:

- ☒ VOCs — ☐ CLP
- ☐ SVOCs — ☐ SW846
- ☐ PCBs — ☐ Drink. Wtr.
- ☐ Metals — ☒ 1,4 Dioxane
- ☒ PFAS — ☐ _____

Comments: Sample Flow Rate: 150 mL/PM

Sampler(s): J. Mays / L. Rood

Well Purge Form - EEEPC.xls

* Good

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr. C's Dry Cleaning — Well ID: ESI-3

EEEPC Project No.: 10C3074.0011.39 — Date: 11/01/17

Initial Depth to Water: 10.85 feet TOIC — Start Time: 1343

Total Well Depth: 15.15 feet TOIC — End Time: 1335

Depth to Pump: 13.15 feet TOIC — ☐ Bailer ☒ Pump

Initial Pump Rate: 100 mL/PM Lpm / gpm — Pump Type: QED

adjusted to: 400 mL/PM at 1344 minutes — Well Diameter: 2 inches

adjusted to: _____ at _____ minutes — 1x Well Volume: 0.70 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1245	0	7.56	14.2	120.8	2.21	2.14	112	10.87
1350	400 mL	7.42	15.0	119.2	2.28	1.37	95.1	10.87
1355	800mL	7.41	15.1	114.3	2.30	1.23	67.8	10.87
1400	1.2	7.40	14.9	104.2	2.32	1.16	45.1	10.87
1405	1.6	7.42	15.0	79.4	2.33	1.51	22.2	10.87
1410	2.0	7.42	15.0	60.4	2.33	1.52	11.5	10.87
1415	2.4	7.42	14.9	49.2	2.33	1.52	6.72	10.87
1420	2.8	7.42	15.1	38.6	2.34	1.57	4.10	10.87
1425	3.2	7.42	15.0	37.5	2.33	1.53	2.85	10.87
1430	3.6	7.42	15.1	37.8	2.34	1.54	1.89	10.87
1435	4.0	7.42	15.1	37.3	2.34	1.54	1.76	10.87
1440	4.4							
1445	4.8							
1450	5.2							
1455	5.6							
Final Sample Data:		7.42	15.1	37.3	2.34	1.54	1.76	10.87

3.79 l well vol Liters

Sample ID: ESI-3 11117 — Duplicate? ☐ — Dupe Samp ID: ESE-3 11117

Sample Time: 1338 — MS/MSD? ☐

Analyses: / Methods:

- ☒ VOCs — ☐ CLP
- ☐ SVOCs — ☐ SW846
- ☐ PCBs — ☐ Drink. Wtr.
- ☐ Metals — ☒ 1,4 Dioxane
- ☒ PFAS — ☐ _____

Comments: Sample Flow Rate 100 mL/PM

Sampler(s): J. Mays / L Roedl

* Good

Pg 1 of 3

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr. C's Dry Cleaners — Well ID: MPI-7IR

EEEPC Project No.: 106.3074.0011.39 — Date: 11/01/17

Initial Depth to Water: 10.89 feet TOIC — Start Time: 0850

Total Well Depth: 38.19 feet TOIC — End Time: 1200

Depth to Pump: 37.19 feet TOIC — ☐ Bailer ☐ Pump

Initial Pump Rate: 400 mL/PM Lpm / gpm — Pump Type: QED

adjusted to: 250 mL/PM at 0855 minutes — Well Diameter: 2 inches

adjusted to: 100 mL/PM at 0900 minutes — 1x Well Volume: 4.4 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0901	0	7.47	13.2	-1.7	2.88	9.40	>1000	10.25
0906	500mL	7.52	13.3	-0.5	2.78	9.80	>1000	10.25
0912	1.0 Liter	7.53	13.2	-1.6	2.75	9.67	>1000	10.25
0918	1.5 Liter	7.54	13.1	-4.1	2.70	9.77	>1000	10.25
0923	2.0 Liter	7.54	13.0	-6.8	2.69	9.40	>1000	10.25
0928	2.5 Liter	7.55	13.0	-13.4	2.69	10.02	>1000	10.25
0933	3.0	7.57	13.1	-12.0	2.66	9.81	>1000	10.25
0938	3.5	7.57	13.1	-13.7	2.66	9.94	691	10.25
0943	4.0	7.56	13.0	-16.6	2.66	9.82	173	10.25
0948	4.5	7.59	13.0	-23.3	2.65	11.17	158	10.25
0953	5.0	7.55	13.1	-22.6	2.68	10.79	127	10.25
0958	5.5	7.57	12.9	-25.0	2.68	10.22	170	10.25
1003	6.0	7.58	13.1	-26.7	2.67	9.78	126	10.25
1008	6.5	7.65	12.4	-23.7	2.53	11.36	128	10.25
1013	7.0	7.67	12.1	-12.8	2.30	10.44	114	10.25
Final Sample Data:		Cont. PS 2						

3.79 Liters 1 gallon

Sample ID: MPI-7IR 11117 — Duplicate? ☐ — Dupe Samp ID:

Sample Time: 1210 — MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☐ _____
☒ PFAS	☐ _____
☒ 1,4 Dioxane	

Comments: Sample Flow Rate 100mL/PM

Sampler(s): L. Roedl / J. Mays

Well Purge Form - EEEPC.xls

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WELL PURGE & SAMPLE RECORD

Site Name/Location: MR C's Dry Cleaners — Well ID: MPI-71R
EEEPC Project No.: 10C3074.0011.39 — Date: 11/01/17

Initial Depth to Water: 10.89 feet TOIC — Start Time: 0850
Total Well Depth: 38.19 feet TOIC — End Time:
Depth to Pump: 37.19 feet TOIC — ☐ Bailer ☒ Pump
Initial Pump Rate: 400 ML/PM Lpm / gpm — Pump Type: QED
adjusted to: 250 ML/PM at 0835 minutes — Well Diameter: 2 inches
adjusted to: 100 ML/PM at 0900 minutes — 1x Well Volume: 4.4 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1018	7.5	7.69	12.0	-8.5	2.26	10.39	126	10.25
1023	8.0	7.69	11.8	-4.5	2.24	9.93	135	10.25
1028	8.5	7.67	11.8	-8.0	2.27	10.39	131	10.25
1033	9.0	7.66	12.1	-7.0	2.27	9.80	134	10.25
1038	9.5	7.65	12.0	-10.8	2.25	9.86	128	10.25
1043	10.0	7.62	12.1	-10.8	2.29	9.88	127	10.25
1048	10.5	7.56	11.3	-19.4	2.37	10.28	107	10.25
1053	11.0	7.45	12.3	-23.6	2.62	10.7	114	10.25
1058	11.5	7.47	12.5	-23.6	2.61	9.83	116	10.25
1103	12.0	7.49	12.3	-23.6	2.68	9.72	101	10.25
1108	12.5	7.50	12.6	-22.9	2.56	9.41	101	10.25
1113	13.0	7.49	12.7	-23.9	2.58	9.16	114	10.25
1118	13.5	7.47	12.7	-24.8	2.59	9.18	122	10.25
1123	14.0	7.47	12.6	-25.3	2.60	8.81	140	10.25
1128	14.5	7.46	12.2	-24.2	2.64	8.62	117	10.25
Final Sample Data:		7.46	12.2	-24.2	2.64	8.62	117	10.25

2 gallons = 7.58 Liters
3 gallons = 11.37 Liters

Sample ID: MPI-71R — Duplicate? ☐ — Dupe Samp ID:
Sample Time: 1210 — MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☐ _____
☒ PFAS	☐ _____
☒ 1,4 DIOXANE	

Comments:

Sampler(s): L. Roedl / J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: ~~SUC PG 1~~ MRC's
Well ID: MPI-71R
EEEPC Project No.: 10C3074.0011.09
Date: 11/01/17

Initial Depth to Water: _____ feet TOIC
Total Well Depth: _____ feet TOIC
Depth to Pump: _____ feet TOIC
Initial Pump Rate: _____ Lpm / gpm
adjusted to: _____ at _____ minutes
adjusted to: _____ at _____ minutes

SUC Pg 1 of 3

Start Time: _____
End Time: _____
☐ Bailer ☒ Pump
Pump Type: _____
Well Diameter: 2" inches
1x Well Volume: 4.4 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm/mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1133	15.0	7.46	11.6	-24.6	2.68	8.57	119	10.25
~~1138~~	15.5	~~7.41~~	12.2	-27.1	2.75	8.00	119	10.25
1143	16.0	7.41	11.7	-25.9	2.76	8.16	112	10.25
1148	16.5	7.42	11.5	-26.5	2.74	8.99	115	10.25
1153	17.0	7.43	11.5	-26.4	2.76	9.01	117	10.25
1159	17.5	7.42	11.5	-25.2	2.75	8.98	116	10.25
Final Sample Data:		7.42	11.5	-25.2	2.75	8.98	116	10.25

4 gallons 15.16 liters
4.5 gallons 17.39 Liters

Laurie Rich 11/1/17

Sample ID: MPI-71R 11/1/17
Sample Time: 12:10
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: _____

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ PFAS
☐ _____	☐ 1+4 Dioxane

Comments: _____
Sampler(s): L. Rich, J. Mays

* YSI Malfunction

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr. C's Dry Cleaners — Well ID: MPI-5S

EEEPC Project No.: 10C3074.0011.09 — Date: 11/2/17

Initial Depth to Water: 11.52 feet TOIC — Start Time: 1029

Total Well Depth: 17.79 feet TOIC — End Time:

Depth to Pump: 16.79 feet TOIC — ☐ Bailer ☒ Pump

Initial Pump Rate: 200 mL/min Lpm / gpm — Pump Type: QED

adjusted to: — at — minutes — Well Diameter: 2 inches

adjusted to: — at — minutes — 1x Well Volume: 1.02 gallons

	Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
	1038	0	5.29	16.3	246.1	0.006	10.54	38.5	11.51
	1043	1.0	5.29	16.3	246.1	0.006	10.54	31.2	11.51
	1048	2.0	5.29	16.3	246.1	0.006	10.54		11.51
	1053	3.0							
1 gal	1058	3.79							
	1103	5.0							
	1108	6.0							
	1113	7.0							
2 gal	1119	7.58							
	Final Sample Data:								

DO Not Used

Sample ID: MPI-5S-11217 — Duplicate? ☐ — Dupe Samp ID: MPI-5S-11217D

Sample Time: — MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☐ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☐ Metals	☒ 1,4 D. Dioxane
☒ PFAS	☐

Comments: Sample Flow Rate

Sampler(s): J. Mays / L. Rowell

* YSI Malfunction →

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Mr C's Dry Cleaner
Well ID: PZ-1D
EEEPC Project No.: 10C3074.0011.39
Date: 11/1/17

RE Sample

Initial Depth to Water: 12.15 feet TOIC
Total Well Depth: 31.18 feet TOIC
Depth to Pump: 29.18 feet TOIC
Initial Pump Rate: 500 mL/min Lpm / gpm
adjusted to: _____ at _____ minutes
adjusted to: _____ at _____ minutes

Start Time: 1508
End Time: _____
☐ Bailer ☒ Pump
Pump Type: QED
Well Diameter: 2 inches
1x Well Volume: 3.10 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1510	0	7.42	15.1	37.8	0.234	1.56	77.4	12.20
1515	500mL	7.42	15.1	37.8	0.234	1.55	93.4	12.20
1520	1.0	7.42	15.1	37.8	0.234	1.55	49.9	12.20
1525	1.5	7.42	15.1	37.8	0.234	1.55	43.5	12.20
1530	2.0	7.42	15.1	37.8	0.234	1.55	38.3	12.20
1535	2.5	7.42	15.1	37.8	0.234	1.55	34.5	12.20
1540	3.0	7.42	15.1	37.8	0.234	1.55	21.3	12.20
1545	3.5	7.42	15.1	37.8	0.234	1.55	20.0	12.20
1550	4.0	7.42	15.0	44.3	1225.4	—	16.2	12.20
1555	4.5	7.42	15.0	44.3	1225.4	—	11.1	12.20
1600	5.0	7.42	15.0	44.3	1225.4	—	9.77	12.20
1605	5.5	7.42	15.0	44.3	1225.4	—	7.24	12.20
1610	6.0	7.42	15.0	44.3	1225.4	—	7.34	12.20
1615	6.5	7.42	15.0	44.3	1225.4	—	5.62	12.20
1620	7.0	7.42	15.0	44.3	1225.4	—	6.25	12.20
Final Sample Data:								

3.79 L = 1 well vol. →

Sample ID: PZ-1D
Sample Time: 1708
Duplicate? ☐
MS/MSD? ☐
Dupe Samp ID: PZ-1D 11117

Analyses: / Methods:
☒ VOCs ☐ CLP
☐ SVOCs ☐ SW846
☐ PCBs ☐ Drink. Wtr.
☐ Metals ☒ 1,4 Dioxane
☒ PFAS ☐ _____

Comments: Sample Flow Rate

Sampler(s): _____

1.88 or 1.89
2 | 3.79
2
17
16
19

DO mg/L - Went Blank
DO % - 2.5

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2 of 2

WELL PURGE & SAMPLE RECORD

Site Name/Location: SAME AS PZ 1 — Well ID: PZ-1D

EEEPC Project No.: — Date: 11/1/17

RESAMPLE

Initial Depth to Water: _____ feet TOIC — Start Time: 1508

Total Well Depth: _____ feet TOIC — End Time: _____

Depth to Pump: _____ feet TOIC — ☐ Bailer ☒ Pump

Initial Pump Rate: _____ Lpm / gpm — Pump Type: QED

adjusted to: _____ at _____ minutes — Well Diameter: 2 inches

adjusted to: _____ at _____ minutes — 1x Well Volume: _____ gallons

3.79 / 3.79 / 7.58

7.5 gallons = 28 liters

1 Liters = 11.37 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1625	7.5	7.42	15.0	44.3	1225.4	—	4.92	12.20
1630	8.0	7.42	15.0	44.3	1225.4	—	3.99	12.20
1635	8.5	7.42	15.0	44.3	1225.4	—	4.02	12.20
1640	9.0	7.42	15.0	44.3	1225.4	—	2.95	12.20
1645	9.5	7.42	15.0	44.3	1225.4	—	2.58	12.20
1650	10.0	7.42	15.0	44.3	1225.4	—	2.49	12.20
1655	10.5	7.42	15.0	44.3	1225.4	—	2.40	12.20
1700	11.0	7.42	15.0	44.3	1225.4	—	2.47	12.20
1705	11.5	7.42	15.0	44.3	1225.4	—	2.41	12.20
~~1710~~	~~12.0~~							
Final Sample Data:								

Sample ID: PZ-1D 1117 — Duplicate? ☐ — Dupe Samp ID: _____

Sample Time: 1708 — MS/MSD? ☐

Analyses: / Methods:

- ☒ VOCs — ☐ CLP
- ☐ SVOCs — ☐ SW846
- ☐ PCBs — ☐ Drink. Wtr.
- ☐ Metals — ☒ 1,4 Dioxane
- ☒ PFAS — ☐ _____

Comments: Sample Flow Rate 150 mL/min

Sampler(s): Jimmy S / LeRoed L

DO % - 2.5

DO mg/L — Blank

Appendix C
2017 Analytical Laboratory Reports

C-1 Mr. C's 2017 Long-term Groundwater Monitoring Analytical Laboratory Reports

eurofins | Spectrum Analytical

☑ Final Report
☐ Revised Report

Report Date:
08-Dec-17 12:56

Laboratory Report
SC41565

Ecology and Environment, Inc.
368 Pleasant View Drive
Lancaster, NY 14086
Attn: Mike Steffan

Project: Mr. C's Groundwaters
Project #: 10C3074.0011.09

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director

Dawn E Wojcik

Eurofins Spectrum Analytical holds primary NELAC certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 18 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC41565

Project: Mr. C's Groundwaters

Project Number: 10C3074.0011.09

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC41565-01	TB-111517	Water	15-Nov-17 08:00	16-Nov-17 10:50
SC41565-02	PZ-5B 111517	Ground Water	15-Nov-17 10:19	16-Nov-17 10:50
SC41565-03	RB 111517	Ground Water	15-Nov-17 12:00	16-Nov-17 10:50

CASE NARRATIVE:

Data has been reported to the RDL. This report includes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the detection limit are reported as "<" (less than) the detection limit in this report.

The samples were received 2.1 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 8260C

Calibration:

1711037

Analyte quantified by quadratic equation type calibration.

1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,3-Dichlorobenzene
2-Hexanone (MBK)
4-Methyl-2-pentanone (MIBK)
Bromodichloromethane
Bromoform
Carbon tetrachloride
cis-1,3-Dichloropropene
Dibromochloromethane
Ethylbenzene
Isopropylbenzene
m,p-Xylene
Methylcyclohexane
o-Xylene
Styrene
trans-1,3-Dichloropropene
Vinyl chloride

This affected the following samples:

1719670-BLK1
1719670-BS1
1719670-BSD1
PZ-5B 111517
RB 111517
S710164-ICV1
S710302-CCV1
S710302-CCV2
TB-111517

Samples:

SC41565-02 *PZ-5B 111517*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Sample Acceptance Check Form

Client:	Ecology and Environment, Inc.
Project:	Mr. C's Groundwaters / 10C3074.0011.09
Work Order:	SC41565
Sample(s) received on:	11/16/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☑	☐	☐
Were custody seals intact?	☑	☐	☐
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC41565-02 **Client ID:** PZ-5B 111517

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	2		0.9	ng/l	EPA 537 modified
Perfluoroheptanoic acid	1		0.9	ng/l	EPA 537 modified
Perfluorooctanoic acid	2		0.9	ng/l	EPA 537 modified
Tetrachloroethene	1970	D	50.0	µg/l	SW846 8260C
Trichloroethene	120	D	50.0	µg/l	SW846 8260C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-111517	10C3074.0011.09	Water	15-Nov-17 08:00	16-Nov-17
SC41565-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	22-Nov-17	22-Nov-17	GMA	1719670	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-111517	10C3074.0011.09	Water	15-Nov-17 08:00	16-Nov-17
SC41565-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	22-Nov-17	22-Nov-17	GMA	1719670	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*87*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*107*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*107*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PZ-5B 111517	10C3074.0011.09	Ground Water	15-Nov-17 10:19	16-Nov-17
SC41565-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 50.0	U, D	µg/l	50.0	26.6	50	SW846 8260C	22-Nov-17	22-Nov-17	GMA	1719670	X
67-64-1	Acetone	< 500	U, D	µg/l	500	40.2	50	"	"	"	"	"	X
71-43-2	Benzene	< 50.0	U, D	µg/l	50.0	14.2	50	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 25.0	U, D	µg/l	25.0	20.8	50	"	"	"	"	"	X
75-25-2	Bromoform	< 50.0	U, D	µg/l	50.0	21.2	50	"	"	"	"	"	X
74-83-9	Bromomethane	< 100	U, D	µg/l	100	44.8	50	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 100	U, D	µg/l	100	53.5	50	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 100	U, D	µg/l	100	20.6	50	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 50.0	U, D	µg/l	50.0	21.8	50	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 50.0	U, D	µg/l	50.0	12.4	50	"	"	"	"	"	X
75-00-3	Chloroethane	< 100	U, D	µg/l	100	29.4	50	"	"	"	"	"	X
67-66-3	Chloroform	< 50.0	U, D	µg/l	50.0	16.3	50	"	"	"	"	"	X
74-87-3	Chloromethane	< 100	U, D	µg/l	100	18.4	50	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 100	U, D	µg/l	100	43.2	50	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 25.0	U, D	µg/l	25.0	15.8	50	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 25.0	U, D	µg/l	25.0	10.1	50	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	13.8	50	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	15.7	50	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	13.6	50	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 100	U, D	µg/l	100	29.2	50	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 50.0	U, D	µg/l	50.0	16.2	50	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 50.0	U, D	µg/l	50.0	13.8	50	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 50.0	U, D	µg/l	50.0	34.6	50	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 50.0	U, D	µg/l	50.0	16.4	50	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 50.0	U, D	µg/l	50.0	18.8	50	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 50.0	U, D	µg/l	50.0	14.6	50	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 25.0	U, D	µg/l	25.0	18.0	50	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 25.0	U, D	µg/l	25.0	17.4	50	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 50.0	U, D	µg/l	50.0	16.4	50	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 100	U, D	µg/l	100	26.4	50	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 50.0	U, D	µg/l	50.0	18.0	50	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 50.0	U, D	µg/l	50.0	11.8	50	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 100	U, D	µg/l	100	25.8	50	"	"	"	"	"	X
75-09-2	Methylene chloride	< 100	U, D	µg/l	100	33.0	50	"	"	"	"	"	X
100-42-5	Styrene	< 50.0	U, D	µg/l	50.0	20.2	50	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 25.0	U, D	µg/l	25.0	16.5	50	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**1,970**	D	µg/l	50.0	28.5	50	"	"	"	"	"	X
108-88-3	Toluene	< 50.0	U, D	µg/l	50.0	15.0	50	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 50.0	U, D	µg/l	50.0	18.9	50	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 50.0	U, D	µg/l	50.0	25.4	50	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 50.0	U, D	µg/l	50.0	16.5	50	"	"	"	"	"	X
79-01-6	Trichloroethene	**120**	D	µg/l	50.0	24.8	50	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PZ-5B 111517	10C3074.0011.09	Ground Water	15-Nov-17 10:19	16-Nov-17
SC41565-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
75-69-4	Trichlorofluoromethane (Freon 11)	< 50.0	U, D	µg/l	50.0	24.4	50	SW846 8260C	22-Nov-17	22-Nov-17	GMA	1719670	X
75-01-4	Vinyl chloride	< 50.0	U, D	µg/l	50.0	23.6	50	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 100	U, D	µg/l	100	19.0	50	"	"	"	"	"	X
95-47-6	o-Xylene	< 50.0	U, D	µg/l	50.0	14.2	50	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 150	U, D	µg/l	150	150	50	"	"	"	"	"	X
110-82-7	Cyclohexane	< 250	U, D	µg/l	250	39.4	50	"	"	"	"	"	X
79-20-9	Methyl acetate	< 250	U, D	µg/l	250	32.4	50	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 250	U, D	µg/l	250	37.1	50	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*86*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*110*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*108*			*70-130 %*			"	"	"	"	"	
Subcontracted analyses													
Subcontracted analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 273017													
1763-23-1	Perfluoro-octanesulfonate	< 3		ng/l	3	0.7	1	EPA 537 modified	20-Nov-17 14:30	02-Dec-17 14:22	27301	17324008	
375-73-5	Perfluorobutanesulfonate	2		ng/l	0.9	0.3	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	1		ng/l	0.9	0.3	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 2		ng/l	2	0.4	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 0.9		ng/l	0.9	0.3	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	2		ng/l	0.9	0.3	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*86*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*56*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*59*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*65*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*67*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*72*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 273017													
123-91-1	1,4-Dioxane	< 0.20		ug/l	0.20	0.051	1	SW-846 8270D SIM	21-Nov-17 08:00	29-Nov-17 17:28	27301	324WAB0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*55*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*47*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*60*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
RB 111517	10C3074.0011.09	Ground Water	15-Nov-17 12:00	16-Nov-17
SC41565-03				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	22-Nov-17	22-Nov-17	GMA	1719670	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
RB 111517	10C3074.0011.09	Ground Water	15-Nov-17 12:00	16-Nov-17
SC41565-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	22-Nov-17	22-Nov-17	GMA	1719670	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*86*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*108*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*117*			*70-130 %*			"	"	"	"	"	
Subcontracted analyses													
Subcontracted analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 273017													
1763-23-1	Perfluoro-octanesulfonate	< 3		ng/l	3	0.7	1	EPA 537 modified	20-Nov-17 14:30	02-Dec-17 14:42	27301	17324008	
375-73-5	Perfluorobutanesulfonate	< 0.9		ng/l	0.9	0.3	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 0.9		ng/l	0.9	0.3	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 2		ng/l	2	0.4	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 0.9		ng/l	0.9	0.3	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	< 0.9		ng/l	0.9	0.3	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*61*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*53*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*52*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*57*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*60*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*95*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 273017													
123-91-1	1,4-Dioxane	< 0.20		ug/l	0.20	0.051	1	SW-846 8270D SIM	21-Nov-17 08:00	29-Nov-17 18:02	27301	324WAB0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*79*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*78*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*84*			*42-119 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719670 - SW846 5030 Water MS										
Blank (1719670-BLK1)					Prepared & Analyzed: 22-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00						
Acetone	< 10.0	U	µg/l	10.0						
Benzene	< 1.00	U	µg/l	1.00						
Bromodichloromethane	< 0.50	U	µg/l	0.50						
Bromoform	< 1.00	U	µg/l	1.00						
Bromomethane	< 2.00	U	µg/l	2.00						
2-Butanone (MEK)	< 2.00	U	µg/l	2.00						
Carbon disulfide	< 2.00	U	µg/l	2.00						
Carbon tetrachloride	< 1.00	U	µg/l	1.00						
Chlorobenzene	< 1.00	U	µg/l	1.00						
Chloroethane	< 2.00	U	µg/l	2.00						
Chloroform	< 1.00	U	µg/l	1.00						
Chloromethane	< 2.00	U	µg/l	2.00						
1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00						
Dibromochloromethane	< 0.50	U	µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50						
1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00						
1,1-Dichloroethane	< 1.00	U	µg/l	1.00						
1,2-Dichloroethane	< 1.00	U	µg/l	1.00						
1,1-Dichloroethene	< 1.00	U	µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
1,2-Dichloropropane	< 1.00	U	µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
Ethylbenzene	< 1.00	U	µg/l	1.00						
2-Hexanone (MBK)	< 2.00	U	µg/l	2.00						
Isopropylbenzene	< 1.00	U	µg/l	1.00						
Methyl tert-butyl ether	< 1.00	U	µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00						
Methylene chloride	< 2.00	U	µg/l	2.00						
Styrene	< 1.00	U	µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50						
Tetrachloroethene	< 1.00	U	µg/l	1.00						
Toluene	< 1.00	U	µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00						
1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00						
1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00						
Trichloroethene	< 1.00	U	µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00						
Vinyl chloride	< 1.00	U	µg/l	1.00						
m,p-Xylene	< 2.00	U	µg/l	2.00						
o-Xylene	< 1.00	U	µg/l	1.00						
Total Xylenes	< 3.00	U	µg/l	3.00						
Cyclohexane	< 5.00	U	µg/l	5.00						
Methyl acetate	< 5.00	U	µg/l	5.00						
Methylcyclohexane	< 5.00	U	µg/l	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719670 - SW846 5030 Water MS										
Blank (1719670-BLK1)					Prepared & Analyzed: 22-Nov-17					
Surrogate: 4-Bromofluorobenzene	*43.5*		µg/l		*50.0*		*87*	*70-130*		
Surrogate: Toluene-d8	*48.8*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.4*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*54.4*		µg/l		*50.0*		*109*	*70-130*		
LCS (1719670-BS1)					Prepared & Analyzed: 22-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**23.9**		µg/l		20.0		120	70-130		
Acetone	**20.4**		µg/l		20.0		102	70-130		
Benzene	**23.3**		µg/l		20.0		117	70-130		
Bromodichloromethane	**22.0**		µg/l		20.0		110	70-130		
Bromoform	**21.4**		µg/l		20.0		107	70-130		
Bromomethane	**22.5**		µg/l		20.0		113	70-130		
2-Butanone (MEK)	**19.4**		µg/l		20.0		97	70-130		
Carbon disulfide	**23.9**		µg/l		20.0		119	70-130		
Carbon tetrachloride	**23.1**		µg/l		20.0		116	70-130		
Chlorobenzene	**21.8**		µg/l		20.0		109	70-130		
Chloroethane	**23.8**		µg/l		20.0		119	70-130		
Chloroform	**22.6**		µg/l		20.0		113	70-130		
Chloromethane	**20.6**		µg/l		20.0		103	70-130		
1,2-Dibromo-3-chloropropane	**20.5**		µg/l		20.0		102	70-130		
Dibromochloromethane	**21.6**		µg/l		20.0		108	70-130		
1,2-Dibromoethane (EDB)	**20.9**		µg/l		20.0		104	70-130		
1,2-Dichlorobenzene	**21.3**		µg/l		20.0		106	70-130		
1,3-Dichlorobenzene	**20.4**		µg/l		20.0		102	70-130		
1,4-Dichlorobenzene	**20.8**		µg/l		20.0		104	70-130		
Dichlorodifluoromethane (Freon12)	**19.3**		µg/l		20.0		96	70-130		
1,1-Dichloroethane	**23.4**		µg/l		20.0		117	70-130		
1,2-Dichloroethane	**21.9**		µg/l		20.0		110	70-130		
1,1-Dichloroethene	**22.9**		µg/l		20.0		115	70-130		
cis-1,2-Dichloroethene	**22.0**		µg/l		20.0		110	70-130		
trans-1,2-Dichloroethene	**22.2**		µg/l		20.0		111	70-130		
1,2-Dichloropropane	**22.1**		µg/l		20.0		110	70-130		
cis-1,3-Dichloropropene	**19.8**		µg/l		20.0		99	70-130		
trans-1,3-Dichloropropene	**20.0**		µg/l		20.0		100	70-130		
Ethylbenzene	**20.9**		µg/l		20.0		105	70-130		
2-Hexanone (MBK)	**18.5**		µg/l		20.0		93	70-130		
Isopropylbenzene	**20.9**		µg/l		20.0		104	70-130		
Methyl tert-butyl ether	**22.2**		µg/l		20.0		111	70-130		
4-Methyl-2-pentanone (MIBK)	**19.0**		µg/l		20.0		95	70-130		
Methylene chloride	**22.0**		µg/l		20.0		110	70-130		
Styrene	**21.0**		µg/l		20.0		105	70-130		
1,1,2,2-Tetrachloroethane	**23.4**		µg/l		20.0		117	70-130		
Tetrachloroethene	**22.6**		µg/l		20.0		113	70-130		
Toluene	**23.5**		µg/l		20.0		117	70-130		
1,2,4-Trichlorobenzene	**20.0**		µg/l		20.0		100	70-130		
1,1,1-Trichloroethane	**23.5**		µg/l		20.0		117	70-130		
1,1,2-Trichloroethane	**23.0**		µg/l		20.0		115	70-130		
Trichloroethene	**21.8**		µg/l		20.0		109	70-130		
Trichlorofluoromethane (Freon 11)	**23.7**		µg/l		20.0		118	70-130		
Vinyl chloride	**23.8**		µg/l		20.0		119	70-130		
m,p-Xylene	**20.7**		µg/l		20.0		104	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719670 - SW846 5030 Water MS										
LCS (1719670-BS1)					Prepared & Analyzed: 22-Nov-17					
o-Xylene	**21.2**		µg/l		20.0		106	70-130		
Cyclohexane	**22.8**		µg/l		20.0		114	70-130		
Methyl acetate	**23.4**		µg/l		20.0		117	70-130		
Methylcyclohexane	**21.2**		µg/l		20.0		106	70-130		
Surrogate: 4-Bromofluorobenzene	*52.3*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*50.8*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*54.1*		µg/l		*50.0*		*108*	*70-130*		
LCS Dup (1719670-BSD1)					Prepared & Analyzed: 22-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**22.8**		µg/l		20.0		114	70-130	5	20
Acetone	**21.3**		µg/l		20.0		107	70-130	5	20
Benzene	**22.2**		µg/l		20.0		111	70-130	5	20
Bromodichloromethane	**21.5**		µg/l		20.0		108	70-130	2	20
Bromoform	**21.4**		µg/l		20.0		107	70-130	0.2	20
Bromomethane	**22.9**		µg/l		20.0		114	70-130	2	20
2-Butanone (MEK)	**20.4**		µg/l		20.0		102	70-130	5	20
Carbon disulfide	**22.8**		µg/l		20.0		114	70-130	5	20
Carbon tetrachloride	**21.8**		µg/l		20.0		109	70-130	6	20
Chlorobenzene	**20.9**		µg/l		20.0		105	70-130	4	20
Chloroethane	**24.0**		µg/l		20.0		120	70-130	1	20
Chloroform	**21.8**		µg/l		20.0		109	70-130	4	20
Chloromethane	**20.0**		µg/l		20.0		100	70-130	3	20
1,2-Dibromo-3-chloropropane	**20.7**		µg/l		20.0		104	70-130	1	20
Dibromochloromethane	**22.2**		µg/l		20.0		111	70-130	3	20
1,2-Dibromoethane (EDB)	**21.1**		µg/l		20.0		105	70-130	1	20
1,2-Dichlorobenzene	**21.9**		µg/l		20.0		109	70-130	3	20
1,3-Dichlorobenzene	**21.5**		µg/l		20.0		108	70-130	5	20
1,4-Dichlorobenzene	**20.8**		µg/l		20.0		104	70-130	0.1	20
Dichlorodifluoromethane (Freon12)	**20.0**		µg/l		20.0		100	70-130	4	20
1,1-Dichloroethane	**23.1**		µg/l		20.0		115	70-130	1	20
1,2-Dichloroethane	**21.5**		µg/l		20.0		108	70-130	2	20
1,1-Dichloroethene	**22.2**		µg/l		20.0		111	70-130	3	20
cis-1,2-Dichloroethene	**21.6**		µg/l		20.0		108	70-130	2	20
trans-1,2-Dichloroethene	**21.8**		µg/l		20.0		109	70-130	2	20
1,2-Dichloropropane	**22.0**		µg/l		20.0		110	70-130	0.2	20
cis-1,3-Dichloropropene	**19.9**		µg/l		20.0		100	70-130	0.6	20
trans-1,3-Dichloropropene	**20.4**		µg/l		20.0		102	70-130	2	20
Ethylbenzene	**20.3**		µg/l		20.0		102	70-130	3	20
2-Hexanone (MBK)	**20.0**		µg/l		20.0		100	70-130	8	20
Isopropylbenzene	**20.4**		µg/l		20.0		102	70-130	2	20
Methyl tert-butyl ether	**22.8**		µg/l		20.0		114	70-130	2	20
4-Methyl-2-pentanone (MIBK)	**20.3**		µg/l		20.0		101	70-130	6	20
Methylene chloride	**21.8**		µg/l		20.0		109	70-130	1	20
Styrene	**21.0**		µg/l		20.0		105	70-130	0.05	20
1,1,2,2-Tetrachloroethane	**23.4**		µg/l		20.0		117	70-130	0.3	20
Tetrachloroethene	**21.8**		µg/l		20.0		109	70-130	4	20
Toluene	**22.2**		µg/l		20.0		111	70-130	6	20
1,2,4-Trichlorobenzene	**20.2**		µg/l		20.0		101	70-130	0.8	20
1,1,1-Trichloroethane	**22.0**		µg/l		20.0		110	70-130	7	20
1,1,2-Trichloroethane	**22.5**		µg/l		20.0		113	70-130	2	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719670 - SW846 5030 Water MS										
LCS Dup (1719670-BSD1)					Prepared & Analyzed: 22-Nov-17					
Trichloroethene	**21.0**		µg/l		20.0		105	70-130	4	20
Trichlorofluoromethane (Freon 11)	**23.1**		µg/l		20.0		115	70-130	3	20
Vinyl chloride	**23.1**		µg/l		20.0		116	70-130	3	20
m,p-Xylene	**20.0**		µg/l		20.0		100	70-130	3	20
o-Xylene	**20.6**		µg/l		20.0		103	70-130	3	20
Cyclohexane	**22.0**		µg/l		20.0		110	70-130	3	30
Methyl acetate	**23.1**		µg/l		20.0		115	70-130	2	30
Methylcyclohexane	**20.7**		µg/l		20.0		104	70-130	2	30
Surrogate: 4-Bromofluorobenzene	*53.8*		µg/l		*50.0*		*108*	*70-130*		
Surrogate: Toluene-d8	*51.9*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*50.3*		µg/l		*50.0*		*101*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17324008 - METHOD										
Blank (BLK3240B)						Prepared: 20-Nov-17 Analyzed: 03-Dec-17				
Perfluorobutanesulfonate	< 1		ng/l	1				-		
Perfluorononanoic acid	< 1		ng/l	1				-		
Perfluoroheptanoic acid	< 1		ng/l	1				-		
Perfluorooctanoic acid	< 1		ng/l	1				-		
Perfluoro-octanesulfonate	< 3		ng/l	3				-		
Perfluorohexanesulfonate	< 2		ng/l	2				-		
Surrogate: 13C4-PFHpA	*18*		ng/l		*20*		*91*	*35-126*		
Surrogate: 13C3-PFBS	*16*		ng/l		*19*		*85*	*26-148*		
Surrogate: 13C3-PFHxS	*17*		ng/l		*19*		*91*	*34-126*		
Surrogate: 13C8-PFOA	*19*		ng/l		*20*		*97*	*43-112*		
Surrogate: 13C9-PFNA	*19*		ng/l		*20*		*95*	*32-134*		
Surrogate: 13C8-PFOS	*16*		ng/l		*19*		*86*	*43-115*		
LCS (LCS3248Q)						Prepared: 20-Nov-17 Analyzed: 04-Dec-17				
Perfluoro-octanesulfonate	**6**		ng/l	3	5		116	70-130		
Perfluorononanoic acid	**6**		ng/l	1	5		112	70-130		
Perfluorohexanesulfonate	**6**		ng/l	2	5		120	70-130		
Perfluoroheptanoic acid	**7**		ng/l	1	5		128	70-130		
Perfluorobutanesulfonate	**6**		ng/l	1	5		122	70-130		
Perfluorooctanoic acid	**8**		ng/l	1	5		141	70-130		
Surrogate: 13C8-PFOA	*13*		ng/l		*20*		*65*	*43-112*		
Surrogate: 13C4-PFHpA	*13*		ng/l		*20*		*63*	*35-126*		
Surrogate: 13C3-PFBS	*13*		ng/l		*19*		*70*	*26-148*		
Surrogate: 13C3-PFHxS	*13*		ng/l		*19*		*67*	*34-126*		
Surrogate: 13C9-PFNA	*15*		ng/l		*20*		*74*	*32-134*		
Surrogate: 13C8-PFOS	*12*		ng/l		*19*		*61*	*43-115*		
Matrix Spike Dup (P322960M)						Prepared: 20-Nov-17 Analyzed: 02-Dec-17				
Perfluorohexanesulfonate	**10**		ng/l	3	9	0	115	70-130	21	30
Perfluoroheptanoic acid	**11**		ng/l	2	9	0.9	114	70-130	30	30
Perfluorononanoic acid	**10**		ng/l	2	9	0	113	70-130	35	30
Perfluoro-octanesulfonate	**9**		ng/l	5	9	0	108	70-130	26	30
Perfluorooctanoic acid	**13**		ng/l	2	9	1	125	70-130	33	30
Perfluorobutanesulfonate	**11**		ng/l	2	8	1	125	70-130	23	30
Surrogate: 13C4-PFHpA	*23*		ng/l		*33*		*68*	*35-126*		
Surrogate: 13C3-PFHxS	*23*		ng/l		*32*		*72*	*34-126*		
Surrogate: 13C8-PFOA	*23*		ng/l		*33*		*68*	*43-112*		
Surrogate: 13C8-PFOS	*22*		ng/l		*32*		*69*	*43-115*		
Surrogate: 13C9-PFNA	*26*		ng/l		*33*		*79*	*32-134*		
Surrogate: 13C3-PFBS	*25*		ng/l		*31*		*81*	*26-148*		
Matrix Spike (P322960R)						Prepared: 20-Nov-17 Analyzed: 02-Dec-17				
Perfluoroheptanoic acid	**8**		ng/l	1	7	0.9	109	70-130		
Perfluorooctanoic acid	**9**		ng/l	1	7	1	115	70-130		
Perfluoro-octanesulfonate	**7**		ng/l	4	6	0	112	70-130		
Perfluorohexanesulfonate	**8**		ng/l	2	6	0	125	70-130		
Perfluorobutanesulfonate	**9**		ng/l	1	6	1	129	70-130		
Perfluorononanoic acid	**7**		ng/l	1	7	0	107	70-130		
Surrogate: 13C9-PFNA	*20*		ng/l		*25*		*79*	*32-134*		
Surrogate: 13C8-PFOS	*17*		ng/l		*24*		*71*	*43-115*		
Surrogate: 13C8-PFOA	*16*		ng/l		*25*		*65*	*43-112*		
Surrogate: 13C3-PFBS	*20*		ng/l		*23*		*87*	*26-148*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17324008 - METHOD										
Matrix Spike (P322960R)						Prepared: 20-Nov-17 Analyzed: 02-Dec-17				
Surrogate: 13C3-PFHxS	*16*		ng/l		*24*		*66*	*34-126*		
Surrogate: 13C4-PFHpA	*16*		ng/l		*25*		*65*	*35-126*		
SW-846 8270D SIM										
Batch 17324WAB026 - SW-846 3510C										
Matrix Spike Dup (P24WBUSM)						Prepared: 21-Nov-17 Analyzed: 29-Nov-17				
1,4-Dioxane	**0.53**		ug/l	0.20	1.0	0.031	53	28-103	14	30
Surrogate: Fluoranthene-d10	*0.98*		ug/l		*1.0*		*98*	*42-119*		
Surrogate: Benzo(a)pyrene-d12	*0.86*		ug/l		*1.0*		*86*	*39-121*		
Surrogate: 1-Methylnaphthalene-d10	*0.93*		ug/l		*1.0*		*93*	*29-123*		
Matrix Spike (P24WBUSR)						Prepared: 21-Nov-17 Analyzed: 29-Nov-17				
1,4-Dioxane	**0.46**		ug/l	0.19	0.96	0.031	48	28-103		
Surrogate: 1-Methylnaphthalene-d10	*0.86*		ug/l		*0.96*		*90*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.77*		ug/l		*0.96*		*80*	*39-121*		
Surrogate: Fluoranthene-d10	*0.90*		ug/l		*0.96*		*94*	*42-119*		
LCS (P4WBLCSQ)						Prepared: 21-Nov-17 Analyzed: 29-Nov-17				
1,4-Dioxane	**0.50**		ug/l	0.20	1.0		50	28-103		
Surrogate: Benzo(a)pyrene-d12	*0.89*		ug/l		*1.0*		*89*	*39-121*		
Surrogate: Fluoranthene-d10	*0.91*		ug/l		*1.0*		*91*	*42-119*		
Surrogate: 1-Methylnaphthalene-d10	*0.87*		ug/l		*1.0*		*87*	*29-123*		
Blank (PLKWB32B)						Prepared: 21-Nov-17 Analyzed: 29-Nov-17				
1,4-Dioxane	< 0.20		ug/l	0.20				-		
Surrogate: 1-Methylnaphthalene-d10	*0.89*		ug/l		*1.0*		*89*	*29-123*		
Surrogate: Fluoranthene-d10	*0.99*		ug/l		*1.0*		*99*	*42-119*		
Surrogate: Benzo(a)pyrene-d12	*0.87*		ug/l		*1.0*		*87*	*39-121*		

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
U	Analyte included in the analysis, but not detected at or above the MDL.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC 415650

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☐ Standard TAT - 7 to 10 business days

☐ Rush TAT - Date Needed: As per contract

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: Mike Steffan
Ecology + Environment Inc.
368 Pleasant View Dr
Lancaster NY 14086
Telephone #: (716) 684-8060
Project Mgr: Mike Steffan

Invoice To: Mike Steffan
E+E
368 Pleasant View Dr
Lancaster NY 14086
P.O No.: Quote #:

Project No: 10C3074.0011.09
Site Name: Mr C's
Location: East Aurora State: NY
Sampler(s):

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= None 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: List Preservative Code below: 2	11	11						Check if chlorinated
										VOC's	1,4 Dioxane	PFAS						
415650-01	TB-111517	11/15/17	0800	G	W	2			1	X								☐
-02	PZ-5B 111517	11/15/17	1019	G	GW	3	2		2	X	X	X						☐
	~~11/15/17~~	~~11/15/17~~		G	GW	3	2		2	X	X	X						☐
-03	RB111517	11/15/17	12:00	G	GW	3	1		1	X	X	X						☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐

Laurenn Rocco 11/15/17

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☒ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other:
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:
Laurenn Rocco		11/15/17	1807
Fedex	Ale	11/16/17	1050

Temp °C: Observed 2.1; Correction Factor 0; Corrected 2.1; IR ID 2

☐ EDD format:
☐ E-mail to: MSTEFFAN@ene.com

Condition upon receipt: Custody Seals: ☑ Present ☑ Intact ☐ Broken
☐ Ambient ☑ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

LANCASTER, NY 14086
UNITED STATES US

DIMS: 22x16x11 IN

BILL RECIPIENT

TO **SPECTRUM ANALYTICAL**
SPECTRUM ANALYTICAL
11 ALMGREN DR

AGAWAM MA 01001
(413) 789-9018
INV:
PO:
REF:
DEPT:

FedEx
Express

J17211709130 1ur

TRK# 0201 **7884 7136 8245**

THU - 16 NOV 10:30A
PRIORITY OVERNIGHT

EB EHTA

01001
MA-US **BDL**

DO NOT LIFT USING THIS TAG

Batch Summary

1719670

Volatile Organic Compounds

1719670-BLK1
1719670-BS1
1719670-BSD1
SC41565-01 (TB-111517)
SC41565-02 (PZ-5B 111517)
SC41565-03 (RB 111517)

17324008

Subcontracted analyses

BLK3240B
LCS3248Q
P322960M
P322960R
SC41565-02 (PZ-5B 111517)
SC41565-03 (RB 111517)

17324WAB026

Subcontracted Analyses

P24WBUSM
P24WBUSR
P4WBLCSQ
PLKWB32B
SC41565-02 (PZ-5B 111517)
SC41565-03 (RB 111517)

S710164

Volatile Organic Compounds

S710164-CAL1
S710164-CAL2
S710164-CAL3
S710164-CAL4
S710164-CAL5
S710164-CAL6
S710164-CAL7
S710164-CAL8
S710164-CAL9
S710164-ICV1
S710164-LCV1
S710164-LCV2
S710164-TUN1

S710302

Volatile Organic Compounds

S710302-CCV1
S710302-CCV2
S710302-TUN1

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☐ Final Report
☑ Revised Report

Report Date:
30-Jan-18 17:54

Laboratory Report
SC41520

Ecology and Environment, Inc.
368 Pleasant View Drive
Lancaster, NY 14086
Attn: Mike Steffan

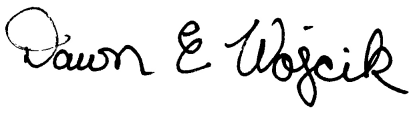
Project: Mr. C's Groundwaters
Project #: 10C3074.0011.09

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director



Eurofins Spectrum Analytical holds primary NELAC certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 31 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC41520

Project: Mr. C's Groundwaters

Project Number: 10C3074.0011.09

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC41520-01	TB-111317	Water	13-Nov-17 08:20	15-Nov-17 10:40
SC41520-02	MPI-3S 111317	Ground Water	13-Nov-17 09:50	15-Nov-17 10:40
SC41520-03	EE-3 111317	Ground Water	13-Nov-17 12:50	15-Nov-17 10:40
SC41520-04	MPI-1S 111317	Ground Water	13-Nov-17 14:45	15-Nov-17 10:40
SC41520-05	ESI-6 111417	Ground Water	14-Nov-17 08:58	15-Nov-17 10:40
SC41520-06	ESI-5R 111417	Ground Water	14-Nov-17 11:20	15-Nov-17 10:40
SC41520-07	MPI-15B 111417	Ground Water	14-Nov-17 14:33	15-Nov-17 10:40

CASE NARRATIVE:

Data has been reported to the RDL. This report includes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the detection limit are reported as "<" (less than) the detection limit in this report.

The samples were received 2.0 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

January 30, 2018 Report Revision Case Narrative:

This report has been revised to include results for 1,4 Dioxane 8270 SIM for sample SC41520-02 that were not inlcuded from Sub Contracted Laboratory report.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

EPA 537 modified

Spikes:

9322961 *Source: SC41520-05*

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

- Perfluorobutanesulfonate
- Perfluoroheptanoic acid
- Perfluorohexanesulfonate
- Perfluorononanoic acid
- Perfluorooctanoic acid

9322962 *Source: SC41520-05*

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

- Perfluorobutanesulfonate
- Perfluoroheptanoic acid
- Perfluorohexanesulfonate
- Perfluorononanoic acid
- Perfluorooctanoic acid

Samples:

SC41520-03 *EE-3 111317*

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

- Perfluorooctanoic acid

SC41520-04 *MPI-1S 111317*

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

- Perfluorobutanesulfonate
- Perfluoroheptanoic acid
- Perfluorohexanesulfonate
- Perfluorononanoic acid
- Perfluorooctanoic acid

SC41520-05 *ESI-6 111417*

EPA 537 modified

Samples:

SC41520-05 *ESI-6 111417*

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

Perfluorobutanesulfonate
Perfluoroheptanoic acid
Perfluorooctanoic acid

SC41520-06 *ESI-5R 111417*

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

Perfluorobutanesulfonate
Perfluoroheptanoic acid
Perfluorohexanesulfonate
Perfluorooctanoic acid

SC41520-07 *MPI-15B 111417*

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

Perfluorooctanoic acid

SW846 8260C

Calibration:

1711046

Analyte quantified by quadratic equation type calibration.

1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
2-Hexanone (MBK)
4-Methyl-2-pentanone (MIBK)
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene

This affected the following samples:

1719532-BLK1
1719532-BS1
1719532-BSD1
1719532-MS1
1719532-MSD1
EE-3 111317
ESI-5R 111417
ESI-6 111417
MPI-15B 111417
MPI-1S 111317
MPI-3S 111317
S710225-ICV1
S710237-CCV1
TB-111317

Laboratory Control Samples:

1719532 BSD

Bromoform RPD 22% (20%) is outside individual acceptance criteria.

Isopropylbenzene RPD 21% (20%) is outside individual acceptance criteria.

SW846 8260C

Laboratory Control Samples:

1719532 BSD

m,p-Xylene RPD 22% (20%) is outside individual acceptance criteria.

Methylene chloride RPD 22% (20%) is outside individual acceptance criteria.

Spikes:

1719532-MS1 *Source: SC41520-05*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Carbon disulfide
Chloromethane
Dichlorodifluoromethane (Freon12)
Methyl acetate

1719532-MSD1 *Source: SC41520-05*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

1,1,2-Trichlorotrifluoroethane (Freon 113)
Carbon disulfide
Chloroethane
Chloromethane
Dichlorodifluoromethane (Freon12)
Methylene chloride
Vinyl chloride

Samples:

SC41520-05 *ESI-6 111417*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Sample Acceptance Check Form

Client:	Ecology and Environment, Inc.
Project:	Mr. C's Groundwaters / 10C3074.0011.09
Work Order:	SC41520
Sample(s) received on:	11/15/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☑	☐	☐
Were custody seals intact?	☑	☐	☐
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC41520-02 **Client ID:** MPI-3S 111317

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
1,2-Dichloroethane	2.24		1.00	µg/l	SW846 8260C
Methyl tert-butyl ether	19.1		1.00	µg/l	SW846 8260C
Vinyl chloride	1.02		1.00	µg/l	SW846 8260C

Lab ID: SC41520-03 **Client ID:** EE-3 111317

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorooctanoic acid	4	B	2	ng/l	EPA 537 modified
1,1-Dichloroethane	0.35	J	1.00	µg/l	SW846 8260C
cis-1,2-Dichloroethene	10.1		1.00	µg/l	SW846 8260C
Methyl tert-butyl ether	18.4		1.00	µg/l	SW846 8260C

Lab ID: SC41520-04 **Client ID:** MPI-1S 111317

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	4	B	0.9	ng/l	EPA 537 modified
Perfluoroheptanoic acid	1	B	0.9	ng/l	EPA 537 modified
Perfluorohexanesulfonate	1	Ja, B	2	ng/l	EPA 537 modified
Perfluorononanoic acid	0.8	Ja, B	0.9	ng/l	EPA 537 modified
Perfluoro-octanesulfonate	2	Ja	3	ng/l	EPA 537 modified
Perfluorooctanoic acid	6	B	0.9	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	1.24		1.00	µg/l	SW846 8260C
Tetrachloroethene	20.6		1.00	µg/l	SW846 8260C
Trichloroethene	0.92	J	1.00	µg/l	SW846 8260C

Lab ID: SC41520-05 **Client ID:** ESI-6 111417

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	1	Ja, B	2	ng/l	EPA 537 modified
Perfluoroheptanoic acid	0.9	Ja, B	2	ng/l	EPA 537 modified
Perfluorooctanoic acid	1	Ja, B	2	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	70.6	D	10.0	µg/l	SW846 8260C
Tetrachloroethene	393	D	10.0	µg/l	SW846 8260C
Trichloroethene	23.9	D	10.0	µg/l	SW846 8260C

Lab ID: SC41520-06 **Client ID:** ESI-5R 111417

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	3	B	0.9	ng/l	EPA 537 modified
Perfluoroheptanoic acid	0.9	B	0.9	ng/l	EPA 537 modified
Perfluorohexanesulfonate	0.8	Ja, B	2	ng/l	EPA 537 modified
Perfluorooctanoic acid	4	B	0.9	ng/l	EPA 537 modified

Lab ID: SC41520-07 **Client ID:** MPI-15B 111417

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorooctanoic acid	0.8	Ja, B	2	ng/l	EPA 537 modified
Methyl tert-butyl ether	10.8		1.00	µg/l	SW846 8260C
1,4-Dioxane	0.093	Ja	0.20	ug/l	SW-846 8270D SIM

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-111317	10C3074.0011.09	Water	13-Nov-17 08:20	15-Nov-17
SC41520-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	20-Nov-17	21-Nov-17	GMA	1719532	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-111317	10C3074.0011.09	Water	13-Nov-17 08:20	15-Nov-17
SC41520-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	20-Nov-17	21-Nov-17	GMA	1719532	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*101*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*104*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-3S 111317	10C3074.0011.09	Ground Water	13-Nov-17 09:50	15-Nov-17
SC41520-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	20-Nov-17	21-Nov-17	GMA	1719532	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	**2.24**		µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	**19.1**		µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-3S 111317	10C3074.0011.09	Ground Water	13-Nov-17 09:50	15-Nov-17
SC41520-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	20-Nov-17	21-Nov-17	GMA	1719532	X
75-01-4	Vinyl chloride	1.02		µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*101*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*101*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 5		ng/l	5	1	1	EPA 537 modified	20-Nov-17 14:30	02-Dec-17 12:19	10670	17324008	
375-73-5	Perfluorobutanesulfonate	< 2		ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 3		ng/l	3	0.7	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*93*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*61*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*66*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*61*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*60*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*72*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.20		ug/l	0.20	0.050	1	SW-846 8270D SIM	19-Nov-17 08:00	29-Nov-17 02:01	10670	322WAD0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*104*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*82*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*93*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
EE-3 111317	10C3074.0011.09	Ground Water	13-Nov-17 12:50	15-Nov-17
SC41520-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	20-Nov-17	21-Nov-17	GMA	1719532	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	**0.35**	J	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**10.1**		µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	**18.4**		µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
EE-3 111317	10C3074.0011.09	Ground Water	13-Nov-17 12:50	15-Nov-17
SC41520-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	20-Nov-17	21-Nov-17	GMA	1719532	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*100*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 7		ng/l	7	2	1	EPA 537 modified	20-Nov-17 14:30	02-Dec-17 12:39	10670	17324008	
375-73-5	Perfluorobutanesulfonate	< 2		ng/l	2	0.7	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 2		ng/l	2	0.7	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 5		ng/l	5	1	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.7	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**4**	B	ng/l	2	0.7	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*77*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*62*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*65*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*62*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*69*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*74*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.21		ug/l	0.21	0.051	1	SW-846 8270D SIM	19-Nov-17 08:00	29-Nov-17 02:34	10670	322WAD0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*90*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*79*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*99*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-1S 111317	10C3074.0011.09	Ground Water	13-Nov-17 14:45	15-Nov-17
SC41520-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	20-Nov-17	21-Nov-17	GMA	1719532	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**1.24**		µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**20.6**		µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	**0.92**	J	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-1S 111317	10C3074.0011.09	Ground Water	13-Nov-17 14:45	15-Nov-17
SC41520-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	20-Nov-17	21-Nov-17	GMA	1719532	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*99*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*101*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*98*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	2	Ja	ng/l	3	0.7	1	EPA 537 modified	20-Nov-17 14:30	02-Dec-17 13:00	10670	17324008	
375-73-5	Perfluorobutanesulfonate	4	B	ng/l	0.9	0.3	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	1	B	ng/l	0.9	0.3	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	1	Ja, B	ng/l	2	0.4	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	0.8	Ja, B	ng/l	0.9	0.3	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	6	B	ng/l	0.9	0.3	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*98*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*57*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*58*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*54*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*60*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*77*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.21		ug/l	0.21	0.052	1	SW-846 8270D SIM	19-Nov-17 08:00	29-Nov-17 03:07	10670	322WAD0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*82*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*80*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*94*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ESI-6 111417	10C3074.0011.09	Ground Water	14-Nov-17 08:58	15-Nov-17
SC41520-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 10.0	U, D	µg/l	10.0	5.32	10	SW846 8260C	20-Nov-17	21-Nov-17	GMA	1719532	X
67-64-1	Acetone	< 100	U, D	µg/l	100	8.04	10	"	"	"	"	"	X
71-43-2	Benzene	< 10.0	U, D	µg/l	10.0	2.84	10	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 5.00	U, D	µg/l	5.00	4.17	10	"	"	"	"	"	X
75-25-2	Bromoform	< 10.0	U, D	µg/l	10.0	4.25	10	"	"	"	"	"	X
74-83-9	Bromomethane	< 20.0	U, D	µg/l	20.0	8.96	10	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 20.0	U, D	µg/l	20.0	10.7	10	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 20.0	U, D	µg/l	20.0	4.12	10	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 10.0	U, D	µg/l	10.0	4.37	10	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 10.0	U, D	µg/l	10.0	2.49	10	"	"	"	"	"	X
75-00-3	Chloroethane	< 20.0	U, D	µg/l	20.0	5.88	10	"	"	"	"	"	X
67-66-3	Chloroform	< 10.0	U, D	µg/l	10.0	3.26	10	"	"	"	"	"	X
74-87-3	Chloromethane	< 20.0	U, D	µg/l	20.0	3.68	10	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 20.0	U, D	µg/l	20.0	8.63	10	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 5.00	U, D	µg/l	5.00	3.17	10	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 5.00	U, D	µg/l	5.00	2.02	10	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 10.0	U, D	µg/l	10.0	2.77	10	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 10.0	U, D	µg/l	10.0	3.14	10	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 10.0	U, D	µg/l	10.0	2.72	10	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 20.0	U, D	µg/l	20.0	5.84	10	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 10.0	U, D	µg/l	10.0	3.23	10	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 10.0	U, D	µg/l	10.0	2.77	10	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 10.0	U, D	µg/l	10.0	6.93	10	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**70.6**	D	µg/l	10.0	3.27	10	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 10.0	U, D	µg/l	10.0	3.77	10	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 10.0	U, D	µg/l	10.0	2.92	10	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 5.00	U, D	µg/l	5.00	3.59	10	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 5.00	U, D	µg/l	5.00	3.47	10	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 10.0	U, D	µg/l	10.0	3.29	10	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 20.0	U, D	µg/l	20.0	5.28	10	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 10.0	U, D	µg/l	10.0	3.60	10	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 10.0	U, D	µg/l	10.0	2.37	10	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 20.0	U, D	µg/l	20.0	5.15	10	"	"	"	"	"	X
75-09-2	Methylene chloride	< 20.0	U, D	µg/l	20.0	6.61	10	"	"	"	"	"	X
100-42-5	Styrene	< 10.0	U, D	µg/l	10.0	4.05	10	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 5.00	U, D	µg/l	5.00	3.30	10	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**393**	D	µg/l	10.0	5.70	10	"	"	"	"	"	X
108-88-3	Toluene	< 10.0	U, D	µg/l	10.0	2.99	10	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 10.0	U, D	µg/l	10.0	3.78	10	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 10.0	U, D	µg/l	10.0	5.09	10	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 10.0	U, D	µg/l	10.0	3.30	10	"	"	"	"	"	X
79-01-6	Trichloroethene	**23.9**	D	µg/l	10.0	4.97	10	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ESI-6 111417	10C3074.0011.09	Ground Water	14-Nov-17 08:58	15-Nov-17
SC41520-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
75-69-4	Trichlorofluoromethane (Freon 11)	< 10.0	U, D	µg/l	10.0	4.87	10	SW846 8260C	20-Nov-17	21-Nov-17	GMA	1719532	X
75-01-4	Vinyl chloride	< 10.0	U, D	µg/l	10.0	4.72	10	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 20.0	U, D	µg/l	20.0	3.80	10	"	"	"	"	"	X
95-47-6	o-Xylene	< 10.0	U, D	µg/l	10.0	2.83	10	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 30.0	U, D	µg/l	30.0	30.0	10	"	"	"	"	"	X
110-82-7	Cyclohexane	< 50.0	U, D	µg/l	50.0	7.87	10	"	"	"	"	"	X
79-20-9	Methyl acetate	< 50.0	U, D	µg/l	50.0	6.47	10	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 50.0	U, D	µg/l	50.0	7.42	10	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*100*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*100*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 5		ng/l	5	1	1	EPA 537 modified	20-Nov-17 14:30	02-Dec-17 13:20	10670	17324008	
375-73-5	Perfluorobutanesulfonate	**1**	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	**0.9**	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 3		ng/l	3	0.7	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**1**	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*69*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*59*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*60*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*63*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*59*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*58*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.19		ug/l	0.19	0.048	1	SW-846 8270D SIM	19-Nov-17 08:00	29-Nov-17 00:22	10670	322WAD0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*85*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*79*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*95*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ESI-5R 111417	10C3074.0011.09	Ground Water	14-Nov-17 11:20	15-Nov-17
SC41520-06				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	20-Nov-17	21-Nov-17	GMA	1719532	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ESI-5R 111417	10C3074.0011.09	Ground Water	14-Nov-17 11:20	15-Nov-17
SC41520-06				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	20-Nov-17	21-Nov-17	GMA	1719532	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*100*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*101*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 3		ng/l	3	0.7	1	EPA 537 modified	20-Nov-17 14:30	02-Dec-17 13:41	10670	17324008	
375-73-5	Perfluorobutanesulfonate	**3**	B	ng/l	0.9	0.3	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	**0.9**	B	ng/l	0.9	0.3	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	**0.8**	Ja, B	ng/l	2	0.4	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 0.9		ng/l	0.9	0.3	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**4**	B	ng/l	0.9	0.3	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*71*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*62*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*65*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*62*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*65*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*77*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.21		ug/l	0.21	0.053	1	SW-846 8270D SIM	19-Nov-17 08:00	29-Nov-17 03:39	10670	322WAD0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*85*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*82*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*100*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-15B 111417	10C3074.0011.09	Ground Water	14-Nov-17 14:33	15-Nov-17
SC41520-07				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	20-Nov-17	21-Nov-17	GMA	1719532	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	**10.8**		µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-15B 111417	10C3074.0011.09	Ground Water	14-Nov-17 14:33	15-Nov-17
SC41520-07				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	20-Nov-17	21-Nov-17	GMA	1719532	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*102*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*104*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*104*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 7		ng/l	7	2	1	EPA 537 modified	20-Nov-17 14:30	02-Dec-17 14:01	10670	17324008	
375-73-5	Perfluorobutanesulfonate	< 2		ng/l	2	0.7	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 2		ng/l	2	0.7	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 5		ng/l	5	1	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.7	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**0.8**	Ja, B	ng/l	2	0.7	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*72*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*71*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*72*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*69*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*67*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*79*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	**0.093**	Ja	ug/l	0.20	0.051	1	SW-846 8270D SIM	19-Nov-17 08:00	29-Nov-17 04:12	10670	322WAD0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*88*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*85*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*97*			*42-119 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719532 - SW846 5030 Water MS										
Blank (1719532-BLK1)					Prepared: 20-Nov-17 Analyzed: 21-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00						
Acetone	< 10.0	U	µg/l	10.0						
Benzene	< 1.00	U	µg/l	1.00						
Bromodichloromethane	< 0.50	U	µg/l	0.50						
Bromoform	< 1.00	U	µg/l	1.00						
Bromomethane	< 2.00	U	µg/l	2.00						
2-Butanone (MEK)	< 2.00	U	µg/l	2.00						
Carbon disulfide	< 2.00	U	µg/l	2.00						
Carbon tetrachloride	< 1.00	U	µg/l	1.00						
Chlorobenzene	< 1.00	U	µg/l	1.00						
Chloroethane	< 2.00	U	µg/l	2.00						
Chloroform	< 1.00	U	µg/l	1.00						
Chloromethane	< 2.00	U	µg/l	2.00						
1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00						
Dibromochloromethane	< 0.50	U	µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50						
1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00						
1,1-Dichloroethane	< 1.00	U	µg/l	1.00						
1,2-Dichloroethane	< 1.00	U	µg/l	1.00						
1,1-Dichloroethene	< 1.00	U	µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
1,2-Dichloropropane	< 1.00	U	µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
Ethylbenzene	< 1.00	U	µg/l	1.00						
2-Hexanone (MBK)	< 2.00	U	µg/l	2.00						
Isopropylbenzene	< 1.00	U	µg/l	1.00						
Methyl tert-butyl ether	< 1.00	U	µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00						
Methylene chloride	< 2.00	U	µg/l	2.00						
Styrene	< 1.00	U	µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50						
Tetrachloroethene	< 1.00	U	µg/l	1.00						
Toluene	< 1.00	U	µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00						
1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00						
1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00						
Trichloroethene	< 1.00	U	µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00						
Vinyl chloride	< 1.00	U	µg/l	1.00						
m,p-Xylene	< 2.00	U	µg/l	2.00						
o-Xylene	< 1.00	U	µg/l	1.00						
Total Xylenes	< 3.00	U	µg/l	3.00						
Cyclohexane	< 5.00	U	µg/l	5.00						
Methyl acetate	< 5.00	U	µg/l	5.00						
Methylcyclohexane	< 5.00	U	µg/l	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719532 - SW846 5030 Water MS										
Blank (1719532-BLK1)					Prepared: 20-Nov-17 Analyzed: 21-Nov-17					
Surrogate: 4-Bromofluorobenzene	*50.2*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*51.1*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.8*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*51.6*		µg/l		*50.0*		*103*	*70-130*		
LCS (1719532-BS1)					Prepared: 20-Nov-17 Analyzed: 21-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.1**		µg/l		20.0		101	70-130		
Acetone	**20.0**		µg/l		20.0		100	70-130		
Benzene	**22.0**		µg/l		20.0		110	70-130		
Bromodichloromethane	**21.3**		µg/l		20.0		106	70-130		
Bromoform	**20.6**		µg/l		20.0		103	70-130		
Bromomethane	**20.3**		µg/l		20.0		102	70-130		
2-Butanone (MEK)	**17.4**		µg/l		20.0		87	70-130		
Carbon disulfide	**21.5**		µg/l		20.0		107	70-130		
Carbon tetrachloride	**22.1**		µg/l		20.0		110	70-130		
Chlorobenzene	**20.2**		µg/l		20.0		101	70-130		
Chloroethane	**17.5**		µg/l		20.0		87	70-130		
Chloroform	**21.2**		µg/l		20.0		106	70-130		
Chloromethane	**16.8**		µg/l		20.0		84	70-130		
1,2-Dibromo-3-chloropropane	**17.0**		µg/l		20.0		85	70-130		
Dibromochloromethane	**22.2**		µg/l		20.0		111	70-130		
1,2-Dibromoethane (EDB)	**21.8**		µg/l		20.0		109	70-130		
1,2-Dichlorobenzene	**20.9**		µg/l		20.0		105	70-130		
1,3-Dichlorobenzene	**20.2**		µg/l		20.0		101	70-130		
1,4-Dichlorobenzene	**19.3**		µg/l		20.0		97	70-130		
Dichlorodifluoromethane (Freon12)	**18.0**		µg/l		20.0		90	70-130		
1,1-Dichloroethane	**21.7**		µg/l		20.0		108	70-130		
1,2-Dichloroethane	**22.0**		µg/l		20.0		110	70-130		
1,1-Dichloroethene	**19.4**		µg/l		20.0		97	70-130		
cis-1,2-Dichloroethene	**21.3**		µg/l		20.0		107	70-130		
trans-1,2-Dichloroethene	**20.5**		µg/l		20.0		102	70-130		
1,2-Dichloropropane	**22.6**		µg/l		20.0		113	70-130		
cis-1,3-Dichloropropene	**19.9**		µg/l		20.0		99	70-130		
trans-1,3-Dichloropropene	**19.7**		µg/l		20.0		98	70-130		
Ethylbenzene	**21.3**		µg/l		20.0		106	70-130		
2-Hexanone (MBK)	**18.4**		µg/l		20.0		92	70-130		
Isopropylbenzene	**20.5**		µg/l		20.0		103	70-130		
Methyl tert-butyl ether	**20.8**		µg/l		20.0		104	70-130		
4-Methyl-2-pentanone (MIBK)	**20.0**		µg/l		20.0		100	70-130		
Methylene chloride	**16.6**		µg/l		20.0		83	70-130		
Styrene	**19.4**		µg/l		20.0		97	70-130		
1,1,2,2-Tetrachloroethane	**20.5**		µg/l		20.0		103	70-130		
Tetrachloroethene	**21.2**		µg/l		20.0		106	70-130		
Toluene	**21.6**		µg/l		20.0		108	70-130		
1,2,4-Trichlorobenzene	**18.4**		µg/l		20.0		92	70-130		
1,1,1-Trichloroethane	**22.3**		µg/l		20.0		111	70-130		
1,1,2-Trichloroethane	**22.2**		µg/l		20.0		111	70-130		
Trichloroethene	**21.2**		µg/l		20.0		106	70-130		
Trichlorofluoromethane (Freon 11)	**20.3**		µg/l		20.0		102	70-130		
Vinyl chloride	**19.3**		µg/l		20.0		96	70-130		
m,p-Xylene	**22.2**		µg/l		20.0		111	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719532 - SW846 5030 Water MS										
LCS (1719532-BS1)					Prepared: 20-Nov-17 Analyzed: 21-Nov-17					
o-Xylene	**21.4**		µg/l		20.0		107	70-130		
Cyclohexane	**21.3**		µg/l		20.0		107	70-130		
Methyl acetate	**16.7**		µg/l		20.0		83	70-130		
Methylcyclohexane	**21.2**		µg/l		20.0		106	70-130		
Surrogate: 4-Bromofluorobenzene	*50.4*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*50.9*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.0*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*50.8*		µg/l		*50.0*		*102*	*70-130*		
LCS Dup (1719532-BSD1)					Prepared: 20-Nov-17 Analyzed: 21-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.0**		µg/l		20.0		100	70-130	0.7	20
Acetone	**20.4**		µg/l		20.0		102	70-130	2	20
Benzene	**22.0**		µg/l		20.0		110	70-130	0.1	20
Bromodichloromethane	**19.4**		µg/l		20.0		97	70-130	9	20
Bromoform	**16.5**	QR2	µg/l		20.0		83	70-130	22	20
Bromomethane	**19.6**		µg/l		20.0		98	70-130	4	20
2-Butanone (MEK)	**20.7**		µg/l		20.0		103	70-130	17	20
Carbon disulfide	**21.3**		µg/l		20.0		106	70-130	1	20
Carbon tetrachloride	**18.6**		µg/l		20.0		93	70-130	17	20
Chlorobenzene	**20.1**		µg/l		20.0		101	70-130	0.2	20
Chloroethane	**17.8**		µg/l		20.0		89	70-130	2	20
Chloroform	**20.0**		µg/l		20.0		100	70-130	6	20
Chloromethane	**17.6**		µg/l		20.0		88	70-130	5	20
1,2-Dibromo-3-chloropropane	**20.3**		µg/l		20.0		102	70-130	18	20
Dibromochloromethane	**19.7**		µg/l		20.0		99	70-130	12	20
1,2-Dibromoethane (EDB)	**20.8**		µg/l		20.0		104	70-130	5	20
1,2-Dichlorobenzene	**21.6**		µg/l		20.0		108	70-130	3	20
1,3-Dichlorobenzene	**16.9**		µg/l		20.0		85	70-130	18	20
1,4-Dichlorobenzene	**20.4**		µg/l		20.0		102	70-130	6	20
Dichlorodifluoromethane (Freon12)	**16.1**		µg/l		20.0		81	70-130	11	20
1,1-Dichloroethane	**20.9**		µg/l		20.0		104	70-130	4	20
1,2-Dichloroethane	**19.1**		µg/l		20.0		95	70-130	14	20
1,1-Dichloroethene	**18.2**		µg/l		20.0		91	70-130	7	20
cis-1,2-Dichloroethene	**20.8**		µg/l		20.0		104	70-130	2	20
trans-1,2-Dichloroethene	**20.3**		µg/l		20.0		101	70-130	1	20
1,2-Dichloropropane	**22.2**		µg/l		20.0		111	70-130	2	20
cis-1,3-Dichloropropene	**18.9**		µg/l		20.0		94	70-130	5	20
trans-1,3-Dichloropropene	**18.5**		µg/l		20.0		92	70-130	6	20
Ethylbenzene	**17.5**		µg/l		20.0		87	70-130	20	20
2-Hexanone (MBK)	**20.2**		µg/l		20.0		101	70-130	9	20
Isopropylbenzene	**16.7**	QR2	µg/l		20.0		84	70-130	21	20
Methyl tert-butyl ether	**20.3**		µg/l		20.0		102	70-130	2	20
4-Methyl-2-pentanone (MIBK)	**20.4**		µg/l		20.0		102	70-130	2	20
Methylene chloride	**20.9**	QR2	µg/l		20.0		104	70-130	22	20
Styrene	**17.6**		µg/l		20.0		88	70-130	10	20
1,1,2,2-Tetrachloroethane	**17.8**		µg/l		20.0		89	70-130	14	20
Tetrachloroethene	**19.7**		µg/l		20.0		98	70-130	8	20
Toluene	**21.0**		µg/l		20.0		105	70-130	3	20
1,2,4-Trichlorobenzene	**19.4**		µg/l		20.0		97	70-130	6	20
1,1,1-Trichloroethane	**19.2**		µg/l		20.0		96	70-130	15	20
1,1,2-Trichloroethane	**22.0**		µg/l		20.0		110	70-130	1	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719532 - SW846 5030 Water MS										
LCS Dup (1719532-BSD1)					Prepared: 20-Nov-17 Analyzed: 21-Nov-17					
Trichloroethene	**20.7**		µg/l		20.0		104	70-130	2	20
Trichlorofluoromethane (Freon 11)	**17.0**		µg/l		20.0		85	70-130	18	20
Vinyl chloride	**17.5**		µg/l		20.0		87	70-130	10	20
m,p-Xylene	**17.8**	QR2	µg/l		20.0		89	70-130	22	20
o-Xylene	**17.9**		µg/l		20.0		90	70-130	18	20
Cyclohexane	**21.6**		µg/l		20.0		108	70-130	1	30
Methyl acetate	**18.7**		µg/l		20.0		94	70-130	12	30
Methylcyclohexane	**21.1**		µg/l		20.0		105	70-130	0.7	30
Surrogate: 4-Bromofluorobenzene	*41.2*		µg/l		*50.0*		*82*	*70-130*		
Surrogate: Toluene-d8	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*46.0*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: Dibromofluoromethane	*46.8*		µg/l		*50.0*		*94*	*70-130*		
Matrix Spike (1719532-MS1)			**Source: SC41520-05**		Prepared: 20-Nov-17 Analyzed: 21-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**14.1**	D	µg/l		20.0	0.00	71	70-130		
Acetone	**18.7**	D	µg/l		20.0	0.00	94	70-130		
Benzene	**20.6**	D	µg/l		20.0	0.00	103	70-130		
Bromodichloromethane	**21.2**	D	µg/l		20.0	0.00	106	70-130		
Bromoform	**19.2**	D	µg/l		20.0	0.00	96	70-130		
Bromomethane	**15.7**	D	µg/l		20.0	0.00	78	70-130		
2-Butanone (MEK)	**23.6**	D	µg/l		20.0	0.00	118	70-130		
Carbon disulfide	**9.35**	QM7, D	µg/l		20.0	0.00	47	70-130		
Carbon tetrachloride	**20.8**	D	µg/l		20.0	0.00	104	70-130		
Chlorobenzene	**20.2**	D	µg/l		20.0	0.00	101	70-130		
Chloroethane	**14.6**	D	µg/l		20.0	0.00	73	70-130		
Chloroform	**21.0**	D	µg/l		20.0	0.00	105	70-130		
Chloromethane	**11.2**	QM7, D	µg/l		20.0	0.00	56	70-130		
1,2-Dibromo-3-chloropropane	**20.8**	D	µg/l		20.0	0.00	104	70-130		
Dibromochloromethane	**22.4**	D	µg/l		20.0	0.00	112	70-130		
1,2-Dibromoethane (EDB)	**25.4**	D	µg/l		20.0	0.00	127	70-130		
1,2-Dichlorobenzene	**22.0**	D	µg/l		20.0	0.00	110	70-130		
1,3-Dichlorobenzene	**19.6**	D	µg/l		20.0	0.00	98	70-130		
1,4-Dichlorobenzene	**20.5**	D	µg/l		20.0	0.00	102	70-130		
Dichlorodifluoromethane (Freon12)	**11.6**	QM7, D	µg/l		20.0	0.00	58	70-130		
1,1-Dichloroethane	**21.0**	D	µg/l		20.0	0.00	105	70-130		
1,2-Dichloroethane	**21.4**	D	µg/l		20.0	0.00	107	70-130		
1,1-Dichloroethene	**16.4**	D	µg/l		20.0	0.00	82	70-130		
cis-1,2-Dichloroethene	**27.0**	D	µg/l		20.0	7.06	100	70-130		
trans-1,2-Dichloroethene	**18.0**	D	µg/l		20.0	0.00	90	70-130		
1,2-Dichloropropane	**21.1**	D	µg/l		20.0	0.00	106	70-130		
cis-1,3-Dichloropropene	**19.5**	D	µg/l		20.0	0.00	97	70-130		
trans-1,3-Dichloropropene	**19.6**	D	µg/l		20.0	0.00	98	70-130		
Ethylbenzene	**20.8**	D	µg/l		20.0	0.00	104	70-130		
2-Hexanone (MBK)	**21.2**	D	µg/l		20.0	0.00	106	70-130		
Isopropylbenzene	**20.1**	D	µg/l		20.0	0.00	100	70-130		
Methyl tert-butyl ether	**21.7**	D	µg/l		20.0	0.00	109	70-130		
4-Methyl-2-pentanone (MIBK)	**22.7**	D	µg/l		20.0	0.00	114	70-130		
Methylene chloride	**14.1**	D	µg/l		20.0	0.00	71	70-130		
Styrene	**19.9**	D	µg/l		20.0	0.00	99	70-130		
1,1,2,2-Tetrachloroethane	**21.4**	D	µg/l		20.0	0.00	107	70-130		
Tetrachloroethene	**59.9**	D	µg/l		20.0	39.3	103	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719532 - SW846 5030 Water MS										
Matrix Spike (1719532-MS1)			**Source: SC41520-05**		Prepared: 20-Nov-17 Analyzed: 21-Nov-17					
Toluene	**20.6**	D	µg/l		20.0	0.00	103	70-130		
1,2,4-Trichlorobenzene	**20.1**	D	µg/l		20.0	0.00	100	70-130		
1,1,1-Trichloroethane	**21.5**	D	µg/l		20.0	0.00	108	70-130		
1,1,2-Trichloroethane	**22.2**	D	µg/l		20.0	0.00	111	70-130		
Trichloroethene	**22.3**	D	µg/l		20.0	2.39	99	70-130		
Trichlorofluoromethane (Freon 11)	**17.2**	D	µg/l		20.0	0.00	86	70-130		
Vinyl chloride	**14.0**	D	µg/l		20.0	0.00	70	70-130		
m,p-Xylene	**21.1**	D	µg/l		20.0	0.00	106	70-130		
o-Xylene	**21.3**	D	µg/l		20.0	0.00	106	70-130		
Cyclohexane	**17.6**	D	µg/l		20.0	0.00	88	70-130		
Methyl acetate	**13.5**	QM7, D	µg/l		20.0	0.00	68	70-130		
Methylcyclohexane	**18.2**	D	µg/l		20.0	0.00	91	70-130		
Surrogate: 4-Bromofluorobenzene	*48.2*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*50.5*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.0*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*50.0*		µg/l		*50.0*		*100*	*70-130*		
Matrix Spike Dup (1719532-MSD1)			**Source: SC41520-05**		Prepared: 20-Nov-17 Analyzed: 21-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**13.5**	QM7, D	µg/l		20.0	0.00	68	70-130	4	20
Acetone	**20.5**	D	µg/l		20.0	0.00	102	70-130	9	20
Benzene	**19.5**	D	µg/l		20.0	0.00	98	70-130	5	20
Bromodichloromethane	**21.0**	D	µg/l		20.0	0.00	105	70-130	0.9	20
Bromoform	**19.6**	D	µg/l		20.0	0.00	98	70-130	2	20
Bromomethane	**14.9**	D	µg/l		20.0	0.00	74	70-130	5	20
2-Butanone (MEK)	**21.0**	D	µg/l		20.0	0.00	105	70-130	12	20
Carbon disulfide	**8.96**	QM7, D	µg/l		20.0	0.00	45	70-130	4	20
Carbon tetrachloride	**19.8**	D	µg/l		20.0	0.00	99	70-130	5	20
Chlorobenzene	**19.8**	D	µg/l		20.0	0.00	99	70-130	2	20
Chloroethane	**13.5**	QM7, D	µg/l		20.0	0.00	68	70-130	8	20
Chloroform	**20.2**	D	µg/l		20.0	0.00	101	70-130	4	20
Chloromethane	**11.2**	QM7, D	µg/l		20.0	0.00	56	70-130	0	20
1,2-Dibromo-3-chloropropane	**21.4**	D	µg/l		20.0	0.00	107	70-130	3	20
Dibromochloromethane	**21.9**	D	µg/l		20.0	0.00	109	70-130	2	20
1,2-Dibromoethane (EDB)	**21.8**	D	µg/l		20.0	0.00	109	70-130	15	20
1,2-Dichlorobenzene	**21.0**	D	µg/l		20.0	0.00	105	70-130	4	20
1,3-Dichlorobenzene	**20.7**	D	µg/l		20.0	0.00	103	70-130	5	20
1,4-Dichlorobenzene	**19.7**	D	µg/l		20.0	0.00	98	70-130	4	20
Dichlorodifluoromethane (Freon12)	**11.4**	QM7, D	µg/l		20.0	0.00	57	70-130	2	20
1,1-Dichloroethane	**19.6**	D	µg/l		20.0	0.00	98	70-130	7	20
1,2-Dichloroethane	**20.8**	D	µg/l		20.0	0.00	104	70-130	3	20
1,1-Dichloroethene	**16.0**	D	µg/l		20.0	0.00	80	70-130	2	20
cis-1,2-Dichloroethene	**26.6**	D	µg/l		20.0	7.06	98	70-130	1	20
trans-1,2-Dichloroethene	**17.1**	D	µg/l		20.0	0.00	86	70-130	5	20
1,2-Dichloropropane	**21.2**	D	µg/l		20.0	0.00	106	70-130	0.5	20
cis-1,3-Dichloropropene	**18.8**	D	µg/l		20.0	0.00	94	70-130	3	20
trans-1,3-Dichloropropene	**19.5**	D	µg/l		20.0	0.00	98	70-130	0.3	20
Ethylbenzene	**20.9**	D	µg/l		20.0	0.00	104	70-130	0.3	20
2-Hexanone (MBK)	**20.2**	D	µg/l		20.0	0.00	101	70-130	5	20
Isopropylbenzene	**19.8**	D	µg/l		20.0	0.00	99	70-130	1	20
Methyl tert-butyl ether	**22.4**	D	µg/l		20.0	0.00	112	70-130	3	20
4-Methyl-2-pentanone (MIBK)	**23.0**	D	µg/l		20.0	0.00	115	70-130	1	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719532 - SW846 5030 Water MS										
Matrix Spike Dup (1719532-MSD1)			**Source: SC41520-05**		Prepared: 20-Nov-17 Analyzed: 21-Nov-17					
Methylene chloride	**13.0**	QM7, D	µg/l		20.0	0.00	65	70-130	8	20
Styrene	**19.8**	D	µg/l		20.0	0.00	99	70-130	0.4	20
1,1,2,2-Tetrachloroethane	**21.7**	D	µg/l		20.0	0.00	108	70-130	2	20
Tetrachloroethene	**57.4**	D	µg/l		20.0	39.3	91	70-130	4	20
Toluene	**20.0**	D	µg/l		20.0	0.00	100	70-130	3	20
1,2,4-Trichlorobenzene	**19.7**	D	µg/l		20.0	0.00	98	70-130	2	20
1,1,1-Trichloroethane	**20.4**	D	µg/l		20.0	0.00	102	70-130	5	20
1,1,2-Trichloroethane	**22.6**	D	µg/l		20.0	0.00	113	70-130	2	20
Trichloroethene	**21.4**	D	µg/l		20.0	2.39	95	70-130	4	20
Trichlorofluoromethane (Freon 11)	**16.1**	D	µg/l		20.0	0.00	81	70-130	6	20
Vinyl chloride	**13.3**	QM7, D	µg/l		20.0	0.00	66	70-130	5	20
m,p-Xylene	**20.8**	D	µg/l		20.0	0.00	104	70-130	1	20
o-Xylene	**21.0**	D	µg/l		20.0	0.00	105	70-130	2	20
Cyclohexane	**16.7**	D	µg/l		20.0	0.00	83	70-130	5	30
Methyl acetate	**14.5**	D	µg/l		20.0	0.00	73	70-130	7	30
Methylcyclohexane	**16.8**	D	µg/l		20.0	0.00	84	70-130	8	30
Surrogate: 4-Bromofluorobenzene	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*50.9*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*50.1*		µg/l		*50.0*		*100*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17324008 - METHOD										
Matrix Spike (9322961)			**Source: SC41520-05**			Prepared: 20-Nov-17 Analyzed: 02-Dec-17				
Perfluorooctanoic acid	**9**	B	ng/l	1	7	1	115	70-130		
Perfluoro-octanesulfonate	**7**		ng/l	4	6	BRL	112	70-130		
Perfluorononanoic acid	**7**	B	ng/l	1	7	BRL	107	70-130		
Perfluorohexanesulfonate	**8**	B	ng/l	2	6	BRL	125	70-130		
Perfluoroheptanoic acid	**8**	B	ng/l	1	7	0.9	109	70-130		
Perfluorobutanesulfonate	**9**	B	ng/l	1	6	1	129	70-130		
Surrogate: 13C9-PFNA	*20*		ng/l		*25*		*79*	*32-134*		
Surrogate: 13C8-PFOS	*17*		ng/l		*24*		*71*	*43-115*		
Surrogate: 13C8-PFOA	*16*		ng/l		*25*		*65*	*43-112*		
Surrogate: 13C3-PFHxS	*16*		ng/l		*24*		*66*	*34-126*		
Surrogate: 13C3-PFBS	*20*		ng/l		*23*		*87*	*26-148*		
Surrogate: 13C4-PFHpA	*16*		ng/l		*25*		*65*	*35-126*		
Matrix Spike Dup (9322962)			**Source: SC41520-05**			Prepared: 20-Nov-17 Analyzed: 02-Dec-17				
Perfluoro-octanesulfonate	**9**		ng/l	5	9	BRL	108	70-130	26	30
Perfluorobutanesulfonate	**11**	B	ng/l	2	8	1	125	70-130	23	30
Perfluorononanoic acid	**10**	B	ng/l	2	9	BRL	113	70-130	35	30
Perfluorohexanesulfonate	**10**	B	ng/l	3	9	BRL	115	70-130	21	30
Perfluorooctanoic acid	**13**	B	ng/l	2	9	1	125	70-130	33	30
Perfluoroheptanoic acid	**11**	B	ng/l	2	9	0.9	114	70-130	30	30
Surrogate: 13C8-PFOA	*23*		ng/l		*33*		*68*	*43-112*		
Surrogate: 13C3-PFBS	*25*		ng/l		*31*		*81*	*26-148*		
Surrogate: 13C4-PFHpA	*23*		ng/l		*33*		*68*	*35-126*		
Surrogate: 13C8-PFOS	*22*		ng/l		*32*		*69*	*43-115*		
Surrogate: 13C9-PFNA	*26*		ng/l		*33*		*79*	*32-134*		
Surrogate: 13C3-PFHxS	*23*		ng/l		*32*		*72*	*34-126*		
Blank (BLK3240B)						Prepared: 20-Nov-17 Analyzed: 03-Dec-17				
Perfluorobutanesulfonate	**0.6**	Ja	ng/l	1				-		
Perfluoroheptanoic acid	**0.7**	Ja	ng/l	1				-		
Perfluorohexanesulfonate	**0.5**	Ja	ng/l	2				-		
Perfluorononanoic acid	**0.4**	Ja	ng/l	1				-		
Perfluorooctanoic acid	**0.7**	Ja	ng/l	1				-		
Perfluoro-octanesulfonate	< 3		ng/l	3				-		
Surrogate: 13C8-PFOS	*16*		ng/l		*19*		*86*	*43-115*		
Surrogate: 13C3-PFHxS	*17*		ng/l		*19*		*91*	*34-126*		
Surrogate: 13C3-PFBS	*16*		ng/l		*19*		*85*	*26-148*		
Surrogate: 13C4-PFHpA	*18*		ng/l		*20*		*91*	*35-126*		
Surrogate: 13C8-PFOA	*19*		ng/l		*20*		*97*	*43-112*		
Surrogate: 13C9-PFNA	*19*		ng/l		*20*		*95*	*32-134*		
LCS (LCS3248Q)						Prepared: 20-Nov-17 Analyzed: 04-Dec-17				
Perfluorobutanesulfonate	**6**		ng/l	1	5		122	70-130		
Perfluoroheptanoic acid	**7**		ng/l	1	5		128	70-130		
Perfluorooctanoic acid	**8**		ng/l	1	5		141	70-130		
Perfluoro-octanesulfonate	**6**		ng/l	3	5		116	70-130		
Perfluorononanoic acid	**6**		ng/l	1	5		112	70-130		
Perfluorohexanesulfonate	**6**		ng/l	2	5		120	70-130		
Surrogate: 13C9-PFNA	*15*		ng/l		*20*		*74*	*32-134*		
Surrogate: 13C8-PFOS	*12*		ng/l		*19*		*61*	*43-115*		
Surrogate: 13C8-PFOA	*13*		ng/l		*20*		*65*	*43-112*		
Surrogate: 13C4-PFHpA	*13*		ng/l		*20*		*63*	*35-126*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17324008 - METHOD										
LCS (LCS3248Q)						Prepared: 20-Nov-17 Analyzed: 04-Dec-17				
Surrogate: 13C3-PFBS	*13*		ng/l		*19*		*70*	*26-148*		
Surrogate: 13C3-PFHxS	*13*		ng/l		*19*		*67*	*34-126*		
SW-846 8270D SIM										
Batch 17322WAD026 - SW-846 3510C										
Matrix Spike (9322961)			**Source: SC41520-05**			Prepared: 19-Nov-17 Analyzed: 29-Nov-17				
1,4-Dioxane	**0.43**		ug/l	0.19	0.95	BRL	45	28-103		
Surrogate: Benzo(a)pyrene-d12	*0.88*		ug/l		*0.95*		*93*	*39-121*		
Surrogate: Fluoranthene-d10	*0.98*		ug/l		*0.95*		*103*	*42-119*		
Surrogate: 1-Methylnaphthalene-d10	*0.91*		ug/l		*0.95*		*96*	*29-123*		
Matrix Spike Dup (9322962)			**Source: SC41520-05**			Prepared: 19-Nov-17 Analyzed: 29-Nov-17				
1,4-Dioxane	**0.41**		ug/l	0.19	0.95	BRL	43	28-103	6	30
Surrogate: 1-Methylnaphthalene-d10	*0.89*		ug/l		*0.95*		*93*	*29-123*		
Surrogate: Fluoranthene-d10	*0.97*		ug/l		*0.95*		*101*	*42-119*		
Surrogate: Benzo(a)pyrene-d12	*0.88*		ug/l		*0.95*		*92*	*39-121*		
LCS (P2WDLCSQ)						Prepared: 19-Nov-17 Analyzed: 28-Nov-17				
1,4-Dioxane	**0.44**		ug/l	0.20	1.0		44	28-103		
Surrogate: 1-Methylnaphthalene-d10	*0.85*		ug/l		*1.0*		*85*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.87*		ug/l		*1.0*		*87*	*39-121*		
Surrogate: Fluoranthene-d10	*0.94*		ug/l		*1.0*		*94*	*42-119*		
Blank (PLKWD32B)						Prepared: 19-Nov-17 Analyzed: 28-Nov-17				
1,4-Dioxane	< 0.20		ug/l	0.20				-		
Surrogate: 1-Methylnaphthalene-d10	*0.75*		ug/l		*1.0*		*75*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.75*		ug/l		*1.0*		*75*	*39-121*		
Surrogate: Fluoranthene-d10	*0.87*		ug/l		*1.0*		*87*	*42-119*		

Notes and Definitions

B	Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)
D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
J	Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
Ja	Estimated value
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
U	Analyte included in the analysis, but not detected at or above the MDL.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC 41520@

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CHAIN OF CUSTODY RECORD

Page 1 of ____

Special Handling:

☐ Standard TAT - 7 to 10 business days

☐ Rush TAT - Date Needed: AS PER CONTRACT

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: MIKE STEFFAN
Ecology + Environment Inc.
36B PLEASANT VIEW DR
LANCASTER NY 14086
Telephone #: (716) 684-8060
Project Mgr: MIKE STEFFAN

Invoice To: MIKE STEFFAN
E+E
36B PLEASANT VIEW DR
LANCASTER NY 14086
P.O No.: ____ Quote #: ____

Project No: 10C3074.0011.09
Site Name: MR C's
Location: EAST AURORA State: NY
Sampler(s): [signature]

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= NONE 12= ____

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= ____ X2= ____ X3= ____

G= Grab C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Voc's 111317	List Preservative Code below: 11	11	2	Analysis: PFAS	1,4 Dioxane	VOC's	Check if chlorinated	QA/QC Reporting Notes: * additional charges may appply
41520-01	TB-111317	11/13/17	0820	G	W	2										X	☐	
-02	MPI-3S111317	11/13/17	0950	G	GW	3	2		2					X	X	X	☐	
-03	EE-3 111317	11/13/17	1250	G	GW	3	2		2					X	X	X	☐	
-04	MPI-1S 111317	11/13/17	1445	G	GW	3	2		2					X	X	X	☐	
-05	ESI-6 111417	11/14/17	0858	G	GW	9	6		6					X	X	X	☐	MS/MSD
-06	ESI-5R 111417	11/14/17	1120	G	GW	3	2		2					X	X	X	☐	
-07	MPI-1SB 111417	11/14/17	1433	G	GW	3	2		2					X	X	X	☐	
																	☐	
																	☐	
																	☐	

[signature] 11/14/17

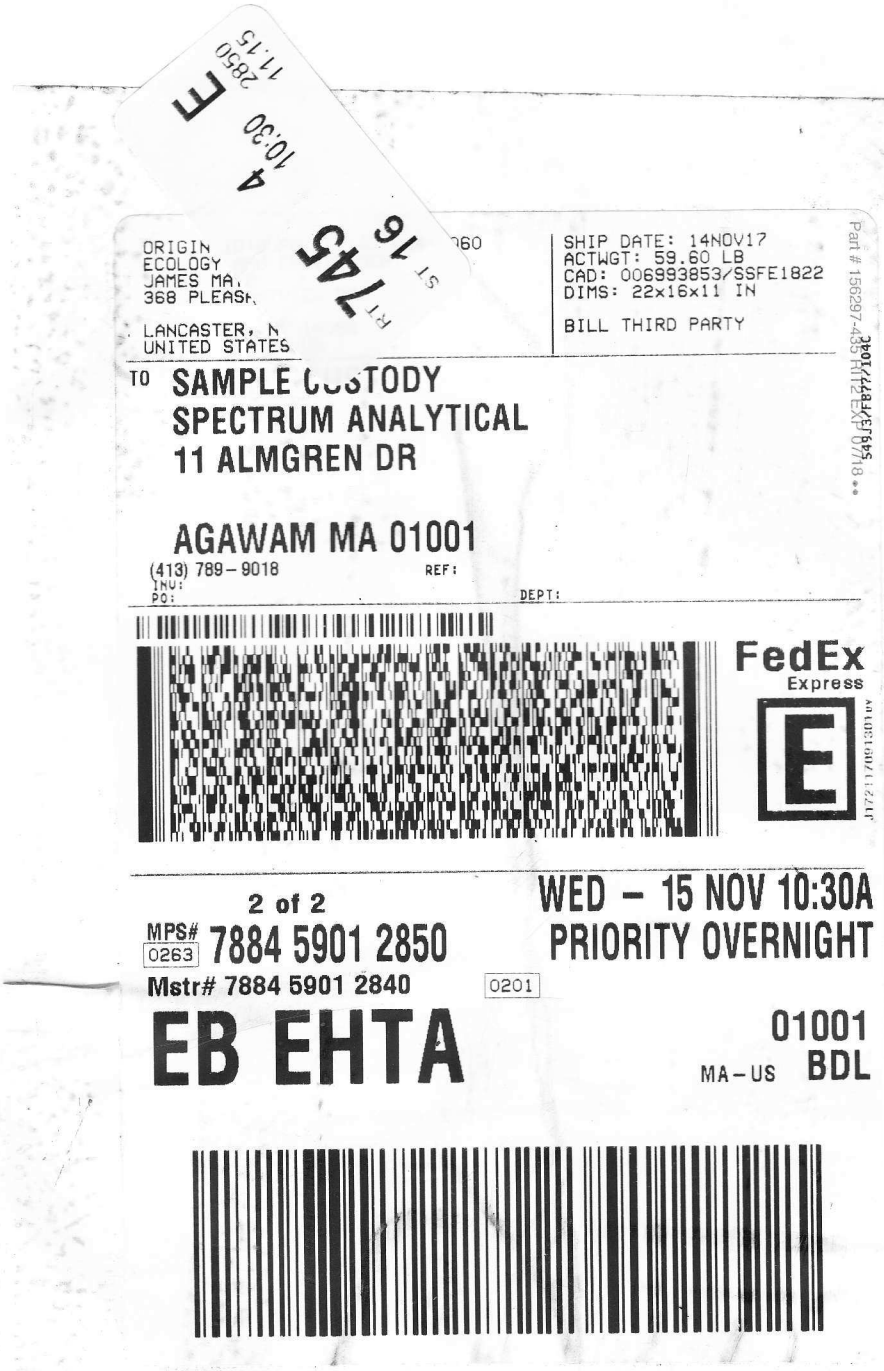
MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA* ☐ ASP A* ☒ ASP B* ☐ NJ Reduced* ☐ NJ Full* ☐ Tier II* ☐ Tier IV*
☐ Other: ____
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:
[signature]		11/14/17	1800
FedEx	[signature]	11/15/17	1040

Temp °C: Observed 2.0; Correction Factor 0; Corrected 2.0; IR ID # 1

☐ EDD format: ____
☐ E-mail to: MSTEFFAN@ene.com

Condition upon receipt: Custody Seals: ☑ Present ☑ Intact ☐ Broken
☐ Ambient ☑ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen



ORIGIN
ECOLOGY
JAMES MA,
368 PLEASA

LANCASTER, A
UNITED STATES

SHIP DATE: 14NOV17
ACTWGT: 59.60 LB
CAD: 0069938S3/SSFE1822
DIMS: 22x16x11 IN

BILL THIRD PARTY

TO SAMPLE CUSTODY
SPECTRUM ANALYTICAL
11 ALMGREN DR

AGAWAM MA 01001
(413) 789-9018 REF:
INV:
PO: DEPT:

FedEx
Express

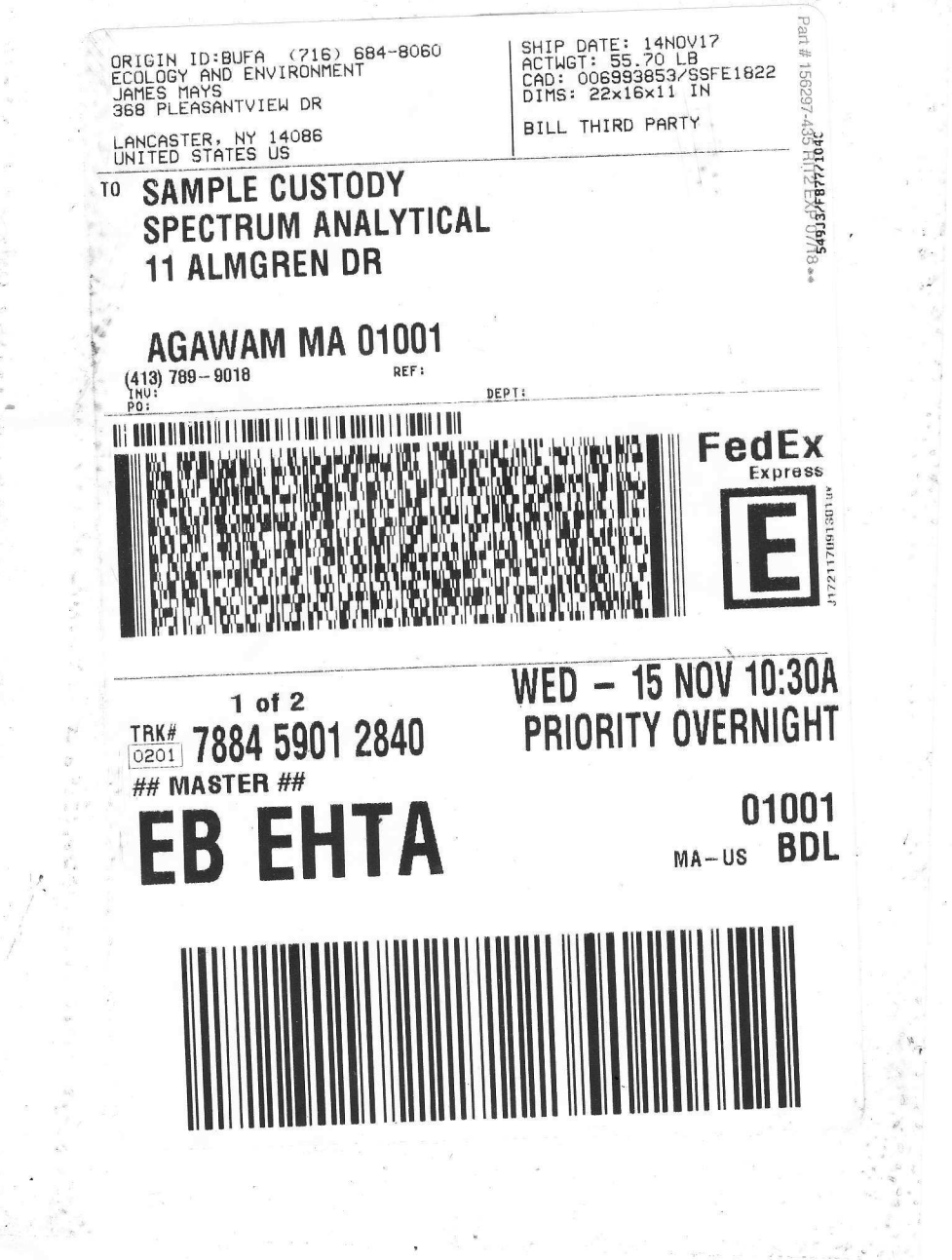
2 of 2
MPS# 0263 7884 5901 2850
Mstr# 7884 5901 2840

WED - 15 NOV 10:30A
PRIORITY OVERNIGHT

0201

EB EHTA

01001
MA-US BDL



ORIGIN ID:BUFA (716) 684-8060
ECOLOGY AND ENVIRONMENT
JAMES MAYS
368 PLEASANTVIEW DR

LANCASTER, NY 14086
UNITED STATES US

SHIP DATE: 14NOV17
ACTWGT: 55.70 LB
CAD: 006993853/SSFE1822
DIMS: 22x16x11 IN

BILL THIRD PARTY

Part # 156297-435 REV EXP 07/18

TO SAMPLE CUSTODY
SPECTRUM ANALYTICAL
11 ALMGREN DR

AGAWAM MA 01001
(413) 789-9018 REF:
INV: DEPT:
PO:

FedEx Express

1 of 2
TRK# 0201 7884 5901 2840
MASTER

WED - 15 NOV 10:30A
PRIORITY OVERNIGHT

EB EHTA

01001
MA-US BDL

Batch Summary

1719532

Volatile Organic Compounds

1719532-BLK1
1719532-BS1
1719532-BSD1
1719532-MS1
1719532-MSD1
SC41520-01 (TB-111317)
SC41520-02 (MPI-3S 111317)
SC41520-03 (EE-3 111317)
SC41520-04 (MPI-1S 111317)
SC41520-05 (ESI-6 111417)
SC41520-06 (ESI-5R 111417)
SC41520-07 (MPI-15B 111417)

17322WAD026

Subcontracted Analyses

9322961
9322962
P2WDLCSQ
PLKWD32B
SC41520-02 (MPI-3S 111317)
SC41520-03 (EE-3 111317)
SC41520-04 (MPI-1S 111317)
SC41520-05 (ESI-6 111417)
SC41520-06 (ESI-5R 111417)
SC41520-07 (MPI-15B 111417)

17324008

Subcontracted Analyses

9322961
9322962
BLK3240B
LCS3248Q
SC41520-02 (MPI-3S 111317)
SC41520-03 (EE-3 111317)
SC41520-04 (MPI-1S 111317)
SC41520-05 (ESI-6 111417)
SC41520-06 (ESI-5R 111417)
SC41520-07 (MPI-15B 111417)

S710225

Volatile Organic Compounds

S710225-CAL1
S710225-CAL2
S710225-CAL3
S710225-CAL4
S710225-CAL5
S710225-CAL6
S710225-CAL7
S710225-CAL8
S710225-CAL9
S710225-CALA
S710225-CALB
S710225-ICV1
S710225-LCV1
S710225-LCV2
S710225-TUN1

S710237

Volatile Organic Compounds

S710237-CCV1
S710237-TUN1

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☑ Final Report
☐ Revised Report

Report Date:
15-Dec-17 11:00

Laboratory Report
SC41424

Ecology and Environment, Inc.
368 Pleasant View Drive
Lancaster, NY 14086
Attn: Mike Steffan

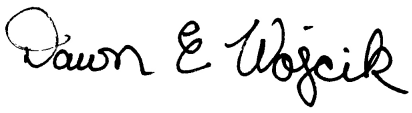
Project: Mr. C's Groundwaters
Project #: 10C3074.0011.09

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director



Eurofins Spectrum Analytical holds primary NELAC certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 29 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC41424

Project: Mr. C's Groundwaters

Project Number: 10C3074.0011.09

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC41424-01	TB-111017	Water	10-Nov-17 07:20	11-Nov-17 10:04
SC41424-02	RW-1-111017	Ground Water	10-Nov-17 09:55	11-Nov-17 10:04
SC41424-03	PW-3-111017	Ground Water	10-Nov-17 10:20	11-Nov-17 10:04
SC41424-04	PW-5-111017	Ground Water	10-Nov-17 10:50	11-Nov-17 10:04
SC41424-05	PW-4-111017	Ground Water	10-Nov-17 12:00	11-Nov-17 10:04
SC41424-06	PW-2-111017	Ground Water	10-Nov-17 12:20	11-Nov-17 10:04

CASE NARRATIVE:

Data has been reported to the RDL. This report includes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the detection limit are reported as "<" (less than) the detection limit in this report.

The samples were received 1.7 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

EPA 537 modified

Samples:

SC41424-02 *RW-1-111017*

Estimated value - Detected in blank

- Perfluorobutanesulfonate
- Perfluoroheptanoic acid
- Perfluorononanoic acid
- Perfluorooctanoic acid

SC41424-03 *PW-3-111017*

Estimated value - Detected in blank

- Perfluoroheptanoic acid
- Perfluorononanoic acid
- Perfluorooctanoic acid

SC41424-04 *PW-5-111017*

Estimated value - Detected in blank

- Perfluorobutanesulfonate
- Perfluoroheptanoic acid
- Perfluorohexanesulfonate
- Perfluorooctanoic acid

SC41424-05 *PW-4-111017*

Estimated value - Detected in blank

- Perfluorobutanesulfonate
- Perfluoroheptanoic acid
- Perfluorohexanesulfonate
- Perfluorononanoic acid
- Perfluorooctanoic acid

SC41424-06 *PW-2-111017*

Estimated value - Detected in blank

- Perfluorobutanesulfonate
- Perfluoroheptanoic acid
- Perfluorooctanoic acid

SW846 8260C

Calibration:

SW846 8260C

Calibration:

1711037

Analyte quantified by quadratic equation type calibration.

1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,3-Dichlorobenzene
2-Hexanone (MBK)
4-Methyl-2-pentanone (MIBK)
Bromodichloromethane
Bromoform
Carbon tetrachloride
cis-1,3-Dichloropropene
Dibromochloromethane
Ethylbenzene
Isopropylbenzene
m,p-Xylene
Methylcyclohexane
o-Xylene
Styrene
trans-1,3-Dichloropropene
Vinyl chloride

This affected the following samples:

1719492-BLK1
1719492-BS1
1719492-BSD1
1719512-BLK1
1719512-BS1
1719512-BSD1
PW-2-111017
PW-3-111017
PW-4-111017
PW-5-111017
RW-1-111017
S710164-ICV1
S710187-CCV1
S710218-CCV1
TB-111017

Samples:

SC41424-04 *PW-5-111017*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SC41424-05 *PW-4-111017*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Sample Acceptance Check Form

Client:	Ecology and Environment, Inc.
Project:	Mr. C's Groundwaters / 10C3074.0011.09
Work Order:	SC41424
Sample(s) received on:	11/11/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☑	☐	☐
Were custody seals intact?	☑	☐	☐
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC41424-02 **Client ID:** RW-1-111017

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	0.8	Ja, B	2	ng/l	EPA 537 modified
Perfluoroheptanoic acid	0.8	Ja, B	2	ng/l	EPA 537 modified
Perfluorononanoic acid	0.5	Ja, B	2	ng/l	EPA 537 modified
Perfluorooctanoic acid	2	B	2	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	2.53		1.00	µg/l	SW846 8260C
Tetrachloroethene	22.1		1.00	µg/l	SW846 8260C
Trichloroethene	1.29		1.00	µg/l	SW846 8260C
1,4-Dioxane	0.11	Ja	0.20	ug/l	SW-846 8270D SIM

Lab ID: SC41424-03 **Client ID:** PW-3-111017

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluoroheptanoic acid	1	Ja, B	2	ng/l	EPA 537 modified
Perfluorononanoic acid	0.6	Ja, B	2	ng/l	EPA 537 modified
Perfluoro-octanesulfonate	3	Ja	5	ng/l	EPA 537 modified
Perfluorooctanoic acid	1	Ja, B	2	ng/l	EPA 537 modified
Acetone	2.86	J	10.0	µg/l	SW846 8260C
cis-1,2-Dichloroethene	0.40	J	1.00	µg/l	SW846 8260C
Tetrachloroethene	4.56		1.00	µg/l	SW846 8260C
1,4-Dioxane	0.11	Ja	0.19	ug/l	SW-846 8270D SIM

Lab ID: SC41424-04 **Client ID:** PW-5-111017

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	2	B	2	ng/l	EPA 537 modified
Perfluoroheptanoic acid	2	B	2	ng/l	EPA 537 modified
Perfluorohexanesulfonate	0.8	Ja, B	3	ng/l	EPA 537 modified
Perfluorooctanoic acid	4	B	2	ng/l	EPA 537 modified
Chloromethane	20.5	J, D	100	µg/l	SW846 8260C
cis-1,2-Dichloroethene	17.0	D, J	50.0	µg/l	SW846 8260C
Tetrachloroethene	1590	D	50.0	µg/l	SW846 8260C
Trichloroethene	45.5	J, D	50.0	µg/l	SW846 8260C

Lab ID: SC41424-05 **Client ID:** PW-4-111017

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	1	Ja, B	2	ng/l	EPA 537 modified
Perfluoroheptanoic acid	2	B	2	ng/l	EPA 537 modified
Perfluorohexanesulfonate	1	Ja, B	3	ng/l	EPA 537 modified
Perfluorononanoic acid	1	Ja, B	2	ng/l	EPA 537 modified
Perfluoro-octanesulfonate	3	Ja	5	ng/l	EPA 537 modified
Perfluorooctanoic acid	8	B	2	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	102	D	50.0	µg/l	SW846 8260C
Ethylbenzene	17.5	J, D	50.0	µg/l	SW846 8260C
Tetrachloroethene	2590	D	50.0	µg/l	SW846 8260C
Trichloroethene	220	D	50.0	µg/l	SW846 8260C

Lab ID: SC41424-06 **Client ID:** PW-2-111017

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	0.8	Ja, B	2	ng/l	EPA 537 modified
Perfluoroheptanoic acid	1	Ja, B	2	ng/l	EPA 537 modified
Perfluoro-octanesulfonate	2	Ja	5	ng/l	EPA 537 modified
Perfluorooctanoic acid	3	B	2	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	3.08		1.00	µg/l	SW846 8260C
Tetrachloroethene	12.7		1.00	µg/l	SW846 8260C
Trichloroethene	0.60	J	1.00	µg/l	SW846 8260C
1,4-Dioxane	0.14	Ja	0.19	ug/l	SW-846 8270D SIM

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-111017	10C3074.0011.09	Water	10-Nov-17 07:20	11-Nov-17
SC41424-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	18-Nov-17	19-Nov-17	EK	1719492	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-111017	10C3074.0011.09	Water	10-Nov-17 07:20	11-Nov-17
SC41424-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	18-Nov-17	19-Nov-17	EK	1719492	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*85*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*104*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*111*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
RW-1-111017	10C3074.0011.09	Ground Water	10-Nov-17 09:55	11-Nov-17
SC41424-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	18-Nov-17	19-Nov-17	EK	1719492	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**2.53**		µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**22.1**		µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	**1.29**		µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
RW-1-111017	10C3074.0011.09	Ground Water	10-Nov-17 09:55	11-Nov-17
SC41424-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	18-Nov-17	19-Nov-17	EK	1719492	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*88*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*97*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*112*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 5		ng/l	5	1	1	EPA 537 modified	20-Nov-17 14:30	02-Dec-17 09:55	10670	17324008	
375-73-5	Perfluorobutanesulfonate	**0.8**	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	**0.8**	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 3		ng/l	3	0.7	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	**0.5**	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**2**	B	ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*72*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*55*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*57*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*58*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*66*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*80*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	**0.11**	Ja	ug/l	0.20	0.049	1	SW-846 8270D SIM	16-Nov-17 17:10	23-Nov-17 06:34	10670	319WAR0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*79*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*86*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*76*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-3-111017	10C3074.0011.09	Ground Water	10-Nov-17 10:20	11-Nov-17
SC41424-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	18-Nov-17	19-Nov-17	EK	1719492	X
67-64-1	Acetone	**2.86**	J	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**0.40**	J	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**4.56**		µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-3-111017	10C3074.0011.09	Ground Water	10-Nov-17 10:20	11-Nov-17
SC41424-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	18-Nov-17	19-Nov-17	EK	1719492	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*84*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*105*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*113*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	**3**	Ja	ng/l	5	1	1	EPA 537 modified	20-Nov-17 14:30	03-Dec-17 23:48	10670	17324008	
375-73-5	Perfluorobutanesulfonate	< 2		ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	**1**	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 3		ng/l	3	0.7	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	**0.6**	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**1**	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*100*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*62*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*62*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*59*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*65*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*92*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	**0.11**	Ja	ug/l	0.19	0.048	1	SW-846 8270D SIM	16-Nov-17 17:10	23-Nov-17 07:03	10670	319WAR0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*82*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*87*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*92*			*42-119 %*			"	"	"	"	"	

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 50.0	U, D	µg/l	50.0	26.6	50	SW846 8260C	18-Nov-17	19-Nov-17	EK	1719492	X
67-64-1	Acetone	< 500	U, D	µg/l	500	40.2	50	"	"	"	"	"	X
71-43-2	Benzene	< 50.0	U, D	µg/l	50.0	14.2	50	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 25.0	U, D	µg/l	25.0	20.8	50	"	"	"	"	"	X
75-25-2	Bromoform	< 50.0	U, D	µg/l	50.0	21.2	50	"	"	"	"	"	X
74-83-9	Bromomethane	< 100	U, D	µg/l	100	44.8	50	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 100	U, D	µg/l	100	53.5	50	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 100	U, D	µg/l	100	20.6	50	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 50.0	U, D	µg/l	50.0	21.8	50	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 50.0	U, D	µg/l	50.0	12.4	50	"	"	"	"	"	X
75-00-3	Chloroethane	< 100	U, D	µg/l	100	29.4	50	"	"	"	"	"	X
67-66-3	Chloroform	< 50.0	U, D	µg/l	50.0	16.3	50	"	"	"	"	"	X
74-87-3	Chloromethane	**20.5**	J, D	µg/l	100	18.4	50	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 100	U, D	µg/l	100	43.2	50	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 25.0	U, D	µg/l	25.0	15.8	50	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 25.0	U, D	µg/l	25.0	10.1	50	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	13.8	50	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	15.7	50	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	13.6	50	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 100	U, D	µg/l	100	29.2	50	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 50.0	U, D	µg/l	50.0	16.2	50	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 50.0	U, D	µg/l	50.0	13.8	50	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 50.0	U, D	µg/l	50.0	34.6	50	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**17.0**	D, J	µg/l	50.0	16.4	50	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 50.0	U, D	µg/l	50.0	18.8	50	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 50.0	U, D	µg/l	50.0	14.6	50	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 25.0	U, D	µg/l	25.0	18.0	50	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 25.0	U, D	µg/l	25.0	17.4	50	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 50.0	U, D	µg/l	50.0	16.4	50	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 100	U, D	µg/l	100	26.4	50	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 50.0	U, D	µg/l	50.0	18.0	50	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 50.0	U, D	µg/l	50.0	11.8	50	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 100	U, D	µg/l	100	25.8	50	"	"	"	"	"	X
75-09-2	Methylene chloride	< 100	U, D	µg/l	100	33.0	50	"	"	"	"	"	X
100-42-5	Styrene	< 50.0	U, D	µg/l	50.0	20.2	50	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 25.0	U, D	µg/l	25.0	16.5	50	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**1,590**	D	µg/l	50.0	28.5	50	"	"	"	"	"	X
108-88-3	Toluene	< 50.0	U, D	µg/l	50.0	15.0	50	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 50.0	U, D	µg/l	50.0	18.9	50	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 50.0	U, D	µg/l	50.0	25.4	50	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 50.0	U, D	µg/l	50.0	16.5	50	"	"	"	"	"	X
79-01-6	Trichloroethene	**45.5**	J, D	µg/l	50.0	24.8	50	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-5-111017	10C3074.0011.09	Ground Water	10-Nov-17 10:50	11-Nov-17
SC41424-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
75-69-4	Trichlorofluoromethane (Freon 11)	< 50.0	U, D	µg/l	50.0	24.4	50	SW846 8260C	18-Nov-17	19-Nov-17	EK	1719492	X
75-01-4	Vinyl chloride	< 50.0	U, D	µg/l	50.0	23.6	50	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 100	U, D	µg/l	100	19.0	50	"	"	"	"	"	X
95-47-6	o-Xylene	< 50.0	U, D	µg/l	50.0	14.2	50	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 150	U, D	µg/l	150	150	50	"	"	"	"	"	X
110-82-7	Cyclohexane	< 250	U, D	µg/l	250	39.4	50	"	"	"	"	"	X
79-20-9	Methyl acetate	< 250	U, D	µg/l	250	32.4	50	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 250	U, D	µg/l	250	37.1	50	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*88*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*107*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*107*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 5		ng/l	5	1	1	EPA 537 modified	20-Nov-17 14:30	02-Dec-17 10:36	10670	17324008	
375-73-5	Perfluorobutanesulfonate	**2**	B	ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	**2**	B	ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	**0.8**	Ja, B	ng/l	3	0.7	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**4**	B	ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*78*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*64*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*60*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*62*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*69*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*76*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.19		ug/l	0.19	0.049	1	SW-846 8270D SIM	16-Nov-17 17:10	23-Nov-17 07:33	10670	319WAR0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*84*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*91*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*86*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-4-111017	10C3074.0011.09	Ground Water	10-Nov-17 12:00	11-Nov-17
SC41424-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 50.0	U, D	µg/l	50.0	26.6	50	SW846 8260C	18-Nov-17	19-Nov-17	EK	1719492	X
67-64-1	Acetone	< 500	U, D	µg/l	500	40.2	50	"	"	"	"	"	X
71-43-2	Benzene	< 50.0	U, D	µg/l	50.0	14.2	50	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 25.0	U, D	µg/l	25.0	20.8	50	"	"	"	"	"	X
75-25-2	Bromoform	< 50.0	U, D	µg/l	50.0	21.2	50	"	"	"	"	"	X
74-83-9	Bromomethane	< 100	U, D	µg/l	100	44.8	50	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 100	U, D	µg/l	100	53.5	50	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 100	U, D	µg/l	100	20.6	50	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 50.0	U, D	µg/l	50.0	21.8	50	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 50.0	U, D	µg/l	50.0	12.4	50	"	"	"	"	"	X
75-00-3	Chloroethane	< 100	U, D	µg/l	100	29.4	50	"	"	"	"	"	X
67-66-3	Chloroform	< 50.0	U, D	µg/l	50.0	16.3	50	"	"	"	"	"	X
74-87-3	Chloromethane	< 100	U, D	µg/l	100	18.4	50	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 100	U, D	µg/l	100	43.2	50	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 25.0	U, D	µg/l	25.0	15.8	50	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 25.0	U, D	µg/l	25.0	10.1	50	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	13.8	50	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	15.7	50	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	13.6	50	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 100	U, D	µg/l	100	29.2	50	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 50.0	U, D	µg/l	50.0	16.2	50	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 50.0	U, D	µg/l	50.0	13.8	50	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 50.0	U, D	µg/l	50.0	34.6	50	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**102**	D	µg/l	50.0	16.4	50	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 50.0	U, D	µg/l	50.0	18.8	50	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 50.0	U, D	µg/l	50.0	14.6	50	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 25.0	U, D	µg/l	25.0	18.0	50	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 25.0	U, D	µg/l	25.0	17.4	50	"	"	"	"	"	X
100-41-4	Ethylbenzene	**17.5**	J, D	µg/l	50.0	16.4	50	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 100	U, D	µg/l	100	26.4	50	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 50.0	U, D	µg/l	50.0	18.0	50	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 50.0	U, D	µg/l	50.0	11.8	50	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 100	U, D	µg/l	100	25.8	50	"	"	"	"	"	X
75-09-2	Methylene chloride	< 100	U, D	µg/l	100	33.0	50	"	"	"	"	"	X
100-42-5	Styrene	< 50.0	U, D	µg/l	50.0	20.2	50	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 25.0	U, D	µg/l	25.0	16.5	50	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**2,590**	D	µg/l	50.0	28.5	50	"	"	"	"	"	X
108-88-3	Toluene	< 50.0	U, D	µg/l	50.0	15.0	50	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 50.0	U, D	µg/l	50.0	18.9	50	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 50.0	U, D	µg/l	50.0	25.4	50	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 50.0	U, D	µg/l	50.0	16.5	50	"	"	"	"	"	X
79-01-6	Trichloroethene	**220**	D	µg/l	50.0	24.8	50	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-4-111017	10C3074.0011.09	Ground Water	10-Nov-17 12:00	11-Nov-17
SC41424-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
75-69-4	Trichlorofluoromethane (Freon 11)	< 50.0	U, D	µg/l	50.0	24.4	50	SW846 8260C	18-Nov-17	19-Nov-17	EK	1719492	X
75-01-4	Vinyl chloride	< 50.0	U, D	µg/l	50.0	23.6	50	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 100	U, D	µg/l	100	19.0	50	"	"	"	"	"	X
95-47-6	o-Xylene	< 50.0	U, D	µg/l	50.0	14.2	50	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 150	U, D	µg/l	150	150	50	"	"	"	"	"	X
110-82-7	Cyclohexane	< 250	U, D	µg/l	250	39.4	50	"	"	"	"	"	X
79-20-9	Methyl acetate	< 250	U, D	µg/l	250	32.4	50	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 250	U, D	µg/l	250	37.1	50	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*85*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*106*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	3	Ja	ng/l	5	1	1	EPA 537 modified	20-Nov-17 14:30	02-Dec-17 10:56	10670	17324008	
375-73-5	Perfluorobutanesulfonate	1	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	2	B	ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	1	Ja, B	ng/l	3	0.7	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	1	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	8	B	ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*132*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*83*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*97*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*90*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*99*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*124*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.20		ug/l	0.20	0.049	1	SW-846 8270D SIM	16-Nov-17 17:10	27-Nov-17 21:36	10670	319WAR0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*81*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*72*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*74*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-2-111017	10C3074.0011.09	Ground Water	10-Nov-17 12:20	11-Nov-17
SC41424-06				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	20-Nov-17	21-Nov-17	EK	1719512	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**3.08**		µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**12.7**		µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	**0.60**	J	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-2-111017	10C3074.0011.09	Ground Water	10-Nov-17 12:20	11-Nov-17
SC41424-06				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	20-Nov-17	21-Nov-17	EK	1719512	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*89*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*98*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*112*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	**2**	Ja	ng/l	5	1	1	EPA 537 modified	20-Nov-17 14:30	02-Dec-17 11:17	10670	17324008	
375-73-5	Perfluorobutanesulfonate	**0.8**	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	**1**	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 3		ng/l	3	0.7	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**3**	B	ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*128*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*75*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*74*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*85*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*81*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*119*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	**0.14**	Ja	ug/l	0.19	0.048	1	SW-846 8270D SIM	16-Nov-17 17:10	27-Nov-17 22:06	10670	319WAR0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*87*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*88*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*74*			*42-119 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719492 - SW846 5030 Water MS										
Blank (1719492-BLK1)					Prepared: 18-Nov-17 Analyzed: 19-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00						
Acetone	< 10.0	U	µg/l	10.0						
Benzene	< 1.00	U	µg/l	1.00						
Bromodichloromethane	< 0.50	U	µg/l	0.50						
Bromoform	< 1.00	U	µg/l	1.00						
Bromomethane	< 2.00	U	µg/l	2.00						
2-Butanone (MEK)	< 2.00	U	µg/l	2.00						
Carbon disulfide	< 2.00	U	µg/l	2.00						
Carbon tetrachloride	< 1.00	U	µg/l	1.00						
Chlorobenzene	< 1.00	U	µg/l	1.00						
Chloroethane	< 2.00	U	µg/l	2.00						
Chloroform	< 1.00	U	µg/l	1.00						
Chloromethane	**0.39**	J	µg/l	2.00						
1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00						
Dibromochloromethane	< 0.50	U	µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50						
1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00						
1,1-Dichloroethane	< 1.00	U	µg/l	1.00						
1,2-Dichloroethane	< 1.00	U	µg/l	1.00						
1,1-Dichloroethene	< 1.00	U	µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
1,2-Dichloropropane	< 1.00	U	µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
Ethylbenzene	< 1.00	U	µg/l	1.00						
2-Hexanone (MBK)	< 2.00	U	µg/l	2.00						
Isopropylbenzene	< 1.00	U	µg/l	1.00						
Methyl tert-butyl ether	< 1.00	U	µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00						
Methylene chloride	< 2.00	U	µg/l	2.00						
Styrene	< 1.00	U	µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50						
Tetrachloroethene	< 1.00	U	µg/l	1.00						
Toluene	< 1.00	U	µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00						
1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00						
1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00						
Trichloroethene	< 1.00	U	µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00						
Vinyl chloride	< 1.00	U	µg/l	1.00						
m,p-Xylene	< 2.00	U	µg/l	2.00						
o-Xylene	< 1.00	U	µg/l	1.00						
Total Xylenes	< 3.00	U	µg/l	3.00						
Cyclohexane	< 5.00	U	µg/l	5.00						
Methyl acetate	< 5.00	U	µg/l	5.00						
Methylcyclohexane	< 5.00	U	µg/l	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719492 - SW846 5030 Water MS										
Blank (1719492-BLK1)					Prepared: 18-Nov-17 Analyzed: 19-Nov-17					
Surrogate: 4-Bromofluorobenzene	*42.7*		µg/l		*50.0*		*85*	*70-130*		
Surrogate: Toluene-d8	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.6*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Dibromofluoromethane	*58.1*		µg/l		*50.0*		*116*	*70-130*		
LCS (1719492-BS1)					Prepared: 18-Nov-17 Analyzed: 19-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**21.6**		µg/l		20.0		108	70-130		
Acetone	**23.5**		µg/l		20.0		117	70-130		
Benzene	**21.4**		µg/l		20.0		107	70-130		
Bromodichloromethane	**21.3**		µg/l		20.0		107	70-130		
Bromoform	**21.2**		µg/l		20.0		106	70-130		
Bromomethane	**20.5**		µg/l		20.0		103	70-130		
2-Butanone (MEK)	**19.2**		µg/l		20.0		96	70-130		
Carbon disulfide	**22.4**		µg/l		20.0		112	70-130		
Carbon tetrachloride	**21.2**		µg/l		20.0		106	70-130		
Chlorobenzene	**21.0**		µg/l		20.0		105	70-130		
Chloroethane	**22.3**		µg/l		20.0		112	70-130		
Chloroform	**21.1**		µg/l		20.0		106	70-130		
Chloromethane	**18.5**		µg/l		20.0		93	70-130		
1,2-Dibromo-3-chloropropane	**21.2**		µg/l		20.0		106	70-130		
Dibromochloromethane	**21.6**		µg/l		20.0		108	70-130		
1,2-Dibromoethane (EDB)	**21.2**		µg/l		20.0		106	70-130		
1,2-Dichlorobenzene	**21.5**		µg/l		20.0		108	70-130		
1,3-Dichlorobenzene	**19.7**		µg/l		20.0		99	70-130		
1,4-Dichlorobenzene	**20.7**		µg/l		20.0		104	70-130		
Dichlorodifluoromethane (Freon12)	**19.8**		µg/l		20.0		99	70-130		
1,1-Dichloroethane	**21.9**		µg/l		20.0		109	70-130		
1,2-Dichloroethane	**21.2**		µg/l		20.0		106	70-130		
1,1-Dichloroethene	**21.3**		µg/l		20.0		106	70-130		
cis-1,2-Dichloroethene	**20.5**		µg/l		20.0		103	70-130		
trans-1,2-Dichloroethene	**21.1**		µg/l		20.0		106	70-130		
1,2-Dichloropropane	**21.9**		µg/l		20.0		109	70-130		
cis-1,3-Dichloropropene	**18.8**		µg/l		20.0		94	70-130		
trans-1,3-Dichloropropene	**18.7**		µg/l		20.0		94	70-130		
Ethylbenzene	**20.5**		µg/l		20.0		103	70-130		
2-Hexanone (MBK)	**19.8**		µg/l		20.0		99	70-130		
Isopropylbenzene	**20.3**		µg/l		20.0		102	70-130		
Methyl tert-butyl ether	**22.2**		µg/l		20.0		111	70-130		
4-Methyl-2-pentanone (MIBK)	**20.4**		µg/l		20.0		102	70-130		
Methylene chloride	**21.2**		µg/l		20.0		106	70-130		
Styrene	**20.4**		µg/l		20.0		102	70-130		
1,1,2,2-Tetrachloroethane	**22.6**		µg/l		20.0		113	70-130		
Tetrachloroethene	**21.8**		µg/l		20.0		109	70-130		
Toluene	**21.7**		µg/l		20.0		108	70-130		
1,2,4-Trichlorobenzene	**19.3**		µg/l		20.0		96	70-130		
1,1,1-Trichloroethane	**22.3**		µg/l		20.0		111	70-130		
1,1,2-Trichloroethane	**23.3**		µg/l		20.0		117	70-130		
Trichloroethene	**20.7**		µg/l		20.0		104	70-130		
Trichlorofluoromethane (Freon 11)	**22.7**		µg/l		20.0		113	70-130		
Vinyl chloride	**21.8**		µg/l		20.0		109	70-130		
m,p-Xylene	**19.7**		µg/l		20.0		98	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719492 - SW846 5030 Water MS										
LCS (1719492-BS1)					Prepared: 18-Nov-17 Analyzed: 19-Nov-17					
o-Xylene	**20.5**		µg/l		20.0		102	70-130		
Cyclohexane	**22.2**		µg/l		20.0		111	70-130		
Methyl acetate	**16.3**		µg/l		20.0		82	70-130		
Methylcyclohexane	**20.0**		µg/l		20.0		100	70-130		
Surrogate: 4-Bromofluorobenzene	*52.5*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*51.1*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.6*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*49.1*		µg/l		*50.0*		*98*	*70-130*		
LCS Dup (1719492-BSD1)					Prepared: 18-Nov-17 Analyzed: 19-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**19.8**		µg/l		20.0		99	70-130	8	20
Acetone	**23.2**		µg/l		20.0		116	70-130	1	20
Benzene	**20.4**		µg/l		20.0		102	70-130	5	20
Bromodichloromethane	**19.5**		µg/l		20.0		97	70-130	9	20
Bromoform	**20.4**		µg/l		20.0		102	70-130	4	20
Bromomethane	**19.4**		µg/l		20.0		97	70-130	6	20
2-Butanone (MEK)	**19.9**		µg/l		20.0		99	70-130	4	20
Carbon disulfide	**20.3**		µg/l		20.0		101	70-130	10	20
Carbon tetrachloride	**19.9**		µg/l		20.0		99	70-130	6	20
Chlorobenzene	**20.0**		µg/l		20.0		100	70-130	5	20
Chloroethane	**21.3**		µg/l		20.0		107	70-130	5	20
Chloroform	**19.6**		µg/l		20.0		98	70-130	7	20
Chloromethane	**16.8**		µg/l		20.0		84	70-130	10	20
1,2-Dibromo-3-chloropropane	**21.2**		µg/l		20.0		106	70-130	0.2	20
Dibromochloromethane	**20.7**		µg/l		20.0		104	70-130	4	20
1,2-Dibromoethane (EDB)	**20.4**		µg/l		20.0		102	70-130	4	20
1,2-Dichlorobenzene	**20.9**		µg/l		20.0		104	70-130	3	20
1,3-Dichlorobenzene	**18.6**		µg/l		20.0		93	70-130	6	20
1,4-Dichlorobenzene	**19.9**		µg/l		20.0		99	70-130	4	20
Dichlorodifluoromethane (Freon12)	**18.1**		µg/l		20.0		90	70-130	9	20
1,1-Dichloroethane	**20.4**		µg/l		20.0		102	70-130	7	20
1,2-Dichloroethane	**20.4**		µg/l		20.0		102	70-130	4	20
1,1-Dichloroethene	**19.7**		µg/l		20.0		99	70-130	8	20
cis-1,2-Dichloroethene	**18.9**		µg/l		20.0		95	70-130	8	20
trans-1,2-Dichloroethene	**19.6**		µg/l		20.0		98	70-130	7	20
1,2-Dichloropropane	**20.5**		µg/l		20.0		102	70-130	6	20
cis-1,3-Dichloropropene	**18.0**		µg/l		20.0		90	70-130	4	20
trans-1,3-Dichloropropene	**18.6**		µg/l		20.0		93	70-130	0.8	20
Ethylbenzene	**19.3**		µg/l		20.0		97	70-130	6	20
2-Hexanone (MBK)	**19.7**		µg/l		20.0		98	70-130	0.6	20
Isopropylbenzene	**19.2**		µg/l		20.0		96	70-130	6	20
Methyl tert-butyl ether	**22.1**		µg/l		20.0		110	70-130	0.5	20
4-Methyl-2-pentanone (MIBK)	**20.0**		µg/l		20.0		100	70-130	2	20
Methylene chloride	**19.7**		µg/l		20.0		98	70-130	7	20
Styrene	**20.1**		µg/l		20.0		100	70-130	1	20
1,1,2,2-Tetrachloroethane	**22.5**		µg/l		20.0		112	70-130	0.4	20
Tetrachloroethene	**19.6**		µg/l		20.0		98	70-130	10	20
Toluene	**20.6**		µg/l		20.0		103	70-130	5	20
1,2,4-Trichlorobenzene	**19.6**		µg/l		20.0		98	70-130	2	20
1,1,1-Trichloroethane	**20.7**		µg/l		20.0		104	70-130	7	20
1,1,2-Trichloroethane	**21.8**		µg/l		20.0		109	70-130	7	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719492 - SW846 5030 Water MS										
LCS Dup (1719492-BSD1)					Prepared: 18-Nov-17 Analyzed: 19-Nov-17					
Trichloroethene	**19.3**		µg/l		20.0		97	70-130	7	20
Trichlorofluoromethane (Freon 11)	**20.4**		µg/l		20.0		102	70-130	11	20
Vinyl chloride	**18.8**		µg/l		20.0		94	70-130	15	20
m,p-Xylene	**18.6**		µg/l		20.0		93	70-130	5	20
o-Xylene	**19.5**		µg/l		20.0		98	70-130	5	20
Cyclohexane	**20.3**		µg/l		20.0		101	70-130	9	30
Methyl acetate	**15.2**		µg/l		20.0		76	70-130	7	30
Methylcyclohexane	**17.8**		µg/l		20.0		89	70-130	11	30
Surrogate: 4-Bromofluorobenzene	*52.9*		µg/l		*50.0*		*106*	*70-130*		
Surrogate: Toluene-d8	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*49.4*		µg/l		*50.0*		*99*	*70-130*		
Batch 1719512 - SW846 5030 Water MS										
Blank (1719512-BLK1)					Prepared & Analyzed: 20-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00						
Acetone	< 10.0	U	µg/l	10.0						
Benzene	< 1.00	U	µg/l	1.00						
Bromodichloromethane	< 0.50	U	µg/l	0.50						
Bromoform	< 1.00	U	µg/l	1.00						
Bromomethane	< 2.00	U	µg/l	2.00						
2-Butanone (MEK)	< 2.00	U	µg/l	2.00						
Carbon disulfide	< 2.00	U	µg/l	2.00						
Carbon tetrachloride	< 1.00	U	µg/l	1.00						
Chlorobenzene	< 1.00	U	µg/l	1.00						
Chloroethane	< 2.00	U	µg/l	2.00						
Chloroform	< 1.00	U	µg/l	1.00						
Chloromethane	< 2.00	U	µg/l	2.00						
1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00						
Dibromochloromethane	< 0.50	U	µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50						
1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00						
1,1-Dichloroethane	< 1.00	U	µg/l	1.00						
1,2-Dichloroethane	< 1.00	U	µg/l	1.00						
1,1-Dichloroethene	< 1.00	U	µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
1,2-Dichloropropane	< 1.00	U	µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
Ethylbenzene	< 1.00	U	µg/l	1.00						
2-Hexanone (MBK)	< 2.00	U	µg/l	2.00						
Isopropylbenzene	< 1.00	U	µg/l	1.00						
Methyl tert-butyl ether	< 1.00	U	µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00						
Methylene chloride	< 2.00	U	µg/l	2.00						
Styrene	< 1.00	U	µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719512 - SW846 5030 Water MS										
Blank (1719512-BLK1)					Prepared & Analyzed: 20-Nov-17					
Tetrachloroethene	< 1.00	U	µg/l	1.00						
Toluene	< 1.00	U	µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00						
1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00						
1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00						
Trichloroethene	< 1.00	U	µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00						
Vinyl chloride	< 1.00	U	µg/l	1.00						
m,p-Xylene	< 2.00	U	µg/l	2.00						
o-Xylene	< 1.00	U	µg/l	1.00						
Total Xylenes	< 3.00	U	µg/l	3.00						
Cyclohexane	< 5.00	U	µg/l	5.00						
Methyl acetate	< 5.00	U	µg/l	5.00						
Methylcyclohexane	< 5.00	U	µg/l	5.00						
Surrogate: 4-Bromofluorobenzene	*45.2*		µg/l		*50.0*		*90*	*70-130*		
Surrogate: Toluene-d8	*49.1*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.7*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Dibromofluoromethane	*50.3*		µg/l		*50.0*		*101*	*70-130*		
LCS (1719512-BS1)					Prepared & Analyzed: 20-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**21.2**		µg/l		20.0		106	70-130		
Acetone	**19.6**		µg/l		20.0		98	70-130		
Benzene	**21.9**		µg/l		20.0		109	70-130		
Bromodichloromethane	**20.6**		µg/l		20.0		103	70-130		
Bromoform	**21.0**		µg/l		20.0		105	70-130		
Bromomethane	**20.6**		µg/l		20.0		103	70-130		
2-Butanone (MEK)	**18.0**		µg/l		20.0		90	70-130		
Carbon disulfide	**21.5**		µg/l		20.0		108	70-130		
Carbon tetrachloride	**20.5**		µg/l		20.0		102	70-130		
Chlorobenzene	**21.0**		µg/l		20.0		105	70-130		
Chloroethane	**21.9**		µg/l		20.0		109	70-130		
Chloroform	**20.7**		µg/l		20.0		104	70-130		
Chloromethane	**18.1**		µg/l		20.0		91	70-130		
1,2-Dibromo-3-chloropropane	**20.2**		µg/l		20.0		101	70-130		
Dibromochloromethane	**20.6**		µg/l		20.0		103	70-130		
1,2-Dibromoethane (EDB)	**19.8**		µg/l		20.0		99	70-130		
1,2-Dichlorobenzene	**21.7**		µg/l		20.0		108	70-130		
1,3-Dichlorobenzene	**19.9**		µg/l		20.0		100	70-130		
1,4-Dichlorobenzene	**20.8**		µg/l		20.0		104	70-130		
Dichlorodifluoromethane (Freon12)	**18.4**		µg/l		20.0		92	70-130		
1,1-Dichloroethane	**21.3**		µg/l		20.0		106	70-130		
1,2-Dichloroethane	**20.2**		µg/l		20.0		101	70-130		
1,1-Dichloroethene	**20.8**		µg/l		20.0		104	70-130		
cis-1,2-Dichloroethene	**19.7**		µg/l		20.0		99	70-130		
trans-1,2-Dichloroethene	**20.6**		µg/l		20.0		103	70-130		
1,2-Dichloropropane	**21.2**		µg/l		20.0		106	70-130		
cis-1,3-Dichloropropene	**19.1**		µg/l		20.0		96	70-130		
trans-1,3-Dichloropropene	**19.4**		µg/l		20.0		97	70-130		
Ethylbenzene	**20.3**		µg/l		20.0		102	70-130		
2-Hexanone (MBK)	**18.6**		µg/l		20.0		93	70-130		
Isopropylbenzene	**19.8**		µg/l		20.0		99	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719512 - SW846 5030 Water MS										
LCS (1719512-BS1)					Prepared & Analyzed: 20-Nov-17					
Methyl tert-butyl ether	**21.6**		µg/l		20.0		108	70-130		
4-Methyl-2-pentanone (MIBK)	**18.9**		µg/l		20.0		94	70-130		
Methylene chloride	**19.8**		µg/l		20.0		99	70-130		
Styrene	**20.2**		µg/l		20.0		101	70-130		
1,1,2,2-Tetrachloroethane	**22.4**		µg/l		20.0		112	70-130		
Tetrachloroethene	**21.1**		µg/l		20.0		105	70-130		
Toluene	**21.3**		µg/l		20.0		106	70-130		
1,2,4-Trichlorobenzene	**20.3**		µg/l		20.0		101	70-130		
1,1,1-Trichloroethane	**21.5**		µg/l		20.0		107	70-130		
1,1,2-Trichloroethane	**21.9**		µg/l		20.0		109	70-130		
Trichloroethene	**20.4**		µg/l		20.0		102	70-130		
Trichlorofluoromethane (Freon 11)	**21.6**		µg/l		20.0		108	70-130		
Vinyl chloride	**21.9**		µg/l		20.0		110	70-130		
m,p-Xylene	**19.9**		µg/l		20.0		99	70-130		
o-Xylene	**20.0**		µg/l		20.0		100	70-130		
Cyclohexane	**21.7**		µg/l		20.0		109	70-130		
Methyl acetate	**22.6**		µg/l		20.0		113	70-130		
Methylcyclohexane	**19.9**		µg/l		20.0		99	70-130		
Surrogate: 4-Bromofluorobenzene	*52.3*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*50.7*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*47.7*		µg/l		*50.0*		*95*	*70-130*		
Surrogate: Dibromofluoromethane	*48.9*		µg/l		*50.0*		*98*	*70-130*		
LCS Dup (1719512-BSD1)					Prepared & Analyzed: 20-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.1**		µg/l		20.0		101	70-130	5	20
Acetone	**19.8**		µg/l		20.0		99	70-130	1	20
Benzene	**20.4**		µg/l		20.0		102	70-130	7	20
Bromodichloromethane	**19.2**		µg/l		20.0		96	70-130	7	20
Bromoform	**20.2**		µg/l		20.0		101	70-130	4	20
Bromomethane	**20.1**		µg/l		20.0		100	70-130	3	20
2-Butanone (MEK)	**19.2**		µg/l		20.0		96	70-130	7	20
Carbon disulfide	**20.6**		µg/l		20.0		103	70-130	5	20
Carbon tetrachloride	**19.7**		µg/l		20.0		98	70-130	4	20
Chlorobenzene	**19.8**		µg/l		20.0		99	70-130	6	20
Chloroethane	**20.0**		µg/l		20.0		100	70-130	9	20
Chloroform	**19.4**		µg/l		20.0		97	70-130	6	20
Chloromethane	**17.0**		µg/l		20.0		85	70-130	6	20
1,2-Dibromo-3-chloropropane	**19.5**		µg/l		20.0		97	70-130	4	20
Dibromochloromethane	**20.9**		µg/l		20.0		104	70-130	1	20
1,2-Dibromoethane (EDB)	**20.2**		µg/l		20.0		101	70-130	2	20
1,2-Dichlorobenzene	**20.7**		µg/l		20.0		104	70-130	4	20
1,3-Dichlorobenzene	**18.6**		µg/l		20.0		93	70-130	7	20
1,4-Dichlorobenzene	**19.5**		µg/l		20.0		98	70-130	6	20
Dichlorodifluoromethane (Freon12)	**17.3**		µg/l		20.0		86	70-130	6	20
1,1-Dichloroethane	**20.8**		µg/l		20.0		104	70-130	2	20
1,2-Dichloroethane	**19.9**		µg/l		20.0		100	70-130	1	20
1,1-Dichloroethene	**19.9**		µg/l		20.0		99	70-130	4	20
cis-1,2-Dichloroethene	**18.8**		µg/l		20.0		94	70-130	5	20
trans-1,2-Dichloroethene	**19.3**		µg/l		20.0		96	70-130	7	20
1,2-Dichloropropane	**20.3**		µg/l		20.0		101	70-130	5	20
cis-1,3-Dichloropropene	**19.2**		µg/l		20.0		96	70-130	0.6	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719512 - SW846 5030 Water MS										
LCS Dup (1719512-BSD1)					Prepared & Analyzed: 20-Nov-17					
trans-1,3-Dichloropropene	**19.3**		µg/l		20.0		97	70-130	0.4	20
Ethylbenzene	**18.7**		µg/l		20.0		94	70-130	8	20
2-Hexanone (MBK)	**19.2**		µg/l		20.0		96	70-130	3	20
Isopropylbenzene	**18.5**		µg/l		20.0		93	70-130	6	20
Methyl tert-butyl ether	**21.7**		µg/l		20.0		108	70-130	0.6	20
4-Methyl-2-pentanone (MIBK)	**19.4**		µg/l		20.0		97	70-130	3	20
Methylene chloride	**19.4**		µg/l		20.0		97	70-130	2	20
Styrene	**19.6**		µg/l		20.0		98	70-130	3	20
1,1,2,2-Tetrachloroethane	**21.4**		µg/l		20.0		107	70-130	5	20
Tetrachloroethene	**19.8**		µg/l		20.0		99	70-130	6	20
Toluene	**20.4**		µg/l		20.0		102	70-130	4	20
1,2,4-Trichlorobenzene	**19.7**		µg/l		20.0		99	70-130	3	20
1,1,1-Trichloroethane	**20.0**		µg/l		20.0		100	70-130	7	20
1,1,2-Trichloroethane	**21.9**		µg/l		20.0		110	70-130	0.1	20
Trichloroethene	**19.2**		µg/l		20.0		96	70-130	6	20
Trichlorofluoromethane (Freon 11)	**20.1**		µg/l		20.0		100	70-130	7	20
Vinyl chloride	**19.4**		µg/l		20.0		97	70-130	12	20
m,p-Xylene	**18.9**		µg/l		20.0		94	70-130	5	20
o-Xylene	**18.9**		µg/l		20.0		95	70-130	6	20
Cyclohexane	**19.9**		µg/l		20.0		99	70-130	9	30
Methyl acetate	**22.7**		µg/l		20.0		113	70-130	0.6	30
Methylcyclohexane	**18.8**		µg/l		20.0		94	70-130	6	30
Surrogate: 4-Bromofluorobenzene	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.6*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: Dibromofluoromethane	*55.7*		µg/l		*50.0*		*111*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17324008 - METHOD										
Blank (BLK3240B)						Prepared: 20-Nov-17 Analyzed: 03-Dec-17				
Perfluorononanoic acid	**0.4**	Ja	ng/l	1				-		
Perfluorohexanesulfonate	**0.5**	Ja	ng/l	2				-		
Perfluoro-octanesulfonate	< 3	Ua	ng/l	3				-		
Perfluoroheptanoic acid	**0.7**	Ja	ng/l	1				-		
Perfluorobutanesulfonate	**0.6**	Ja	ng/l	1				-		
Perfluorooctanoic acid	**0.7**	Ja	ng/l	1				-		
Surrogate: 13C3-PFBS	*16*		ng/l		*19*		*85*	*26-148*		
Surrogate: 13C8-PFOS	*16*		ng/l		*19*		*86*	*43-115*		
Surrogate: 13C8-PFOA	*19*		ng/l		*20*		*97*	*43-112*		
Surrogate: 13C3-PFHxS	*17*		ng/l		*19*		*91*	*34-126*		
Surrogate: 13C4-PFHpA	*18*		ng/l		*20*		*91*	*35-126*		
Surrogate: 13C9-PFNA	*19*		ng/l		*20*		*95*	*32-134*		
LCS (LCS3248Q)						Prepared: 20-Nov-17 Analyzed: 04-Dec-17				
Perfluoro-octanesulfonate	**6**		ng/l	3	5		116	70-130		
Perfluorobutanesulfonate	**6**		ng/l	1	5		122	70-130		
Perfluorooctanoic acid	**8**		ng/l	1	5		141	70-130		
Perfluoroheptanoic acid	**7**		ng/l	1	5		128	70-130		
Perfluorohexanesulfonate	**6**		ng/l	2	5		120	70-130		
Perfluorononanoic acid	**6**		ng/l	1	5		112	70-130		
Surrogate: 13C9-PFNA	*15*		ng/l		*20*		*74*	*32-134*		
Surrogate: 13C3-PFHxS	*13*		ng/l		*19*		*67*	*34-126*		
Surrogate: 13C4-PFHpA	*13*		ng/l		*20*		*63*	*35-126*		
Surrogate: 13C8-PFOA	*13*		ng/l		*20*		*65*	*43-112*		
Surrogate: 13C8-PFOS	*12*		ng/l		*19*		*61*	*43-115*		
Surrogate: 13C3-PFBS	*13*		ng/l		*19*		*70*	*26-148*		
Matrix Spike Dup (P322960M)						Prepared: 20-Nov-17 Analyzed: 02-Dec-17				
Perfluoroheptanoic acid	**11**		ng/l	2	9	0.9	114	70-130	30	30
Perfluorohexanesulfonate	**10**		ng/l	3	9	0	115	70-130	21	30
Perfluorononanoic acid	**10**	Q1	ng/l	2	9	0	113	70-130	35	30
Perfluoro-octanesulfonate	**9**		ng/l	5	9	0	108	70-130	26	30
Perfluorooctanoic acid	**13**	Q1	ng/l	2	9	1	125	70-130	33	30
Perfluorobutanesulfonate	**11**		ng/l	2	8	1	125	70-130	23	30
Surrogate: 13C8-PFOA	*23*		ng/l		*33*		*68*	*43-112*		
Surrogate: 13C3-PFBS	*25*		ng/l		*31*		*81*	*26-148*		
Surrogate: 13C4-PFHpA	*23*		ng/l		*33*		*68*	*35-126*		
Surrogate: 13C8-PFOS	*22*		ng/l		*32*		*69*	*43-115*		
Surrogate: 13C9-PFNA	*26*		ng/l		*33*		*79*	*32-134*		
Surrogate: 13C3-PFHxS	*23*		ng/l		*32*		*72*	*34-126*		
Matrix Spike (P322960R)						Prepared: 20-Nov-17 Analyzed: 02-Dec-17				
Perfluorohexanesulfonate	**8**		ng/l	2	6	0	125	70-130		
Perfluoroheptanoic acid	**8**		ng/l	1	7	0.9	109	70-130		
Perfluorononanoic acid	**7**		ng/l	1	7	0	107	70-130		
Perfluoro-octanesulfonate	**7**		ng/l	4	6	0	112	70-130		
Perfluorooctanoic acid	**9**		ng/l	1	7	1	115	70-130		
Perfluorobutanesulfonate	**9**		ng/l	1	6	1	129	70-130		
Surrogate: 13C3-PFBS	*20*		ng/l		*23*		*87*	*26-148*		
Surrogate: 13C3-PFHxS	*16*		ng/l		*24*		*66*	*34-126*		
Surrogate: 13C4-PFHpA	*16*		ng/l		*25*		*65*	*35-126*		
Surrogate: 13C8-PFOA	*16*		ng/l		*25*		*65*	*43-112*		

Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17324008 - METHOD										
Matrix Spike (P322960R)						Prepared: 20-Nov-17 Analyzed: 02-Dec-17				
Surrogate: 13C8-PFOS	*17*		ng/l		*24*		*71*	*43-115*		
Surrogate: 13C9-PFNA	*20*		ng/l		*25*		*79*	*32-134*		
SW-846 8270D SIM										
Batch 17319WAR026 - SW-846 3510C										
LCS (P9WRLCSQ)						Prepared: 16-Nov-17 Analyzed: 22-Nov-17				
1,4-Dioxane	**0.47**		ug/l	0.20	1.0		47	28-103		
Surrogate: Fluoranthene-d10	*0.91*		ug/l		*1.0*		*91*	*42-119*		
Surrogate: Benzo(a)pyrene-d12	*0.94*		ug/l		*1.0*		*94*	*39-121*		
Surrogate: 1-Methylnaphthalene-d10	*0.90*		ug/l		*1.0*		*90*	*29-123*		
LCSD (P9WRLCSY)						Prepared: 16-Nov-17 Analyzed: 22-Nov-17				
1,4-Dioxane	**0.52**		ug/l	0.20	1.0		52	28-103	10	30
Surrogate: 1-Methylnaphthalene-d10	*0.95*		ug/l		*1.0*		*95*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.95*		ug/l		*1.0*		*95*	*39-121*		
Surrogate: Fluoranthene-d10	*0.87*		ug/l		*1.0*		*87*	*42-119*		
Blank (PLKWR31B)						Prepared: 16-Nov-17 Analyzed: 22-Nov-17				
1,4-Dioxane	< 0.20	Ua	ug/l	0.20				-		
Surrogate: 1-Methylnaphthalene-d10	*0.76*		ug/l		*1.0*		*76*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.87*		ug/l		*1.0*		*87*	*39-121*		
Surrogate: Fluoranthene-d10	*0.90*		ug/l		*1.0*		*90*	*42-119*		

Notes and Definitions

B	Estimated value - Detected in blank
D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
J	Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
Ja	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
Q1	Outside of specification
U	Analyte included in the analysis, but not detected at or above the MDL.
Ua	
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC 411424 - BY

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☐ Standard TAT - 7 to 10 business days

☐ Rush TAT - Date Needed: AS Per Contract

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: MIKE STEFFAN
Geology + Environment Inc
366 PLEASANTVIEW DR
Lancaster NY 14086
Telephone #: (716) 684-8060
Project Mgr: MIKE STEFFAN

Invoice To: MIKE STEFFAN
G+E
366 PLEASANTVIEW DR
LANCASTER NY 14086
P.O No.: Quote #:

Project No: 10C3074.0011.09
Site Name: MR C's
Location: EAST AURORA State: NY
Sampler(s):

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= NONE 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Compsite

List Preservative Code below: 2 | 11 | 11

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: VOC's	PFAS	1,4 Dioxane	Check if chlorinated
411424-01	TB - 111017	11/10/17	0720	G	W	2				X			☐
02	RW-1 111017	11/10/17	0955	G	GW	3	2		2	X	X	X	☐
03	PW-3 111017	11/10/17	1020	G	GW	3	2		2	X	X	X	☐
04	PW-5 111017	11/10/17	1050	G	GW	3	2		2	X	X	X	☐
05	PW-4 111017	11/10/17	1200	G	GW	3	2		2	X	X	X	☐
06	PW-2 111017	11/10/17	1220	G	GW	3	2		2				☐
													☐
													☐
													☐
													☐

Lauren Rudd 11/10/17

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC
☐ DQA*
☐ ASP A* ☒ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other:
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:
Lauren Rudd		11/10/17	1800
FED-EX	Caralyn Rizzo	11/11/17	10:04

Temp °C: Observed 1.7; Correction Factor 0; Corrected 1.7; IR ID # 1

☐ EDD format:
☐ E-mail to: MSTEFFAN@ENE.COM

Condition upon receipt: Custody Seals: ☒ Present ☒ Intact ☐ Broken
☐ Ambient ☒ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

ORIGIN ID:BUFA (716) 684-8060
ECOLOGY AND ENVIRONMENT

368 PLEASANTVIEW DR

LANCASTER, NY 14086
UNITED STATES US

SHIP DATE: 10NOV17
ACTWGT: 53.70 LB
CAD: 006993854/SSFE1822
DIMS: 24x13x13 IN

BILL THIRD PARTY

TO **SPECTRUM ANALYTICAL**
SAMPLE CUSTODY
11 ALMGREN

AGAWAM MA 01001
(413) 789-9018
INV:
PO:
REF:
DEPT:

FedEx Express

2 of 2
MPS# 0263 7884 1253 6772
Mstr# 7884 1253 6761

SATURDAY 12:00P
PRIORITY OVERNIGHT

0201

XO EHTA

01001
MA-US BDL

FROM
Name: Ecology + Environment Inc. Larry Koedl
Address: 368 Pleasantview Dr.
City, State ZIP code: Lancaster, NY 14086
Phone Number (Must be included): (716) 684-8060

TO
Name: Spectrum Analytical Sample Custody
Company: Spectrum Analytical
Address (No PO Boxes): 11 Almgren
City, State: Agawam MA
ZIP Code: 01001
Phone Number: (413) 789-9018

FedEx

FDXG12
10/01

FROM

Name: Ecology + Environment, Inc.

Address: 368 Pleasantview Dr

City, State ZIP code: Lancaster, NY 14086

Phone Number (Must be Included.): (716) 684-8060

FedEx®

TO

Name: Spectrum Analytical (413) 789-6018

Company: Sample Custody

Address (No PO Boxes): 11 Almgren

City, State: Agawam, MA ZIP Code: 01001

FDXG12
10/01

ORIGIN ID:BUFA (716) 684-8060
ECOLOGY AND ENVIRONMENT
368 PLEASANTVIEW DR
LANCASTER, NY 14086
UNITED STATES US

SHIP DATE: 10NOV17
ACTWGT: 40.90 LB
CAD: 0069985 4/SSFE1822
DIMS: 24x13x13 IN
BILL THIRD PARTY

TO SPECTRUM ANALYTICAL
SAMPLE CUSTODY
11 ALMGREN
AGAWAM MA 01001
(413) 789-6018
INV:
PO:
REF:
DEPT:

FedEx Express

J1721170913O1uv

549J3/FB77/104C

Part # 156297-455 MKE EXP 07/18

1 of 2
TRK# 0201 7884 1253 6761
MASTER

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO EHTA

01001
MA-US BDL

Batch Summary

1719492

Volatile Organic Compounds

1719492-BLK1
1719492-BS1
1719492-BSD1
SC41424-01 (TB-111017)
SC41424-02 (RW-1-111017)
SC41424-03 (PW-3-111017)
SC41424-04 (PW-5-111017)
SC41424-05 (PW-4-111017)

1719512

Volatile Organic Compounds

1719512-BLK1
1719512-BS1
1719512-BSD1
SC41424-06 (PW-2-111017)

17319WAR026

Subcontracted Analyses

P9WRLCSQ
P9WRLCSY
PLKWR31B
SC41424-02 (RW-1-111017)
SC41424-03 (PW-3-111017)
SC41424-04 (PW-5-111017)
SC41424-05 (PW-4-111017)
SC41424-06 (PW-2-111017)

17324008

Subcontracted Analyses

BLK3240B
LCS3248Q
P322960M
P322960R
SC41424-02 (RW-1-111017)
SC41424-03 (PW-3-111017)
SC41424-04 (PW-5-111017)
SC41424-05 (PW-4-111017)
SC41424-06 (PW-2-111017)

S710164

Volatile Organic Compounds

S710164-CAL1
S710164-CAL2
S710164-CAL3
S710164-CAL4
S710164-CAL5
S710164-CAL6
S710164-CAL7
S710164-CAL8
S710164-CAL9
S710164-ICV1
S710164-LCV1
S710164-LCV2
S710164-TUN1

S710187

Volatile Organic Compounds

S710187-CCV1
S710187-TUN1

S710218

Volatile Organic Compounds

S710218-CCV1
S710218-TUN1

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☑ Final Report
☐ Revised Report

Report Date:
15-Dec-17 10:51

Laboratory Report
SC41423

Ecology and Environment, Inc.
368 Pleasant View Drive
Lancaster, NY 14086
Attn: Mike Steffan

Project: Mr. C's Groundwaters
Project #: 10C3074.0011.09

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director

Dawn E Wojcik

Eurofins Spectrum Analytical holds primary NELAC certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 31 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC41423

Project: Mr. C's Groundwaters

Project Number: 10C3074.0011.09

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC41423-01	TB-11917	Water	09-Nov-17 07:20	10-Nov-17 11:08
SC41423-02	EE-2-11917	Ground Water	09-Nov-17 11:35	10-Nov-17 11:08
SC41423-03	PZ-8C-11917	Ground Water	09-Nov-17 09:09	10-Nov-17 11:08
SC41423-04	MPI-4I-11917	Ground Water	09-Nov-17 14:33	10-Nov-17 11:08
SC41423-05	MPI-4S-11917	Ground Water	09-Nov-17 15:55	10-Nov-17 11:08

CASE NARRATIVE:

Data has been reported to the RDL. This report includes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the detection limit are reported as "<" (less than) the detection limit in this report.

The samples were received 1.1 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

EPA 537 modified

Laboratory Control Samples:

LCS3205Q

Outside of specification

Perfluorononanoic acid

Samples:

SC41423-03 *PZ-8C-11917*

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

Perfluorooctanoic acid

SC41423-04 *MPI-4I-11917*

Outside of specification

13C3-PFBS
13C3-PFHxS
13C4-PFHpA
13C8-PFOA
13C8-PFOS
13C9-PFNA

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

Perfluorooctanoic acid

SC41423-05 *MPI-4S-11917*

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

Perfluorobutanesulfonate
Perfluoroheptanoic acid
Perfluorohexanesulfonate
Perfluorononanoic acid
Perfluorooctanoic acid

SW846 8260C

Calibration:

1711037

Analyte quantified by quadratic equation type calibration.

Vinyl chloride

SW846 8260C

Calibration:

1711037

This affected the following samples:

1719670-BLK1
1719670-BS1
1719670-BSD1
MPI-4I-11917
S710164-ICV1
S710302-CCV1
S710302-CCV2

1711038

Analyte quantified by quadratic equation type calibration.

1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
2-Hexanone (MBK)
4-Methyl-2-pentanone (MIBK)
Bromodichloromethane
Bromoform
Bromomethane
cis-1,3-Dichloropropene
Cyclohexane
Dibromochloromethane
Ethylbenzene
Isopropylbenzene
m,p-Xylene
Methyl acetate
Methyl tert-butyl ether
o-Xylene
Styrene
trans-1,3-Dichloropropene

This affected the following samples:

1719490-BLK1
1719490-BS1
1719490-BSD1
1719490-MS1
1719490-MSD1
EE-2-11917
MPI-4I-11917
MPI-4S-11917
PZ-8C-11917
S710171-ICV1
S710185-CCV1
TB-11917

Laboratory Control Samples:

1719490 BSD

Methylene chloride RPD 26% (20%) is outside individual acceptance criteria.

Spikes:

1719490-MS1 *Source: SC41423-02*

SW846 8260C

Spikes:

1719490-MS1 *Source: SC41423-02*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Bromomethane
Carbon disulfide
Tetrachloroethene

1719490-MSD1 *Source: SC41423-02*

RPD out of acceptance range.

Carbon disulfide

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Bromomethane
Methyl acetate

Samples:

S710185-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

Carbon disulfide (30.9%)
Carbon tetrachloride (21.5%)

This affected the following samples:

1719490-BLK1
1719490-BS1
1719490-BSD1
1719490-MS1
1719490-MSD1
EE-2-11917
MPI-4I-11917
MPI-4S-11917
PZ-8C-11917
TB-11917

SC41423-02 *EE-2-11917*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SC41423-04 *MPI-4I-11917*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SC41423-04RE1 *MPI-4I-11917*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Sample Acceptance Check Form

Client:	Ecology and Environment, Inc.
Project:	Mr. C's Groundwaters / 10C3074.0011.09
Work Order:	SC41423
Sample(s) received on:	11/10/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☑	☐	☐
Were custody seals intact?	☑	☐	☐
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC41423-02 **Client ID:** EE-2-11917

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
cis-1,2-Dichloroethene	299	D	10.0	µg/l	SW846 8260C
Methyl tert-butyl ether	15.9	D	10.0	µg/l	SW846 8260C
Tetrachloroethene	640	D	10.0	µg/l	SW846 8260C
Trichloroethene	288	D	10.0	µg/l	SW846 8260C

Lab ID: SC41423-03 **Client ID:** PZ-8C-11917

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorooctanoic acid	2	B	2	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	1.19		1.00	µg/l	SW846 8260C
Methyl tert-butyl ether	33.8		1.00	µg/l	SW846 8260C
trans-1,2-Dichloroethene	0.53	J	1.00	µg/l	SW846 8260C
Vinyl chloride	15.2		1.00	µg/l	SW846 8260C

Lab ID: SC41423-04 **Client ID:** MPI-4I-11917

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorooctanoic acid	0.6	Ja, B	1	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	343	D	5.00	µg/l	SW846 8260C
Methyl tert-butyl ether	331	D	5.00	µg/l	SW846 8260C
Tetrachloroethene	276	D	5.00	µg/l	SW846 8260C
Trichloroethene	62.3	D	5.00	µg/l	SW846 8260C
Vinyl chloride	266	D, E	5.00	µg/l	SW846 8260C

Lab ID: SC41423-04RE1 **Client ID:** MPI-4I-11917

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Vinyl chloride	428	D	10.0	µg/l	SW846 8260C

Lab ID: SC41423-05 **Client ID:** MPI-4S-11917

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	5	B	0.9	ng/l	EPA 537 modified
Perfluoroheptanoic acid	2	B	0.9	ng/l	EPA 537 modified
Perfluorohexanesulfonate	2	Ja, B	2	ng/l	EPA 537 modified
Perfluorononanoic acid	0.3	Ja, B	0.9	ng/l	EPA 537 modified
Perfluoro-octanesulfonate	2	Ja	3	ng/l	EPA 537 modified
Perfluorooctanoic acid	4	B	0.9	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	42.2		1.00	µg/l	SW846 8260C
Methyl tert-butyl ether	0.73	J	1.00	µg/l	SW846 8260C
Tetrachloroethene	4.89		1.00	µg/l	SW846 8260C
Trichloroethene	1.46		1.00	µg/l	SW846 8260C
Vinyl chloride	3.99		1.00	µg/l	SW846 8260C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-11917	10C3074.0011.09	Water	09-Nov-17 07:20	10-Nov-17
SC41423-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	18-Nov-17	19-Nov-17	MP	1719490	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-11917 SC41423-01	10C3074.0011.09	Water	09-Nov-17 07:20	10-Nov-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	18-Nov-17	19-Nov-17	MP	1719490	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*93*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*109*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*106*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
EE-2-11917	10C3074.0011.09	Ground Water	09-Nov-17 11:35	10-Nov-17
SC41423-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 10.0	U, D	µg/l	10.0	5.32	10	SW846 8260C	18-Nov-17	19-Nov-17	MP	1719490	X
67-64-1	Acetone	< 100	U, D	µg/l	100	8.04	10	"	"	"	"	"	X
71-43-2	Benzene	< 10.0	U, D	µg/l	10.0	2.84	10	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 5.00	U, D	µg/l	5.00	4.17	10	"	"	"	"	"	X
75-25-2	Bromoform	< 10.0	U, D	µg/l	10.0	4.25	10	"	"	"	"	"	X
74-83-9	Bromomethane	< 20.0	U, D	µg/l	20.0	8.96	10	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 20.0	U, D	µg/l	20.0	10.7	10	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 20.0	U, D	µg/l	20.0	4.12	10	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 10.0	U, D	µg/l	10.0	4.37	10	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 10.0	U, D	µg/l	10.0	2.49	10	"	"	"	"	"	X
75-00-3	Chloroethane	< 20.0	U, D	µg/l	20.0	5.88	10	"	"	"	"	"	X
67-66-3	Chloroform	< 10.0	U, D	µg/l	10.0	3.26	10	"	"	"	"	"	X
74-87-3	Chloromethane	< 20.0	U, D	µg/l	20.0	3.68	10	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 20.0	U, D	µg/l	20.0	8.63	10	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 5.00	U, D	µg/l	5.00	3.17	10	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 5.00	U, D	µg/l	5.00	2.02	10	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 10.0	U, D	µg/l	10.0	2.77	10	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 10.0	U, D	µg/l	10.0	3.14	10	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 10.0	U, D	µg/l	10.0	2.72	10	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 20.0	U, D	µg/l	20.0	5.84	10	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 10.0	U, D	µg/l	10.0	3.23	10	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 10.0	U, D	µg/l	10.0	2.77	10	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 10.0	U, D	µg/l	10.0	6.93	10	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**299**	D	µg/l	10.0	3.27	10	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 10.0	U, D	µg/l	10.0	3.77	10	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 10.0	U, D	µg/l	10.0	2.92	10	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 5.00	U, D	µg/l	5.00	3.59	10	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 5.00	U, D	µg/l	5.00	3.47	10	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 10.0	U, D	µg/l	10.0	3.29	10	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 20.0	U, D	µg/l	20.0	5.28	10	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 10.0	U, D	µg/l	10.0	3.60	10	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	**15.9**	D	µg/l	10.0	2.37	10	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 20.0	U, D	µg/l	20.0	5.15	10	"	"	"	"	"	X
75-09-2	Methylene chloride	< 20.0	U, D	µg/l	20.0	6.61	10	"	"	"	"	"	X
100-42-5	Styrene	< 10.0	U, D	µg/l	10.0	4.05	10	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 5.00	U, D	µg/l	5.00	3.30	10	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**640**	D	µg/l	10.0	5.70	10	"	"	"	"	"	X
108-88-3	Toluene	< 10.0	U, D	µg/l	10.0	2.99	10	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 10.0	U, D	µg/l	10.0	3.78	10	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 10.0	U, D	µg/l	10.0	5.09	10	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 10.0	U, D	µg/l	10.0	3.30	10	"	"	"	"	"	X
79-01-6	Trichloroethene	**288**	D	µg/l	10.0	4.97	10	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
EE-2-11917	10C3074.0011.09	Ground Water	09-Nov-17 11:35	10-Nov-17
SC41423-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
75-69-4	Trichlorofluoromethane (Freon 11)	< 10.0	U, D	µg/l	10.0	4.87	10	SW846 8260C	18-Nov-17	19-Nov-17	MP	1719490	X
75-01-4	Vinyl chloride	< 10.0	U, D	µg/l	10.0	4.72	10	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 20.0	U, D	µg/l	20.0	3.80	10	"	"	"	"	"	X
95-47-6	o-Xylene	< 10.0	U, D	µg/l	10.0	2.83	10	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 30.0	U, D	µg/l	30.0	30.0	10	"	"	"	"	"	X
110-82-7	Cyclohexane	< 50.0	U, D	µg/l	50.0	7.87	10	"	"	"	"	"	X
79-20-9	Methyl acetate	< 50.0	U, D	µg/l	50.0	6.47	10	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 50.0	U, D	µg/l	50.0	7.42	10	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*92*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*108*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*108*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 7		ng/l	7	2	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 06:40	10670	17320005	
375-73-5	Perfluorobutanesulfonate	< 2		ng/l	2	0.7	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 2		ng/l	2	0.7	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 5		ng/l	5	1	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.7	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	< 2		ng/l	2	0.7	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*84*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*67*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*71*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*77*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*82*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*79*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.21		ug/l	0.21	0.052	1	SW-846 8270D SIM	16-Nov-17 17:10	23-Nov-17 04:38	10670	319WAR0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*85*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*86*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*80*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PZ-8C-11917	10C3074.0011.09	Ground Water	09-Nov-17 09:09	10-Nov-17
SC41423-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	18-Nov-17	19-Nov-17	MP	1719490	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**1.19**		µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	**0.53**	J	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	**33.8**		µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PZ-8C-11917	10C3074.0011.09	Ground Water	09-Nov-17 09:09	10-Nov-17
SC41423-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	18-Nov-17	19-Nov-17	MP	1719490	X
75-01-4	Vinyl chloride	15.2		µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*93*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*106*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*106*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 5		ng/l	5	1	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 07:42	10670	17320005	
375-73-5	Perfluorobutanesulfonate	< 2		ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 3		ng/l	3	0.7	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	2	B	ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*87*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*64*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*71*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*72*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*62*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*64*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.21		ug/l	0.21	0.052	1	SW-846 8270D SIM	16-Nov-17 17:10	23-Nov-17 05:07	10670	319WAR0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*87*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*91*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*92*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-4I-11917	10C3074.0011.09	Ground Water	09-Nov-17 14:33	10-Nov-17
SC41423-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00	U, D	µg/l	5.00	2.66	5	SW846 8260C	18-Nov-17	19-Nov-17	MP	1719490	X
67-64-1	Acetone	< 50.0	U, D	µg/l	50.0	4.02	5	"	"	"	"	"	X
71-43-2	Benzene	< 5.00	U, D	µg/l	5.00	1.42	5	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 2.50	U, D	µg/l	2.50	2.08	5	"	"	"	"	"	X
75-25-2	Bromoform	< 5.00	U, D	µg/l	5.00	2.12	5	"	"	"	"	"	X
74-83-9	Bromomethane	< 10.0	U, D	µg/l	10.0	4.48	5	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0	U, D	µg/l	10.0	5.35	5	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 10.0	U, D	µg/l	10.0	2.06	5	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 5.00	U, D	µg/l	5.00	2.18	5	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 5.00	U, D	µg/l	5.00	1.24	5	"	"	"	"	"	X
75-00-3	Chloroethane	< 10.0	U, D	µg/l	10.0	2.94	5	"	"	"	"	"	X
67-66-3	Chloroform	< 5.00	U, D	µg/l	5.00	1.63	5	"	"	"	"	"	X
74-87-3	Chloromethane	< 10.0	U, D	µg/l	10.0	1.84	5	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0	U, D	µg/l	10.0	4.32	5	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 2.50	U, D	µg/l	2.50	1.58	5	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 2.50	U, D	µg/l	2.50	1.01	5	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 5.00	U, D	µg/l	5.00	1.38	5	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 5.00	U, D	µg/l	5.00	1.57	5	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 5.00	U, D	µg/l	5.00	1.36	5	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0	U, D	µg/l	10.0	2.92	5	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 5.00	U, D	µg/l	5.00	1.62	5	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 5.00	U, D	µg/l	5.00	1.38	5	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 5.00	U, D	µg/l	5.00	3.46	5	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**343**	D	µg/l	5.00	1.64	5	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 5.00	U, D	µg/l	5.00	1.88	5	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 5.00	U, D	µg/l	5.00	1.46	5	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 2.50	U, D	µg/l	2.50	1.80	5	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 2.50	U, D	µg/l	2.50	1.74	5	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 5.00	U, D	µg/l	5.00	1.64	5	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0	U, D	µg/l	10.0	2.64	5	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 5.00	U, D	µg/l	5.00	1.80	5	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	**331**	D	µg/l	5.00	1.18	5	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0	U, D	µg/l	10.0	2.58	5	"	"	"	"	"	X
75-09-2	Methylene chloride	< 10.0	U, D	µg/l	10.0	3.30	5	"	"	"	"	"	X
100-42-5	Styrene	< 5.00	U, D	µg/l	5.00	2.02	5	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 2.50	U, D	µg/l	2.50	1.65	5	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**276**	D	µg/l	5.00	2.85	5	"	"	"	"	"	X
108-88-3	Toluene	< 5.00	U, D	µg/l	5.00	1.50	5	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 5.00	U, D	µg/l	5.00	1.89	5	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 5.00	U, D	µg/l	5.00	2.54	5	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 5.00	U, D	µg/l	5.00	1.65	5	"	"	"	"	"	X
79-01-6	Trichloroethene	**62.3**	D	µg/l	5.00	2.48	5	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-4I-11917	10C3074.0011.09	Ground Water	09-Nov-17 14:33	10-Nov-17
SC41423-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00	U, D	µg/l	5.00	2.44	5	SW846 8260C	18-Nov-17	19-Nov-17	MP	1719490	X
75-01-4	Vinyl chloride	**266**	D, E	µg/l	5.00	2.36	5	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 10.0	U, D	µg/l	10.0	1.90	5	"	"	"	"	"	X
95-47-6	o-Xylene	< 5.00	U, D	µg/l	5.00	1.42	5	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 15.0	U, D	µg/l	15.0	15.0	5	"	"	"	"	"	X
110-82-7	Cyclohexane	< 25.0	U, D	µg/l	25.0	3.94	5	"	"	"	"	"	X
79-20-9	Methyl acetate	< 25.0	U, D	µg/l	25.0	3.24	5	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 25.0	U, D	µg/l	25.0	3.71	5	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*91*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*108*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*108*			*70-130 %*			"	"	"	"	"	
Re-analysis of Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
75-01-4	Vinyl chloride	**428**	D	µg/l	10.0	4.72	10	SW846 8260C	22-Nov-17	22-Nov-17	GMA	1719670	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*91*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*111*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*107*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 4		ng/l	4	1	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 08:02	10670	17320005	
375-73-5	Perfluorobutanesulfonate	< 1		ng/l	1	0.4	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 1		ng/l	1	0.4	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 2		ng/l	2	0.5	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 1		ng/l	1	0.4	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**0.6**	Ja, B	ng/l	1	0.4	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*242*	Q1		*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*176*	Q1		*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*200*	Q1		*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*200*	Q1		*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*189*	Q1		*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*213*	Q1		*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.20		ug/l	0.20	0.050	1	SW-846 8270D SIM	16-Nov-17 17:10	23-Nov-17 05:36	10670	319WAR0	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-4I-11917	10C3074.0011.09	Ground Water	09-Nov-17 14:33	10-Nov-17
SC41423-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Subcontracted Analyses													
Subcontracted Analyses													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
Surrogate recoveries:													
38072-94-5	1-Methylnaphthalene-d10	92			29-123 %			SW-846 8270D SIM	16-Nov-17 17:10	-Nov-17 05:	10670	319WAR0	
63466-71-7	Benzo(a)pyrene-d12	92			39-121 %			"	"	"	"	"	
93951-69-0	Fluoranthene-d10	85			42-119 %			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-4S-11917	10C3074.0011.09	Ground Water	09-Nov-17 15:55	10-Nov-17
SC41423-05				

Volatile Organic Compounds

Volatile Organic Compounds by SW846 8260
Prepared by method SW846 5030 Water MS

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	18-Nov-17	19-Nov-17	MP	1719490	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**42.2**		µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	**0.73**	J	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**4.89**		µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	**1.46**		µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-4S-11917	10C3074.0011.09	Ground Water	09-Nov-17 15:55	10-Nov-17
SC41423-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	18-Nov-17	19-Nov-17	MP	1719490	X
75-01-4	Vinyl chloride	**3.99**		µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*92*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*109*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*108*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	**2**	Ja	ng/l	3	0.7	1	EPA 537 modified	20-Nov-17 14:30	02-Dec-17 09:34	10670	17324008	
375-73-5	Perfluorobutanesulfonate	**5**	B	ng/l	0.9	0.3	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	**2**	B	ng/l	0.9	0.3	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	**2**	Ja, B	ng/l	2	0.4	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	**0.3**	Ja, B	ng/l	0.9	0.3	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**4**	B	ng/l	0.9	0.3	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*140*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*58*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*57*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*56*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*66*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*78*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.20		ug/l	0.20	0.049	1	SW-846 8270D SIM	16-Nov-17 17:10	23-Nov-17 06:05	10670	319WAR0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*90*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*87*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*80*			*42-119 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719490 - SW846 5030 Water MS										
Blank (1719490-BLK1)					Prepared & Analyzed: 18-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00						
Acetone	< 10.0	U	µg/l	10.0						
Benzene	< 1.00	U	µg/l	1.00						
Bromodichloromethane	< 0.50	U	µg/l	0.50						
Bromoform	< 1.00	U	µg/l	1.00						
Bromomethane	< 2.00	U	µg/l	2.00						
2-Butanone (MEK)	< 2.00	U	µg/l	2.00						
Carbon disulfide	< 2.00	U	µg/l	2.00						
Carbon tetrachloride	< 1.00	U	µg/l	1.00						
Chlorobenzene	< 1.00	U	µg/l	1.00						
Chloroethane	< 2.00	U	µg/l	2.00						
Chloroform	< 1.00	U	µg/l	1.00						
Chloromethane	< 2.00	U	µg/l	2.00						
1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00						
Dibromochloromethane	< 0.50	U	µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50						
1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00						
1,1-Dichloroethane	< 1.00	U	µg/l	1.00						
1,2-Dichloroethane	< 1.00	U	µg/l	1.00						
1,1-Dichloroethene	< 1.00	U	µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
1,2-Dichloropropane	< 1.00	U	µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
Ethylbenzene	< 1.00	U	µg/l	1.00						
2-Hexanone (MBK)	< 2.00	U	µg/l	2.00						
Isopropylbenzene	< 1.00	U	µg/l	1.00						
Methyl tert-butyl ether	< 1.00	U	µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00						
Methylene chloride	< 2.00	U	µg/l	2.00						
Styrene	< 1.00	U	µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50						
Tetrachloroethene	< 1.00	U	µg/l	1.00						
Toluene	< 1.00	U	µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00						
1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00						
1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00						
Trichloroethene	< 1.00	U	µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00						
Vinyl chloride	< 1.00	U	µg/l	1.00						
m,p-Xylene	< 2.00	U	µg/l	2.00						
o-Xylene	< 1.00	U	µg/l	1.00						
Total Xylenes	< 3.00	U	µg/l	3.00						
Cyclohexane	< 5.00	U	µg/l	5.00						
Methyl acetate	< 5.00	U	µg/l	5.00						
Methylcyclohexane	< 5.00	U	µg/l	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719490 - SW846 5030 Water MS										
Blank (1719490-BLK1)						Prepared & Analyzed: 18-Nov-17				
Surrogate: 4-Bromofluorobenzene	*46.3*		µg/l		*50.0*		*93*	*70-130*		
Surrogate: Toluene-d8	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*55.4*		µg/l		*50.0*		*111*	*70-130*		
Surrogate: Dibromofluoromethane	*54.2*		µg/l		*50.0*		*108*	*70-130*		
LCS (1719490-BS1)						Prepared & Analyzed: 18-Nov-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.4**		µg/l		20.0		102	70-130		
Acetone	**21.7**		µg/l		20.0		108	70-130		
Benzene	**22.0**		µg/l		20.0		110	70-130		
Bromodichloromethane	**21.2**		µg/l		20.0		106	70-130		
Bromoform	**22.0**		µg/l		20.0		110	70-130		
Bromomethane	**15.4**		µg/l		20.0		77	70-130		
2-Butanone (MEK)	**19.9**		µg/l		20.0		100	70-130		
Carbon disulfide	**24.1**		µg/l		20.0		120	70-130		
Carbon tetrachloride	**22.4**		µg/l		20.0		112	70-130		
Chlorobenzene	**21.2**		µg/l		20.0		106	70-130		
Chloroethane	**20.5**		µg/l		20.0		103	70-130		
Chloroform	**20.4**		µg/l		20.0		102	70-130		
Chloromethane	**22.6**		µg/l		20.0		113	70-130		
1,2-Dibromo-3-chloropropane	**22.4**		µg/l		20.0		112	70-130		
Dibromochloromethane	**21.7**		µg/l		20.0		108	70-130		
1,2-Dibromoethane (EDB)	**22.1**		µg/l		20.0		110	70-130		
1,2-Dichlorobenzene	**21.3**		µg/l		20.0		106	70-130		
1,3-Dichlorobenzene	**21.9**		µg/l		20.0		110	70-130		
1,4-Dichlorobenzene	**20.5**		µg/l		20.0		103	70-130		
Dichlorodifluoromethane (Freon12)	**19.8**		µg/l		20.0		99	70-130		
1,1-Dichloroethane	**21.0**		µg/l		20.0		105	70-130		
1,2-Dichloroethane	**21.0**		µg/l		20.0		105	70-130		
1,1-Dichloroethene	**21.8**		µg/l		20.0		109	70-130		
cis-1,2-Dichloroethene	**22.1**		µg/l		20.0		111	70-130		
trans-1,2-Dichloroethene	**20.3**		µg/l		20.0		102	70-130		
1,2-Dichloropropane	**21.4**		µg/l		20.0		107	70-130		
cis-1,3-Dichloropropene	**20.0**		µg/l		20.0		100	70-130		
trans-1,3-Dichloropropene	**20.6**		µg/l		20.0		103	70-130		
Ethylbenzene	**20.1**		µg/l		20.0		101	70-130		
2-Hexanone (MBK)	**20.9**		µg/l		20.0		105	70-130		
Isopropylbenzene	**20.2**		µg/l		20.0		101	70-130		
Methyl tert-butyl ether	**20.6**		µg/l		20.0		103	70-130		
4-Methyl-2-pentanone (MIBK)	**21.4**		µg/l		20.0		107	70-130		
Methylene chloride	**18.6**		µg/l		20.0		93	70-130		
Styrene	**20.2**		µg/l		20.0		101	70-130		
1,1,2,2-Tetrachloroethane	**23.0**		µg/l		20.0		115	70-130		
Tetrachloroethene	**18.2**		µg/l		20.0		91	70-130		
Toluene	**21.2**		µg/l		20.0		106	70-130		
1,2,4-Trichlorobenzene	**19.2**		µg/l		20.0		96	70-130		
1,1,1-Trichloroethane	**21.2**		µg/l		20.0		106	70-130		
1,1,2-Trichloroethane	**21.9**		µg/l		20.0		110	70-130		
Trichloroethene	**21.2**		µg/l		20.0		106	70-130		
Trichlorofluoromethane (Freon 11)	**21.2**		µg/l		20.0		106	70-130		
Vinyl chloride	**19.5**		µg/l		20.0		98	70-130		
m,p-Xylene	**20.1**		µg/l		20.0		101	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719490 - SW846 5030 Water MS										
LCS (1719490-BS1)						Prepared & Analyzed: 18-Nov-17				
o-Xylene	**20.8**		µg/l		20.0		104	70-130		
Cyclohexane	**20.3**		µg/l		20.0		102	70-130		
Methyl acetate	**18.0**		µg/l		20.0		90	70-130		
Methylcyclohexane	**17.8**		µg/l		20.0		89	70-130		
Surrogate: 4-Bromofluorobenzene	*51.8*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.0*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*49.8*		µg/l		*50.0*		*100*	*70-130*		
LCS Dup (1719490-BSD1)						Prepared & Analyzed: 18-Nov-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**22.5**		µg/l		20.0		113	70-130	10	20
Acetone	**22.4**		µg/l		20.0		112	70-130	3	20
Benzene	**22.8**		µg/l		20.0		114	70-130	4	20
Bromodichloromethane	**22.4**		µg/l		20.0		112	70-130	5	20
Bromoform	**22.8**		µg/l		20.0		114	70-130	4	20
Bromomethane	**15.5**		µg/l		20.0		78	70-130	1	20
2-Butanone (MEK)	**20.7**		µg/l		20.0		104	70-130	4	20
Carbon disulfide	**24.8**		µg/l		20.0		124	70-130	3	20
Carbon tetrachloride	**23.3**		µg/l		20.0		116	70-130	4	20
Chlorobenzene	**22.2**		µg/l		20.0		111	70-130	5	20
Chloroethane	**21.0**		µg/l		20.0		105	70-130	2	20
Chloroform	**21.4**		µg/l		20.0		107	70-130	5	20
Chloromethane	**23.1**		µg/l		20.0		116	70-130	2	20
1,2-Dibromo-3-chloropropane	**23.5**		µg/l		20.0		117	70-130	5	20
Dibromochloromethane	**22.6**		µg/l		20.0		113	70-130	4	20
1,2-Dibromoethane (EDB)	**23.3**		µg/l		20.0		116	70-130	5	20
1,2-Dichlorobenzene	**22.2**		µg/l		20.0		111	70-130	4	20
1,3-Dichlorobenzene	**23.0**		µg/l		20.0		115	70-130	5	20
1,4-Dichlorobenzene	**21.6**		µg/l		20.0		108	70-130	5	20
Dichlorodifluoromethane (Freon12)	**20.4**		µg/l		20.0		102	70-130	3	20
1,1-Dichloroethane	**21.9**		µg/l		20.0		110	70-130	4	20
1,2-Dichloroethane	**21.9**		µg/l		20.0		109	70-130	4	20
1,1-Dichloroethene	**22.8**		µg/l		20.0		114	70-130	4	20
cis-1,2-Dichloroethene	**22.8**		µg/l		20.0		114	70-130	3	20
trans-1,2-Dichloroethene	**21.5**		µg/l		20.0		108	70-130	6	20
1,2-Dichloropropane	**22.2**		µg/l		20.0		111	70-130	4	20
cis-1,3-Dichloropropene	**20.9**		µg/l		20.0		104	70-130	4	20
trans-1,3-Dichloropropene	**21.3**		µg/l		20.0		107	70-130	3	20
Ethylbenzene	**21.0**		µg/l		20.0		105	70-130	4	20
2-Hexanone (MBK)	**22.2**		µg/l		20.0		111	70-130	6	20
Isopropylbenzene	**21.3**		µg/l		20.0		106	70-130	5	20
Methyl tert-butyl ether	**21.7**		µg/l		20.0		108	70-130	5	20
4-Methyl-2-pentanone (MIBK)	**22.8**		µg/l		20.0		114	70-130	6	20
Methylene chloride	**24.2**	QR2	µg/l		20.0		121	70-130	26	20
Styrene	**21.0**		µg/l		20.0		105	70-130	4	20
1,1,2,2-Tetrachloroethane	**24.3**		µg/l		20.0		122	70-130	6	20
Tetrachloroethene	**18.8**		µg/l		20.0		94	70-130	4	20
Toluene	**22.0**		µg/l		20.0		110	70-130	4	20
1,2,4-Trichlorobenzene	**20.5**		µg/l		20.0		103	70-130	7	20
1,1,1-Trichloroethane	**21.8**		µg/l		20.0		109	70-130	3	20
1,1,2-Trichloroethane	**23.2**		µg/l		20.0		116	70-130	6	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719490 - SW846 5030 Water MS										
LCS Dup (1719490-BSD1)					Prepared & Analyzed: 18-Nov-17					
Trichloroethene	**21.8**		µg/l		20.0		109	70-130	3	20
Trichlorofluoromethane (Freon 11)	**21.9**		µg/l		20.0		110	70-130	3	20
Vinyl chloride	**20.2**		µg/l		20.0		101	70-130	3	20
m,p-Xylene	**21.4**		µg/l		20.0		107	70-130	6	20
o-Xylene	**21.7**		µg/l		20.0		108	70-130	4	20
Cyclohexane	**21.1**		µg/l		20.0		106	70-130	4	30
Methyl acetate	**19.1**		µg/l		20.0		95	70-130	6	30
Methylcyclohexane	**18.5**		µg/l		20.0		93	70-130	4	30
Surrogate: 4-Bromofluorobenzene	*52.4*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.5*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: Dibromofluoromethane	*49.8*		µg/l		*50.0*		*100*	*70-130*		
Matrix Spike (1719490-MS1)			**Source: SC41423-02**		Prepared & Analyzed: 18-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**18.2**	D	µg/l		20.0	0.00	91	70-130		
Acetone	**22.0**	D	µg/l		20.0	0.00	110	70-130		
Benzene	**19.3**	D	µg/l		20.0	0.00	96	70-130		
Bromodichloromethane	**19.8**	D	µg/l		20.0	0.00	99	70-130		
Bromoform	**20.4**	D	µg/l		20.0	0.00	102	70-130		
Bromomethane	**10.0**	QM7, D	µg/l		20.0	0.00	50	70-130		
2-Butanone (MEK)	**18.1**	D	µg/l		20.0	0.00	91	70-130		
Carbon disulfide	**12.4**	QM7, D	µg/l		20.0	0.00	62	70-130		
Carbon tetrachloride	**19.6**	D	µg/l		20.0	0.00	98	70-130		
Chlorobenzene	**19.5**	D	µg/l		20.0	0.00	98	70-130		
Chloroethane	**16.3**	D	µg/l		20.0	0.00	82	70-130		
Chloroform	**19.1**	D	µg/l		20.0	0.00	95	70-130		
Chloromethane	**15.8**	D	µg/l		20.0	0.00	79	70-130		
1,2-Dibromo-3-chloropropane	**20.4**	D	µg/l		20.0	0.00	102	70-130		
Dibromochloromethane	**20.2**	D	µg/l		20.0	0.00	101	70-130		
1,2-Dibromoethane (EDB)	**20.2**	D	µg/l		20.0	0.00	101	70-130		
1,2-Dichlorobenzene	**20.4**	D	µg/l		20.0	0.00	102	70-130		
1,3-Dichlorobenzene	**20.8**	D	µg/l		20.0	0.00	104	70-130		
1,4-Dichlorobenzene	**19.7**	D	µg/l		20.0	0.00	99	70-130		
Dichlorodifluoromethane (Freon12)	**15.0**	D	µg/l		20.0	0.00	75	70-130		
1,1-Dichloroethane	**19.1**	D	µg/l		20.0	0.00	95	70-130		
1,2-Dichloroethane	**18.9**	D	µg/l		20.0	0.00	94	70-130		
1,1-Dichloroethene	**19.6**	D	µg/l		20.0	0.00	98	70-130		
cis-1,2-Dichloroethene	**51.1**	D	µg/l		20.0	29.9	106	70-130		
trans-1,2-Dichloroethene	**17.9**	D	µg/l		20.0	0.29	88	70-130		
1,2-Dichloropropane	**19.4**	D	µg/l		20.0	0.00	97	70-130		
cis-1,3-Dichloropropene	**18.7**	D	µg/l		20.0	0.00	93	70-130		
trans-1,3-Dichloropropene	**19.1**	D	µg/l		20.0	0.00	95	70-130		
Ethylbenzene	**18.8**	D	µg/l		20.0	0.00	94	70-130		
2-Hexanone (MBK)	**19.6**	D	µg/l		20.0	0.00	98	70-130		
Isopropylbenzene	**19.0**	D	µg/l		20.0	0.00	95	70-130		
Methyl tert-butyl ether	**21.1**	D	µg/l		20.0	1.59	98	70-130		
4-Methyl-2-pentanone (MIBK)	**19.8**	D	µg/l		20.0	0.00	99	70-130		
Methylene chloride	**18.0**	D	µg/l		20.0	0.00	90	70-130		
Styrene	**19.1**	D	µg/l		20.0	0.00	95	70-130		
1,1,2,2-Tetrachloroethane	**21.2**	D	µg/l		20.0	0.00	106	70-130		
Tetrachloroethene	**77.0**	QM7, D	µg/l		20.0	64.0	65	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719490 - SW846 5030 Water MS										
Matrix Spike (1719490-MS1)			**Source: SC41423-02**		Prepared & Analyzed: 18-Nov-17					
Toluene	**18.9**	D	µg/l		20.0	0.00	95	70-130		
1,2,4-Trichlorobenzene	**19.1**	D	µg/l		20.0	0.00	96	70-130		
1,1,1-Trichloroethane	**18.9**	D	µg/l		20.0	0.00	94	70-130		
1,1,2-Trichloroethane	**20.3**	D	µg/l		20.0	0.00	101	70-130		
Trichloroethene	**46.3**	D	µg/l		20.0	28.8	88	70-130		
Trichlorofluoromethane (Freon 11)	**17.9**	D	µg/l		20.0	0.00	89	70-130		
Vinyl chloride	**14.8**	D	µg/l		20.0	0.00	74	70-130		
m,p-Xylene	**18.6**	D	µg/l		20.0	0.00	93	70-130		
o-Xylene	**19.0**	D	µg/l		20.0	0.00	95	70-130		
Cyclohexane	**15.9**	D	µg/l		20.0	0.00	80	70-130		
Methyl acetate	**19.5**	D	µg/l		20.0	0.00	98	70-130		
Methylcyclohexane	**14.7**	D	µg/l		20.0	0.00	74	70-130		
Surrogate: 4-Bromofluorobenzene	*51.6*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*50.0*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.4*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: Dibromofluoromethane	*49.8*		µg/l		*50.0*		*100*	*70-130*		
Matrix Spike Dup (1719490-MSD1)			**Source: SC41423-02**		Prepared & Analyzed: 18-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.8**	D	µg/l		20.0	0.00	104	70-130	14	20
Acetone	**21.2**	D	µg/l		20.0	0.00	106	70-130	4	20
Benzene	**21.1**	D	µg/l		20.0	0.00	105	70-130	9	20
Bromodichloromethane	**21.7**	D	µg/l		20.0	0.00	109	70-130	9	20
Bromoform	**22.1**	D	µg/l		20.0	0.00	110	70-130	8	20
Bromomethane	**12.2**	QM7, D	µg/l		20.0	0.00	61	70-130	19	20
2-Butanone (MEK)	**20.6**	D	µg/l		20.0	0.00	103	70-130	13	20
Carbon disulfide	**15.7**	QR5, D	µg/l		20.0	0.00	78	70-130	24	20
Carbon tetrachloride	**21.8**	D	µg/l		20.0	0.00	109	70-130	10	20
Chlorobenzene	**21.2**	D	µg/l		20.0	0.00	106	70-130	8	20
Chloroethane	**17.8**	D	µg/l		20.0	0.00	89	70-130	9	20
Chloroform	**20.6**	D	µg/l		20.0	0.00	103	70-130	8	20
Chloromethane	**16.9**	D	µg/l		20.0	0.00	84	70-130	7	20
1,2-Dibromo-3-chloropropane	**22.8**	D	µg/l		20.0	0.00	114	70-130	11	20
Dibromochloromethane	**21.7**	D	µg/l		20.0	0.00	109	70-130	7	20
1,2-Dibromoethane (EDB)	**21.9**	D	µg/l		20.0	0.00	110	70-130	8	20
1,2-Dichlorobenzene	**22.0**	D	µg/l		20.0	0.00	110	70-130	8	20
1,3-Dichlorobenzene	**22.1**	D	µg/l		20.0	0.00	110	70-130	6	20
1,4-Dichlorobenzene	**21.1**	D	µg/l		20.0	0.00	105	70-130	7	20
Dichlorodifluoromethane (Freon12)	**16.3**	D	µg/l		20.0	0.00	82	70-130	9	20
1,1-Dichloroethane	**20.8**	D	µg/l		20.0	0.00	104	70-130	8	20
1,2-Dichloroethane	**20.2**	D	µg/l		20.0	0.00	101	70-130	7	20
1,1-Dichloroethene	**19.8**	D	µg/l		20.0	0.00	99	70-130	1	20
cis-1,2-Dichloroethene	**53.1**	D	µg/l		20.0	29.9	116	70-130	4	20
trans-1,2-Dichloroethene	**19.5**	D	µg/l		20.0	0.29	96	70-130	9	20
1,2-Dichloropropane	**21.6**	D	µg/l		20.0	0.00	108	70-130	11	20
cis-1,3-Dichloropropene	**20.4**	D	µg/l		20.0	0.00	102	70-130	9	20
trans-1,3-Dichloropropene	**20.9**	D	µg/l		20.0	0.00	104	70-130	9	20
Ethylbenzene	**20.5**	D	µg/l		20.0	0.00	103	70-130	9	20
2-Hexanone (MBK)	**22.2**	D	µg/l		20.0	0.00	111	70-130	12	20
Isopropylbenzene	**20.9**	D	µg/l		20.0	0.00	104	70-130	9	20
Methyl tert-butyl ether	**22.8**	D	µg/l		20.0	1.59	106	70-130	8	20
4-Methyl-2-pentanone (MIBK)	**21.7**	D	µg/l		20.0	0.00	109	70-130	9	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719490 - SW846 5030 Water MS										
Matrix Spike Dup (1719490-MSD1)			**Source: SC41423-02**		Prepared & Analyzed: 18-Nov-17					
Methylene chloride	**17.8**	D	µg/l		20.0	0.00	89	70-130	1	20
Styrene	**21.0**	D	µg/l		20.0	0.00	105	70-130	10	20
1,1,2,2-Tetrachloroethane	**23.1**	D	µg/l		20.0	0.00	116	70-130	9	20
Tetrachloroethene	**79.3**	D	µg/l		20.0	64.0	77	70-130	3	20
Toluene	**20.8**	D	µg/l		20.0	0.00	104	70-130	9	20
1,2,4-Trichlorobenzene	**20.8**	D	µg/l		20.0	0.00	104	70-130	8	20
1,1,1-Trichloroethane	**21.0**	D	µg/l		20.0	0.00	105	70-130	11	20
1,1,2-Trichloroethane	**22.4**	D	µg/l		20.0	0.00	112	70-130	10	20
Trichloroethene	**49.4**	D	µg/l		20.0	28.8	103	70-130	6	20
Trichlorofluoromethane (Freon 11)	**19.3**	D	µg/l		20.0	0.00	97	70-130	8	20
Vinyl chloride	**16.0**	D	µg/l		20.0	0.00	80	70-130	7	20
m,p-Xylene	**20.7**	D	µg/l		20.0	0.00	104	70-130	11	20
o-Xylene	**20.7**	D	µg/l		20.0	0.00	103	70-130	8	20
Cyclohexane	**17.9**	D	µg/l		20.0	0.00	90	70-130	12	30
Methyl acetate	**26.2**	QM7, D	µg/l		20.0	0.00	131	70-130	29	30
Methylcyclohexane	**16.4**	D	µg/l		20.0	0.00	82	70-130	11	30
Surrogate: 4-Bromofluorobenzene	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*50.1*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.1*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Dibromofluoromethane	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Batch 1719670 - SW846 5030 Water MS										
Blank (1719670-BLK1)					Prepared & Analyzed: 22-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00						
Acetone	< 10.0	U	µg/l	10.0						
Benzene	< 1.00	U	µg/l	1.00						
Bromodichloromethane	< 0.50	U	µg/l	0.50						
Bromoform	< 1.00	U	µg/l	1.00						
Bromomethane	< 2.00	U	µg/l	2.00						
2-Butanone (MEK)	< 2.00	U	µg/l	2.00						
Carbon disulfide	< 2.00	U	µg/l	2.00						
Carbon tetrachloride	< 1.00	U	µg/l	1.00						
Chlorobenzene	< 1.00	U	µg/l	1.00						
Chloroethane	< 2.00	U	µg/l	2.00						
Chloroform	< 1.00	U	µg/l	1.00						
Chloromethane	< 2.00	U	µg/l	2.00						
1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00						
Dibromochloromethane	< 0.50	U	µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50						
1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00						
1,1-Dichloroethane	< 1.00	U	µg/l	1.00						
1,2-Dichloroethane	< 1.00	U	µg/l	1.00						
1,1-Dichloroethene	< 1.00	U	µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
1,2-Dichloropropane	< 1.00	U	µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719670 - SW846 5030 Water MS										
Blank (1719670-BLK1)					Prepared & Analyzed: 22-Nov-17					
Ethylbenzene	< 1.00	U	µg/l	1.00						
2-Hexanone (MBK)	< 2.00	U	µg/l	2.00						
Isopropylbenzene	< 1.00	U	µg/l	1.00						
Methyl tert-butyl ether	< 1.00	U	µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00						
Methylene chloride	< 2.00	U	µg/l	2.00						
Styrene	< 1.00	U	µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50						
Tetrachloroethene	< 1.00	U	µg/l	1.00						
Toluene	< 1.00	U	µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00						
1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00						
1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00						
Trichloroethene	< 1.00	U	µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00						
Vinyl chloride	< 1.00	U	µg/l	1.00						
m,p-Xylene	< 2.00	U	µg/l	2.00						
o-Xylene	< 1.00	U	µg/l	1.00						
Total Xylenes	< 3.00	U	µg/l	3.00						
Cyclohexane	< 5.00	U	µg/l	5.00						
Methyl acetate	< 5.00	U	µg/l	5.00						
Methylcyclohexane	< 5.00	U	µg/l	5.00						
Surrogate: 4-Bromofluorobenzene	*43.5*		µg/l		*50.0*		*87*	*70-130*		
Surrogate: Toluene-d8	*48.8*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.4*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*54.4*		µg/l		*50.0*		*109*	*70-130*		
LCS (1719670-BS1)					Prepared & Analyzed: 22-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**23.9**		µg/l		20.0		120	70-130		
Acetone	**20.4**		µg/l		20.0		102	70-130		
Benzene	**23.3**		µg/l		20.0		117	70-130		
Bromodichloromethane	**22.0**		µg/l		20.0		110	70-130		
Bromoform	**21.4**		µg/l		20.0		107	70-130		
Bromomethane	**22.5**		µg/l		20.0		113	70-130		
2-Butanone (MEK)	**19.4**		µg/l		20.0		97	70-130		
Carbon disulfide	**23.9**		µg/l		20.0		119	70-130		
Carbon tetrachloride	**23.1**		µg/l		20.0		116	70-130		
Chlorobenzene	**21.8**		µg/l		20.0		109	70-130		
Chloroethane	**23.8**		µg/l		20.0		119	70-130		
Chloroform	**22.6**		µg/l		20.0		113	70-130		
Chloromethane	**20.6**		µg/l		20.0		103	70-130		
1,2-Dibromo-3-chloropropane	**20.5**		µg/l		20.0		102	70-130		
Dibromochloromethane	**21.6**		µg/l		20.0		108	70-130		
1,2-Dibromoethane (EDB)	**20.9**		µg/l		20.0		104	70-130		
1,2-Dichlorobenzene	**21.3**		µg/l		20.0		106	70-130		
1,3-Dichlorobenzene	**20.4**		µg/l		20.0		102	70-130		
1,4-Dichlorobenzene	**20.8**		µg/l		20.0		104	70-130		
Dichlorodifluoromethane (Freon12)	**19.3**		µg/l		20.0		96	70-130		
1,1-Dichloroethane	**23.4**		µg/l		20.0		117	70-130		
1,2-Dichloroethane	**21.9**		µg/l		20.0		110	70-130		
1,1-Dichloroethene	**22.9**		µg/l		20.0		115	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719670 - SW846 5030 Water MS										
LCS (1719670-BS1)					Prepared & Analyzed: 22-Nov-17					
cis-1,2-Dichloroethene	**22.0**		µg/l		20.0		110	70-130		
trans-1,2-Dichloroethene	**22.2**		µg/l		20.0		111	70-130		
1,2-Dichloropropane	**22.1**		µg/l		20.0		110	70-130		
cis-1,3-Dichloropropene	**19.8**		µg/l		20.0		99	70-130		
trans-1,3-Dichloropropene	**20.0**		µg/l		20.0		100	70-130		
Ethylbenzene	**20.9**		µg/l		20.0		105	70-130		
2-Hexanone (MBK)	**18.5**		µg/l		20.0		93	70-130		
Isopropylbenzene	**20.9**		µg/l		20.0		104	70-130		
Methyl tert-butyl ether	**22.2**		µg/l		20.0		111	70-130		
4-Methyl-2-pentanone (MIBK)	**19.0**		µg/l		20.0		95	70-130		
Methylene chloride	**22.0**		µg/l		20.0		110	70-130		
Styrene	**21.0**		µg/l		20.0		105	70-130		
1,1,2,2-Tetrachloroethane	**23.4**		µg/l		20.0		117	70-130		
Tetrachloroethene	**22.6**		µg/l		20.0		113	70-130		
Toluene	**23.5**		µg/l		20.0		117	70-130		
1,2,4-Trichlorobenzene	**20.0**		µg/l		20.0		100	70-130		
1,1,1-Trichloroethane	**23.5**		µg/l		20.0		117	70-130		
1,1,2-Trichloroethane	**23.0**		µg/l		20.0		115	70-130		
Trichloroethene	**21.8**		µg/l		20.0		109	70-130		
Trichlorofluoromethane (Freon 11)	**23.7**		µg/l		20.0		118	70-130		
Vinyl chloride	**23.8**		µg/l		20.0		119	70-130		
m,p-Xylene	**20.7**		µg/l		20.0		104	70-130		
o-Xylene	**21.2**		µg/l		20.0		106	70-130		
Cyclohexane	**22.8**		µg/l		20.0		114	70-130		
Methyl acetate	**23.4**		µg/l		20.0		117	70-130		
Methylcyclohexane	**21.2**		µg/l		20.0		106	70-130		
Surrogate: 4-Bromofluorobenzene	*52.3*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*50.8*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*54.1*		µg/l		*50.0*		*108*	*70-130*		
LCS Dup (1719670-BSD1)					Prepared & Analyzed: 22-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**22.8**		µg/l		20.0		114	70-130	5	20
Acetone	**21.3**		µg/l		20.0		107	70-130	5	20
Benzene	**22.2**		µg/l		20.0		111	70-130	5	20
Bromodichloromethane	**21.5**		µg/l		20.0		108	70-130	2	20
Bromoform	**21.4**		µg/l		20.0		107	70-130	0.2	20
Bromomethane	**22.9**		µg/l		20.0		114	70-130	2	20
2-Butanone (MEK)	**20.4**		µg/l		20.0		102	70-130	5	20
Carbon disulfide	**22.8**		µg/l		20.0		114	70-130	5	20
Carbon tetrachloride	**21.8**		µg/l		20.0		109	70-130	6	20
Chlorobenzene	**20.9**		µg/l		20.0		105	70-130	4	20
Chloroethane	**24.0**		µg/l		20.0		120	70-130	1	20
Chloroform	**21.8**		µg/l		20.0		109	70-130	4	20
Chloromethane	**20.0**		µg/l		20.0		100	70-130	3	20
1,2-Dibromo-3-chloropropane	**20.7**		µg/l		20.0		104	70-130	1	20
Dibromochloromethane	**22.2**		µg/l		20.0		111	70-130	3	20
1,2-Dibromoethane (EDB)	**21.1**		µg/l		20.0		105	70-130	1	20
1,2-Dichlorobenzene	**21.9**		µg/l		20.0		109	70-130	3	20
1,3-Dichlorobenzene	**21.5**		µg/l		20.0		108	70-130	5	20
1,4-Dichlorobenzene	**20.8**		µg/l		20.0		104	70-130	0.1	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719670 - SW846 5030 Water MS										
LCS Dup (1719670-BSD1)					Prepared & Analyzed: 22-Nov-17					
Dichlorodifluoromethane (Freon12)	**20.0**		µg/l		20.0		100	70-130	4	20
1,1-Dichloroethane	**23.1**		µg/l		20.0		115	70-130	1	20
1,2-Dichloroethane	**21.5**		µg/l		20.0		108	70-130	2	20
1,1-Dichloroethene	**22.2**		µg/l		20.0		111	70-130	3	20
cis-1,2-Dichloroethene	**21.6**		µg/l		20.0		108	70-130	2	20
trans-1,2-Dichloroethene	**21.8**		µg/l		20.0		109	70-130	2	20
1,2-Dichloropropane	**22.0**		µg/l		20.0		110	70-130	0.2	20
cis-1,3-Dichloropropene	**19.9**		µg/l		20.0		100	70-130	0.6	20
trans-1,3-Dichloropropene	**20.4**		µg/l		20.0		102	70-130	2	20
Ethylbenzene	**20.3**		µg/l		20.0		102	70-130	3	20
2-Hexanone (MBK)	**20.0**		µg/l		20.0		100	70-130	8	20
Isopropylbenzene	**20.4**		µg/l		20.0		102	70-130	2	20
Methyl tert-butyl ether	**22.8**		µg/l		20.0		114	70-130	2	20
4-Methyl-2-pentanone (MIBK)	**20.3**		µg/l		20.0		101	70-130	6	20
Methylene chloride	**21.8**		µg/l		20.0		109	70-130	1	20
Styrene	**21.0**		µg/l		20.0		105	70-130	0.05	20
1,1,2,2-Tetrachloroethane	**23.4**		µg/l		20.0		117	70-130	0.3	20
Tetrachloroethene	**21.8**		µg/l		20.0		109	70-130	4	20
Toluene	**22.2**		µg/l		20.0		111	70-130	6	20
1,2,4-Trichlorobenzene	**20.2**		µg/l		20.0		101	70-130	0.8	20
1,1,1-Trichloroethane	**22.0**		µg/l		20.0		110	70-130	7	20
1,1,2-Trichloroethane	**22.5**		µg/l		20.0		113	70-130	2	20
Trichloroethene	**21.0**		µg/l		20.0		105	70-130	4	20
Trichlorofluoromethane (Freon 11)	**23.1**		µg/l		20.0		115	70-130	3	20
Vinyl chloride	**23.1**		µg/l		20.0		116	70-130	3	20
m,p-Xylene	**20.0**		µg/l		20.0		100	70-130	3	20
o-Xylene	**20.6**		µg/l		20.0		103	70-130	3	20
Cyclohexane	**22.0**		µg/l		20.0		110	70-130	3	30
Methyl acetate	**23.1**		µg/l		20.0		115	70-130	2	30
Methylcyclohexane	**20.7**		µg/l		20.0		104	70-130	2	30
Surrogate: 4-Bromofluorobenzene	*53.8*		µg/l		*50.0*		*108*	*70-130*		
Surrogate: Toluene-d8	*51.9*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*50.3*		µg/l		*50.0*		*101*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17320005 - METHOD										
Blank (BLK3200B)						Prepared: 16-Nov-17 Analyzed: 22-Nov-17				
Perfluoroheptanoic acid	< 1	Ua	ng/l	1				-		
Perfluorobutanesulfonate	< 1	Ua	ng/l	1				-		
Perfluorooctanoic acid	**0.8**	Ja	ng/l	1				-		
Perfluoro-octanesulfonate	< 3	Ua	ng/l	3				-		
Perfluorohexanesulfonate	< 2	Ua	ng/l	2				-		
Perfluorononanoic acid	< 1	Ua	ng/l	1				-		
Surrogate: 13C8-PFOS	*15*		ng/l		*19*		*77*	*43-115*		
Surrogate: 13C8-PFOA	*16*		ng/l		*20*		*80*	*43-112*		
Surrogate: 13C3-PFBS	*15*		ng/l		*19*		*79*	*26-148*		
Surrogate: 13C4-PFHpA	*17*		ng/l		*20*		*85*	*35-126*		
Surrogate: 13C3-PFHxS	*16*		ng/l		*19*		*83*	*34-126*		
Surrogate: 13C9-PFNA	*17*		ng/l		*20*		*86*	*32-134*		
LCS (LCS3205Q)						Prepared: 16-Nov-17 Analyzed: 22-Nov-17				
Perfluorobutanesulfonate	**6**		ng/l	1	5		116	70-130		
Perfluorooctanoic acid	**6**		ng/l	1	5		117	70-130		
Perfluoro-octanesulfonate	**6**		ng/l	3	5		113	70-130		
Perfluorononanoic acid	**7**	Q1	ng/l	1	5		132	70-130		
Perfluorohexanesulfonate	**6**		ng/l	2	5		126	70-130		
Perfluoroheptanoic acid	**7**		ng/l	1	5		123	70-130		
Surrogate: 13C8-PFOS	*14*		ng/l		*19*		*73*	*43-115*		
Surrogate: 13C8-PFOA	*15*		ng/l		*20*		*77*	*43-112*		
Surrogate: 13C4-PFHpA	*15*		ng/l		*20*		*75*	*35-126*		
Surrogate: 13C3-PFHxS	*14*		ng/l		*19*		*76*	*34-126*		
Surrogate: 13C3-PFBS	*12*		ng/l		*19*		*67*	*26-148*		
Surrogate: 13C9-PFNA	*15*		ng/l		*20*		*76*	*32-134*		
Matrix Spike Dup (P306581M)						Prepared: 16-Nov-17 Analyzed: 28-Nov-17				
Perfluoroheptanoic acid	**10**		ng/l	0.9	5	4	111	70-130	10	30
Perfluorooctanoic acid	**18**		ng/l	0.9	5	13	104	70-130	7	30
Perfluorobutanesulfonate	**10**		ng/l	0.9	5	5	117	70-130	11	30
Perfluorononanoic acid	**7**		ng/l	0.9	5	1	115	70-130	6	30
Perfluoro-octanesulfonate	**19**		ng/l	3	5	13	117	70-130	9	30
Perfluorohexanesulfonate	**8**		ng/l	2	5	3	98	70-130	5	30
Surrogate: 13C9-PFNA	*16*		ng/l		*19*		*83*	*32-134*		
Surrogate: 13C8-PFOS	*12*		ng/l		*18*		*68*	*43-115*		
Surrogate: 13C8-PFOA	*12*		ng/l		*19*		*61*	*43-112*		
Surrogate: 13C4-PFHpA	*12*		ng/l		*19*		*64*	*35-126*		
Surrogate: 13C3-PFHxS	*11*		ng/l		*18*		*59*	*34-126*		
Surrogate: 13C3-PFBS	*25*		ng/l		*18*		*143*	*26-148*		
Matrix Spike (P306581R)						Prepared: 16-Nov-17 Analyzed: 23-Nov-17				
Perfluoro-octanesulfonate	**17**		ng/l	3	5	13	84	70-130		
Perfluorononanoic acid	**7**		ng/l	1	5	1	107	70-130		
Perfluorohexanesulfonate	**8**		ng/l	2	5	3	106	70-130		
Perfluorooctanoic acid	**17**		ng/l	1	5	13	81	70-130		
Perfluoroheptanoic acid	**9**		ng/l	1	5	4	91	70-130		
Perfluorobutanesulfonate	**9**		ng/l	1	5	5	92	70-130		
Surrogate: 13C9-PFNA	*14*		ng/l		*19*		*76*	*32-134*		
Surrogate: 13C3-PFHxS	*11*		ng/l		*18*		*61*	*34-126*		
Surrogate: 13C8-PFOS	*12*		ng/l		*18*		*67*	*43-115*		
Surrogate: 13C3-PFBS	*26*		ng/l		*18*		*147*	*26-148*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17320005 - METHOD										
Matrix Spike (P306581R)						Prepared: 16-Nov-17 Analyzed: 23-Nov-17				
Surrogate: 13C8-PFOA	*12*		ng/l		*19*		*61*	*43-112*		
Surrogate: 13C4-PFHpA	*13*		ng/l		*19*		*66*	*35-126*		
Batch 17324008 - METHOD										
Blank (BLK3240B)						Prepared: 20-Nov-17 Analyzed: 03-Dec-17				
Perfluorooctanoic acid	**0.7**	Ja	ng/l	1				-		
Perfluorononanoic acid	**0.4**	Ja	ng/l	1				-		
Perfluorohexanesulfonate	**0.5**	Ja	ng/l	2				-		
Perfluoroheptanoic acid	**0.7**	Ja	ng/l	1				-		
Perfluorobutanesulfonate	**0.6**	Ja	ng/l	1				-		
Perfluoro-octanesulfonate	< 3	Ua	ng/l	3				-		
Surrogate: 13C3-PFHxS	*17*		ng/l		*19*		*91*	*34-126*		
Surrogate: 13C3-PFBS	*16*		ng/l		*19*		*85*	*26-148*		
Surrogate: 13C4-PFHpA	*18*		ng/l		*20*		*91*	*35-126*		
Surrogate: 13C8-PFOA	*19*		ng/l		*20*		*97*	*43-112*		
Surrogate: 13C8-PFOS	*16*		ng/l		*19*		*86*	*43-115*		
Surrogate: 13C9-PFNA	*19*		ng/l		*20*		*95*	*32-134*		
LCS (LCS3248Q)						Prepared: 20-Nov-17 Analyzed: 04-Dec-17				
Perfluorobutanesulfonate	**6**		ng/l	1	5		122	70-130		
Perfluorooctanoic acid	**8**		ng/l	1	5		141	70-130		
Perfluoro-octanesulfonate	**6**		ng/l	3	5		116	70-130		
Perfluorononanoic acid	**6**		ng/l	1	5		112	70-130		
Perfluorohexanesulfonate	**6**		ng/l	2	5		120	70-130		
Perfluoroheptanoic acid	**7**		ng/l	1	5		128	70-130		
Surrogate: 13C4-PFHpA	*13*		ng/l		*20*		*63*	*35-126*		
Surrogate: 13C3-PFHxS	*13*		ng/l		*19*		*67*	*34-126*		
Surrogate: 13C3-PFBS	*13*		ng/l		*19*		*70*	*26-148*		
Surrogate: 13C9-PFNA	*15*		ng/l		*20*		*74*	*32-134*		
Surrogate: 13C8-PFOS	*12*		ng/l		*19*		*61*	*43-115*		
Surrogate: 13C8-PFOA	*13*		ng/l		*20*		*65*	*43-112*		
Matrix Spike Dup (P322960M)						Prepared: 20-Nov-17 Analyzed: 02-Dec-17				
Perfluorobutanesulfonate	**11**		ng/l	2	8	1	125	70-130	23	30
Perfluorooctanoic acid	**13**		ng/l	2	9	1	125	70-130	33	30
Perfluoro-octanesulfonate	**9**		ng/l	5	9	0	108	70-130	26	30
Perfluorononanoic acid	**10**		ng/l	2	9	0	113	70-130	35	30
Perfluorohexanesulfonate	**10**		ng/l	3	9	0	115	70-130	21	30
Perfluoroheptanoic acid	**11**		ng/l	2	9	0.9	114	70-130	30	30
Surrogate: 13C8-PFOS	*22*		ng/l		*32*		*69*	*43-115*		
Surrogate: 13C8-PFOA	*23*		ng/l		*33*		*68*	*43-112*		
Surrogate: 13C4-PFHpA	*23*		ng/l		*33*		*68*	*35-126*		
Surrogate: 13C3-PFHxS	*23*		ng/l		*32*		*72*	*34-126*		
Surrogate: 13C3-PFBS	*25*		ng/l		*31*		*81*	*26-148*		
Surrogate: 13C9-PFNA	*26*		ng/l		*33*		*79*	*32-134*		
Matrix Spike (P322960R)						Prepared: 20-Nov-17 Analyzed: 02-Dec-17				
Perfluorooctanoic acid	**9**		ng/l	1	7	1	115	70-130		
Perfluoro-octanesulfonate	**7**		ng/l	4	6	0	112	70-130		
Perfluorononanoic acid	**7**		ng/l	1	7	0	107	70-130		
Perfluorohexanesulfonate	**8**		ng/l	2	6	0	125	70-130		
Perfluoroheptanoic acid	**8**		ng/l	1	7	0.9	109	70-130		
Perfluorobutanesulfonate	**9**		ng/l	1	6	1	129	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17324008 - METHOD										
Matrix Spike (P322960R)						Prepared: 20-Nov-17 Analyzed: 02-Dec-17				
Surrogate: 13C3-PFBS	*20*		ng/l		*23*		*87*	*26-148*		
Surrogate: 13C9-PFNA	*20*		ng/l		*25*		*79*	*32-134*		
Surrogate: 13C8-PFOS	*17*		ng/l		*24*		*71*	*43-115*		
Surrogate: 13C8-PFOA	*16*		ng/l		*25*		*65*	*43-112*		
Surrogate: 13C4-PFHpA	*16*		ng/l		*25*		*65*	*35-126*		
Surrogate: 13C3-PFHxS	*16*		ng/l		*24*		*66*	*34-126*		
SW-846 8270D SIM										
Batch 17319WAR026 - SW-846 3510C										
LCS (P9WRLCSQ)						Prepared: 16-Nov-17 Analyzed: 22-Nov-17				
1,4-Dioxane	**0.47**		ug/l	0.20	1.0		47	28-103		
Surrogate: 1-Methylnaphthalene-d10	*0.90*		ug/l		*1.0*		*90*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.94*		ug/l		*1.0*		*94*	*39-121*		
Surrogate: Fluoranthene-d10	*0.91*		ug/l		*1.0*		*91*	*42-119*		
LCSD (P9WRLCSY)						Prepared: 16-Nov-17 Analyzed: 22-Nov-17				
1,4-Dioxane	**0.52**		ug/l	0.20	1.0		52	28-103	10	30
Surrogate: 1-Methylnaphthalene-d10	*0.95*		ug/l		*1.0*		*95*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.95*		ug/l		*1.0*		*95*	*39-121*		
Surrogate: Fluoranthene-d10	*0.87*		ug/l		*1.0*		*87*	*42-119*		
Blank (PLKWR31B)						Prepared: 16-Nov-17 Analyzed: 22-Nov-17				
1,4-Dioxane	< 0.20	Ua	ug/l	0.20				-		
Surrogate: Fluoranthene-d10	*0.90*		ug/l		*1.0*		*90*	*42-119*		
Surrogate: 1-Methylnaphthalene-d10	*0.76*		ug/l		*1.0*		*76*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.87*		ug/l		*1.0*		*87*	*39-121*		

Notes and Definitions

B	Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)
D	Data reported from a dilution
E	This flag indicates the concentration for this analyte is an estimated value due to exceeding the calibration range or interferences resulting in a biased final concentration.
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
J	Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
Ja	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
Q1	Outside of specification
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QR5	RPD out of acceptance range.
U	Analyte included in the analysis, but not detected at or above the MDL.
Ua	
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC41423 Dy

eurofins | Spectrum Analytical

CHAIN OF CUSTODY RECORD

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Special Handling:

☐ Standard TAT - 7 to 10 business days

☐ Rush TAT - Date Needed: As per Contract

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: MIKE STEFFAN
36B PLEASANTVIEW DR.
Ecology & Environment Inc
Lancaster Ny. 14086
Telephone #: (716) 684-8060
Project Mgr: MIKE STEFFAN

Invoice To: MIKE STEFFAN
Ecology & Environment Inc.
36B PLEASANTVIEW DR
Lancaster Ny 14086
P.O No.: Quote #:

Project No: 10C3074.0011.09
Site Name: MR C's
Location: EAST AURORA State: NY
Sampler(s): Laurence Rusch

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= NONE 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: List Preservative Code below: 2	11	11						Check if chlorinated
										VOC's	PFAS	1,4 Dioxane						
SC41423-01	TB-11917	11/9/17	0720	G	GW	2				X								☐
02	EE-2 11917	11/9/17	1135	G	GW	3	2		2	X	X	X						☐
03	PZ-8C 11917	11/9/17	0909	G	GW	3	2		2	X	X	X						☐
04	MPI-4I 11917	11/9/17	1433	G	GW	3	2		2	X	X	X						☐
05	MPI-4S 11917	11/9/17	1555	G	GW	3	2		2	X	X	X						☐
																		☐
																		☐
																		☐
																		☐
																		☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☒ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other:
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:
Laurence Rusch		11/9/17	18:00
Fedex	[illegible]	11/10/17	1108

Temp °C: Observed 1.1; Correction Factor 0; Corrected 1.1; IR ID # 1

☐ EDD format:
☐ E-mail to: MSTEFFAN@ENE.com

Condition upon receipt: Custody Seals: ☑ Present ☑ Intact ☐ Broken
☐ Ambient ☑ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

ORIGIN ID:BUFA (716) 684-8060
ECOLOGY & ENVIROMENT INC
LARRY ROEDL
368 PLEASANTVIEW DR

LANCASTER, NY 14086
UNITED STATES US

SHIP DATE: 09NOV17
ACTWGT: 65.20 LB
CAD: 006993854/SSFE1822
DIMS: 22x16x11 IN

BILL THIRD PARTY

Part #156297-435 RITZ EXP 07/18 **

TO **SAMPLE CUSTODY**
SPECTRUM ANALYTICAL
11 ALMGREN DR

AGAWAM MA 01001

(413) 789-9018 REF:

INV: DEPT:
PO:

FedEx Express

J17211709130lus

FRI - 10 NOV 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7884 0065 3888**

EB EHTA

01001
MA-US **BDL**

Batch Summary

1719490

Volatile Organic Compounds

1719490-BLK1
1719490-BS1
1719490-BSD1
1719490-MS1
1719490-MSD1
SC41423-01 (TB-11917)
SC41423-02 (EE-2-11917)
SC41423-03 (PZ-8C-11917)
SC41423-04 (MPI-4I-11917)
SC41423-05 (MPI-4S-11917)

1719670

Volatile Organic Compounds

1719670-BLK1
1719670-BS1
1719670-BSD1
SC41423-04RE1 (MPI-4I-11917)

17319WAR026

Subcontracted Analyses

P9WRLCSQ
P9WRLCSY
PLKWR31B
SC41423-02 (EE-2-11917)
SC41423-03 (PZ-8C-11917)
SC41423-04 (MPI-4I-11917)
SC41423-05 (MPI-4S-11917)

17320005

Subcontracted Analyses

BLK3200B
LCS3205Q
P306581M
P306581R
SC41423-02 (EE-2-11917)
SC41423-03 (PZ-8C-11917)
SC41423-04 (MPI-4I-11917)

17324008

Subcontracted Analyses

BLK3240B
LCS3248Q
P322960M
P322960R
SC41423-05 (MPI-4S-11917)

S710164

Volatile Organic Compounds

S710164-CAL1
S710164-CAL2
S710164-CAL3
S710164-CAL4
S710164-CAL5
S710164-CAL6
S710164-CAL7
S710164-CAL8
S710164-CAL9
S710164-ICV1
S710164-LCV1
S710164-LCV2
S710164-TUN1

S710171

Volatile Organic Compounds

S710171-CAL1
S710171-CAL2
S710171-CAL3
S710171-CAL4
S710171-CAL5
S710171-CAL6
S710171-CAL7
S710171-CAL8
S710171-CAL9
S710171-ICV1
S710171-LCV1
S710171-LCV2
S710171-LCV3
S710171-TUN1

S710185

Volatile Organic Compounds

S710185-CCV1
S710185-TUN1

S710302

Volatile Organic Compounds

S710302-CCV1
S710302-CCV2
S710302-TUN1

eurofins | Spectrum Analytical

☑ Final Report
☐ Revised Report

Report Date:
08-Dec-17 11:48

Laboratory Report
SC41288

Ecology and Environment, Inc.
368 Pleasant View Drive
Lancaster, NY 14086
Attn: Mike Steffan

Project: Mr. C's Groundwaters
Project #: 10C3074.0011.09

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director

Dawn E Wojcik

Eurofins Spectrum Analytical holds primary NELAC certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 44 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC41288

Project: Mr. C's Groundwaters

Project Number: 10C3074.0011.09

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC41288-01	TB-11817	Water	08-Nov-17 07:50	09-Nov-17 10:53
SC41288-02	PZ-6A-11817	Ground Water	08-Nov-17 09:03	09-Nov-17 10:53
SC41288-03	MPI-6S-11817	Ground Water	08-Nov-17 11:33	09-Nov-17 10:53
SC41288-04	PW-6-11817	Ground Water	08-Nov-17 10:45	09-Nov-17 10:53
SC41288-05	PW-6-11817Q	Ground Water	08-Nov-17 10:45	09-Nov-17 10:53
SC41288-06	PW-7-11817	Ground Water	08-Nov-17 11:15	09-Nov-17 10:53
SC41288-07	PZ-7D-11817	Ground Water	08-Nov-17 13:58	09-Nov-17 10:53
SC41288-08	PW-8-11817	Ground Water	08-Nov-17 13:40	09-Nov-17 10:53

CASE NARRATIVE:

Data has been reported to the RDL. This report includes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the detection limit are reported as "<" (less than) the detection limit in this report.

The samples were received 2.9 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

EPA 537 modified

Samples:

SC41288-02	*PZ-6A-11817*

Detected in blank

Perfluorooctanoic acid

SC41288-03	*MPI-6S-11817*

Detected in blank

Perfluorooctanoic acid

SC41288-04	*PW-6-11817*

Detected in blank

Perfluorooctanoic acid

SC41288-05	*PW-6-11817Q*

Detected in blank

Perfluorooctanoic acid

SC41288-07	*PZ-7D-11817*

Detected in blank

Perfluorooctanoic acid

SC41288-08	*PW-8-11817*

Detected in blank

Perfluorooctanoic acid

SW846 8260C

Calibration:

1710027

SW846 8260C

Calibration:

1710027

Analyte quantified by quadratic equation type calibration.

1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,3-Dichlorobenzene
Bromoform
cis-1,3-Dichloropropene
Ethylbenzene
m,p-Xylene
o-Xylene
Styrene
trans-1,3-Dichloropropene

This affected the following samples:

1719294-BLK1
1719294-BS1
1719294-BSD1
1719294-MS1
1719294-MSD1
MPI-6S-11817
PW-6-11817
PW-6-11817Q
PW-7-11817
PW-8-11817
PZ-6A-11817
PZ-7D-11817
S709132-ICV1
S710094-CCV1
TB-11817

Laboratory Control Samples:

1719294 BS/BSD

1,1-Dichloroethene percent recoveries (141/128) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MPI-6S-11817
PW-6-11817
PW-6-11817Q
PW-7-11817
PW-8-11817
PZ-6A-11817
PZ-7D-11817
TB-11817

Chloroethane percent recoveries (120/165) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MPI-6S-11817
PW-6-11817
PW-6-11817Q
PW-7-11817
PW-8-11817
PZ-6A-11817
PZ-7D-11817
TB-11817

SW846 8260C

Laboratory Control Samples:

1719294 BS/BSD

Chloromethane percent recoveries (125/156) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MPI-6S-11817
PW-6-11817
PW-6-11817Q
PW-7-11817
PW-8-11817
PZ-6A-11817
PZ-7D-11817
TB-11817

Trichlorofluoromethane (Freon 11) percent recoveries (132/145) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MPI-6S-11817
PW-6-11817
PW-6-11817Q
PW-7-11817
PW-8-11817
PZ-6A-11817
PZ-7D-11817
TB-11817

1719294 BSD

1,1,2-Trichlorotrifluoroethane (Freon 113) RPD 29% (20%) is outside individual acceptance criteria.

Bromomethane RPD 30% (20%) is outside individual acceptance criteria.

Carbon disulfide RPD 31% (20%) is outside individual acceptance criteria.

Chloroethane RPD 31% (20%) is outside individual acceptance criteria.

Chloromethane RPD 22% (20%) is outside individual acceptance criteria.

Methyl acetate RPD 47% (30%) is outside individual acceptance criteria.

Methylene chloride RPD 27% (20%) is outside individual acceptance criteria.

Spikes:

1719294-MS1 *Source: SC41288-04*

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

Trichlorofluoromethane (Freon 11)

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

1,1-Dichloroethene
Acetone
Chloroethane
Chloromethane
Methyl acetate

1719294-MSD1 *Source: SC41288-04*

SW846 8260C

Spikes:

1719294-MSD1 *Source: SC41288-04*

RPD out of acceptance range.

1,1-Dichloroethene

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Acetone
Chloroethane
Methyl acetate

1719435-MS1 *Source: SC41288-06RE1*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

cis-1,2-Dichloroethene

Samples:

S710094-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,1,2-Trichlorotrifluoroethane (Freon 113) (21.6%)
1,1-Dichloroethene (40.7%)
Chloroethane (20.4%)
Chloromethane (25.0%)
Trichlorofluoromethane (Freon 11) (31.5%)

Analyte percent drift is outside individual acceptance criteria (20), but within overall method allowances.

Acetone (29.3%)

This affected the following samples:

1719294-BLK1
1719294-BS1
1719294-BSD1
1719294-MS1
1719294-MSD1
MPI-6S-11817
PW-6-11817
PW-6-11817Q
PW-7-11817
PW-8-11817
PZ-6A-11817
PZ-7D-11817
TB-11817

SC41288-02 *PZ-6A-11817*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SC41288-04 *PW-6-11817*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SC41288-05 *PW-6-11817Q*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SW846 8260C

Samples:

SC41288-06 *PW-7-11817*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SC41288-06RE1 *PW-7-11817*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SC41288-07 *PZ-7D-11817*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SC41288-07RE1 *PZ-7D-11817*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SC41288-08 *PW-8-11817*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SC41288-08RE1 *PW-8-11817*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Sample Acceptance Check Form

Client:	Ecology and Environment, Inc.
Project:	Mr. C's Groundwaters / 10C3074.0011.09
Work Order:	SC41288
Sample(s) received on:	11/9/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☑	☐	☐
Were custody seals intact?	☑	☐	☐
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC41288-01 **Client ID:** TB-11817

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Carbon disulfide	1.35	J	2.00	µg/l	SW846 8260C

Lab ID: SC41288-02 **Client ID:** PZ-6A-11817

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorooctanoic acid	1	Ja, B	1	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	1720	D	20.0	µg/l	SW846 8260C
Methyl tert-butyl ether	11.6	J, D	20.0	µg/l	SW846 8260C
Tetrachloroethene	1670	D	20.0	µg/l	SW846 8260C
trans-1,2-Dichloroethene	8.00	J, D	20.0	µg/l	SW846 8260C
Trichloroethene	346	D	20.0	µg/l	SW846 8260C
1,4-Dioxane	0.070	Ja	0.20	ug/l	SW-846 8270D SIM

Lab ID: SC41288-03 **Client ID:** MPI-6S-11817

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	1		1	ng/l	EPA 537 modified
Perfluorohexanesulfonate	1	Ja	3	ng/l	EPA 537 modified
Perfluorooctanoic acid	2	B	1	ng/l	EPA 537 modified
Acetone	7.33	J	10.0	µg/l	SW846 8260C
Carbon disulfide	0.79	J	2.00	µg/l	SW846 8260C
cis-1,2-Dichloroethene	39.2		1.00	µg/l	SW846 8260C
Tetrachloroethene	7.42		1.00	µg/l	SW846 8260C
trans-1,2-Dichloroethene	0.44	J	1.00	µg/l	SW846 8260C
Trichloroethene	1.54		1.00	µg/l	SW846 8260C
Vinyl chloride	18.2		1.00	µg/l	SW846 8260C
1,4-Dioxane	0.058	Ja	0.20	ug/l	SW-846 8270D SIM

Lab ID: SC41288-04 **Client ID:** PW-6-11817

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluoroheptanoic acid	0.4	Ja	1	ng/l	EPA 537 modified
Perfluorooctanoic acid	0.4	Ja, B	1	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	228	D	50.0	µg/l	SW846 8260C
Tetrachloroethene	1610	D	50.0	µg/l	SW846 8260C
Trichloroethene	147	D	50.0	µg/l	SW846 8260C
1,4-Dioxane	0.15	Ja	0.20	ug/l	SW-846 8270D SIM

Lab ID: SC41288-05 **Client ID:** PW-6-11817Q

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluoroheptanoic acid	0.5	Ja	1	ng/l	EPA 537 modified
Perfluorooctanoic acid	0.5	Ja, B	1	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	212	D	50.0	µg/l	SW846 8260C
Tetrachloroethene	1850	D	50.0	µg/l	SW846 8260C
Trichloroethene	166	D	50.0	µg/l	SW846 8260C
1,4-Dioxane	0.15	Ja	0.20	ug/l	SW-846 8270D SIM

Lab ID: SC41288-06 **Client ID:** PW-7-11817

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
cis-1,2-Dichloroethene	6990	D, E	50.0	µg/l	SW846 8260C
Tetrachloroethene	3350	D	50.0	µg/l	SW846 8260C
trans-1,2-Dichloroethene	34.5	J, D	50.0	µg/l	SW846 8260C
Trichloroethene	572	D	50.0	µg/l	SW846 8260C
Vinyl chloride	816	D	50.0	µg/l	SW846 8260C
1,4-Dioxane	0.063	Ja	0.19	ug/l	SW-846 8270D SIM

Lab ID: SC41288-06RE1 **Client ID:** PW-7-11817

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
cis-1,2-Dichloroethene	5450	D	200	µg/l	SW846 8260C

Lab ID: SC41288-07 **Client ID:** PZ-7D-11817

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	2	Ja	3	ng/l	EPA 537 modified
Perfluoro-octanesulfonate	4	Ja	8	ng/l	EPA 537 modified
Perfluorooctanoic acid	2	Ja, B	3	ng/l	EPA 537 modified
Acetone	60.6	D	50.0	µg/l	SW846 8260C
cis-1,2-Dichloroethene	576	D, E	5.00	µg/l	SW846 8260C
Tetrachloroethene	8.10	D	5.00	µg/l	SW846 8260C
trans-1,2-Dichloroethene	3.80	J, D	5.00	µg/l	SW846 8260C
Vinyl chloride	108	D	5.00	µg/l	SW846 8260C
1,4-Dioxane	0.10	Ja	0.19	ug/l	SW-846 8270D SIM

Lab ID: SC41288-07RE1 **Client ID:** PZ-7D-11817

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
cis-1,2-Dichloroethene	485	D	20.0	µg/l	SW846 8260C

Lab ID: SC41288-08 **Client ID:** PW-8-11817

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorooctanoic acid	0.5	Ja, B	2	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	565	D, E	5.00	µg/l	SW846 8260C
Methyl tert-butyl ether	12.8	D	5.00	µg/l	SW846 8260C
Tetrachloroethene	181	D	5.00	µg/l	SW846 8260C
Trichloroethene	12.6	D	5.00	µg/l	SW846 8260C
Vinyl chloride	308	D	5.00	µg/l	SW846 8260C
1,4-Dioxane	0.078	Ja	0.20	ug/l	SW-846 8270D SIM

Lab ID: SC41288-08RE1 **Client ID:** PW-8-11817

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
cis-1,2-Dichloroethene	461	D	20.0	µg/l	SW846 8260C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-11817	10C3074.0011.09	Water	08-Nov-17 07:50	09-Nov-17
SC41288-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	1.35	J	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-11817	10C3074.0011.09	Water	08-Nov-17 07:50	09-Nov-17
SC41288-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*102*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*98*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PZ-6A-11817	10C3074.0011.09	Ground Water	08-Nov-17 09:03	09-Nov-17
SC41288-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 20.0	U, D	µg/l	20.0	10.6	20	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
67-64-1	Acetone	< 200	U, D	µg/l	200	16.1	20	"	"	"	"	"	X
71-43-2	Benzene	< 20.0	U, D	µg/l	20.0	5.68	20	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 10.0	U, D	µg/l	10.0	8.34	20	"	"	"	"	"	X
75-25-2	Bromoform	< 20.0	U, D	µg/l	20.0	8.50	20	"	"	"	"	"	X
74-83-9	Bromomethane	< 40.0	U, D	µg/l	40.0	17.9	20	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 40.0	U, D	µg/l	40.0	21.4	20	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 40.0	U, D	µg/l	40.0	8.24	20	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 20.0	U, D	µg/l	20.0	8.74	20	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 20.0	U, D	µg/l	20.0	4.98	20	"	"	"	"	"	X
75-00-3	Chloroethane	< 40.0	U, D	µg/l	40.0	11.8	20	"	"	"	"	"	X
67-66-3	Chloroform	< 20.0	U, D	µg/l	20.0	6.52	20	"	"	"	"	"	X
74-87-3	Chloromethane	< 40.0	U, D	µg/l	40.0	7.36	20	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 40.0	U, D	µg/l	40.0	17.3	20	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 10.0	U, D	µg/l	10.0	6.34	20	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 10.0	U, D	µg/l	10.0	4.04	20	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 20.0	U, D	µg/l	20.0	5.54	20	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 20.0	U, D	µg/l	20.0	6.28	20	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 20.0	U, D	µg/l	20.0	5.44	20	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 40.0	U, D	µg/l	40.0	11.7	20	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 20.0	U, D	µg/l	20.0	6.46	20	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 20.0	U, D	µg/l	20.0	5.54	20	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 20.0	U, D	µg/l	20.0	13.9	20	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**1,720**	D	µg/l	20.0	6.54	20	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	**8.00**	J, D	µg/l	20.0	7.54	20	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 20.0	U, D	µg/l	20.0	5.84	20	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 10.0	U, D	µg/l	10.0	7.18	20	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 10.0	U, D	µg/l	10.0	6.94	20	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 20.0	U, D	µg/l	20.0	6.58	20	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 40.0	U, D	µg/l	40.0	10.6	20	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 20.0	U, D	µg/l	20.0	7.20	20	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	**11.6**	J, D	µg/l	20.0	4.74	20	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 40.0	U, D	µg/l	40.0	10.3	20	"	"	"	"	"	X
75-09-2	Methylene chloride	< 40.0	U, D	µg/l	40.0	13.2	20	"	"	"	"	"	X
100-42-5	Styrene	< 20.0	U, D	µg/l	20.0	8.10	20	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 10.0	U, D	µg/l	10.0	6.60	20	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**1,670**	D	µg/l	20.0	11.4	20	"	"	"	"	"	X
108-88-3	Toluene	< 20.0	U, D	µg/l	20.0	5.98	20	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 20.0	U, D	µg/l	20.0	7.56	20	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 20.0	U, D	µg/l	20.0	10.2	20	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 20.0	U, D	µg/l	20.0	6.60	20	"	"	"	"	"	X
79-01-6	Trichloroethene	**346**	D	µg/l	20.0	9.94	20	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PZ-6A-11817	10C3074.0011.09	Ground Water	08-Nov-17 09:03	09-Nov-17
SC41288-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
75-69-4	Trichlorofluoromethane (Freon 11)	< 20.0	U, D	µg/l	20.0	9.74	20	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
75-01-4	Vinyl chloride	< 20.0	U, D	µg/l	20.0	9.44	20	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 40.0	U, D	µg/l	40.0	7.60	20	"	"	"	"	"	X
95-47-6	o-Xylene	< 20.0	U, D	µg/l	20.0	5.66	20	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 60.0	U, D	µg/l	60.0	60.0	20	"	"	"	"	"	X
110-82-7	Cyclohexane	< 100	U, D	µg/l	100	15.7	20	"	"	"	"	"	X
79-20-9	Methyl acetate	< 100	U, D	µg/l	100	12.9	20	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 100	U, D	µg/l	100	14.8	20	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*103*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*98*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 4		ng/l	4	1	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 04:17	10670	17320005	
375-73-5	Perfluorobutanesulfonate	< 1		ng/l	1	0.4	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 1		ng/l	1	0.4	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 2		ng/l	2	0.5	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 1		ng/l	1	0.4	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	1	Ja, B	ng/l	1	0.4	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*92*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*72*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*77*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*70*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*67*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*75*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	0.070	Ja	ug/l	0.20	0.051	1	SW-846 8270D SIM	15-Nov-17 21:45	20-Nov-17 22:50	10670	318WAI0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*96*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*78*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*93*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-6S-11817	10C3074.0011.09	Ground Water	08-Nov-17 11:33	09-Nov-17
SC41288-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
67-64-1	Acetone	**7.33**	J	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	**0.79**	J	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**39.2**		µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	**0.44**	J	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**7.42**		µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	**1.54**		µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-6S-11817	10C3074.0011.09	Ground Water	08-Nov-17 11:33	09-Nov-17
SC41288-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
75-01-4	Vinyl chloride	**18.2**		µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*102*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*98*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 4		ng/l	4	1	1	EPA 537 modified	16-Nov-17 15:00	28-Nov-17 15:19	10670	17320005	
375-73-5	Perfluorobutanesulfonate	**1**		ng/l	1	0.4	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 1		ng/l	1	0.4	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	**1**	Ja	ng/l	3	0.5	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 1		ng/l	1	0.4	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**2**	B	ng/l	1	0.4	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*97*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*58*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*64*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*65*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*75*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*96*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	**0.058**	Ja	ug/l	0.20	0.049	1	SW-846 8270D SIM	15-Nov-17 21:45	20-Nov-17 23:19	10670	318WAI0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*94*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*79*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*62*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-6-11817	10C3074.0011.09	Ground Water	08-Nov-17 10:45	09-Nov-17
SC41288-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 50.0	U, D	µg/l	50.0	26.6	50	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
67-64-1	Acetone	< 500	U, D	µg/l	500	40.2	50	"	"	"	"	"	X
71-43-2	Benzene	< 50.0	U, D	µg/l	50.0	14.2	50	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 25.0	U, D	µg/l	25.0	20.8	50	"	"	"	"	"	X
75-25-2	Bromoform	< 50.0	U, D	µg/l	50.0	21.2	50	"	"	"	"	"	X
74-83-9	Bromomethane	< 100	U, D	µg/l	100	44.8	50	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 100	U, D	µg/l	100	53.5	50	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 100	U, D	µg/l	100	20.6	50	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 50.0	U, D	µg/l	50.0	21.8	50	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 50.0	U, D	µg/l	50.0	12.4	50	"	"	"	"	"	X
75-00-3	Chloroethane	< 100	U, D	µg/l	100	29.4	50	"	"	"	"	"	X
67-66-3	Chloroform	< 50.0	U, D	µg/l	50.0	16.3	50	"	"	"	"	"	X
74-87-3	Chloromethane	< 100	U, D	µg/l	100	18.4	50	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 100	U, D	µg/l	100	43.2	50	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 25.0	U, D	µg/l	25.0	15.8	50	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 25.0	U, D	µg/l	25.0	10.1	50	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	13.8	50	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	15.7	50	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	13.6	50	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 100	U, D	µg/l	100	29.2	50	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 50.0	U, D	µg/l	50.0	16.2	50	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 50.0	U, D	µg/l	50.0	13.8	50	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 50.0	U, D	µg/l	50.0	34.6	50	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**228**	D	µg/l	50.0	16.4	50	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 50.0	U, D	µg/l	50.0	18.8	50	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 50.0	U, D	µg/l	50.0	14.6	50	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 25.0	U, D	µg/l	25.0	18.0	50	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 25.0	U, D	µg/l	25.0	17.4	50	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 50.0	U, D	µg/l	50.0	16.4	50	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 100	U, D	µg/l	100	26.4	50	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 50.0	U, D	µg/l	50.0	18.0	50	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 50.0	U, D	µg/l	50.0	11.8	50	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 100	U, D	µg/l	100	25.8	50	"	"	"	"	"	X
75-09-2	Methylene chloride	< 100	U, D	µg/l	100	33.0	50	"	"	"	"	"	X
100-42-5	Styrene	< 50.0	U, D	µg/l	50.0	20.2	50	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 25.0	U, D	µg/l	25.0	16.5	50	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**1,610**	D	µg/l	50.0	28.5	50	"	"	"	"	"	X
108-88-3	Toluene	< 50.0	U, D	µg/l	50.0	15.0	50	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 50.0	U, D	µg/l	50.0	18.9	50	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 50.0	U, D	µg/l	50.0	25.4	50	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 50.0	U, D	µg/l	50.0	16.5	50	"	"	"	"	"	X
79-01-6	Trichloroethene	**147**	D	µg/l	50.0	24.8	50	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-6-11817	10C3074.0011.09	Ground Water	08-Nov-17 10:45	09-Nov-17
SC41288-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
75-69-4	Trichlorofluoromethane (Freon 11)	< 50.0	U, D	µg/l	50.0	24.4	50	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
75-01-4	Vinyl chloride	< 50.0	U, D	µg/l	50.0	23.6	50	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 100	U, D	µg/l	100	19.0	50	"	"	"	"	"	X
95-47-6	o-Xylene	< 50.0	U, D	µg/l	50.0	14.2	50	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 150	U, D	µg/l	150	150	50	"	"	"	"	"	X
110-82-7	Cyclohexane	< 250	U, D	µg/l	250	39.4	50	"	"	"	"	"	X
79-20-9	Methyl acetate	< 250	U, D	µg/l	250	32.4	50	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 250	U, D	µg/l	250	37.1	50	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*102*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*97*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 4		ng/l	4	1	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 04:58	10670	17320005	
375-73-5	Perfluorobutanesulfonate	< 1		ng/l	1	0.4	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	**0.4**	Ja	ng/l	1	0.4	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 2		ng/l	2	0.5	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 1		ng/l	1	0.4	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**0.4**	Ja, B	ng/l	1	0.4	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*99*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*61*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*70*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*64*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*72*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*80*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	**0.15**	Ja	ug/l	0.20	0.049	1	SW-846 8270D SIM	15-Nov-17 21:45	20-Nov-17 23:49	10670	318WAI0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*89*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*80*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*82*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-6-11817Q	10C3074.0011.09	Ground Water	08-Nov-17 10:45	09-Nov-17
SC41288-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 50.0	U, D	µg/l	50.0	26.6	50	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
67-64-1	Acetone	< 500	U, D	µg/l	500	40.2	50	"	"	"	"	"	X
71-43-2	Benzene	< 50.0	U, D	µg/l	50.0	14.2	50	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 25.0	U, D	µg/l	25.0	20.8	50	"	"	"	"	"	X
75-25-2	Bromoform	< 50.0	U, D	µg/l	50.0	21.2	50	"	"	"	"	"	X
74-83-9	Bromomethane	< 100	U, D	µg/l	100	44.8	50	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 100	U, D	µg/l	100	53.5	50	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 100	U, D	µg/l	100	20.6	50	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 50.0	U, D	µg/l	50.0	21.8	50	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 50.0	U, D	µg/l	50.0	12.4	50	"	"	"	"	"	X
75-00-3	Chloroethane	< 100	U, D	µg/l	100	29.4	50	"	"	"	"	"	X
67-66-3	Chloroform	< 50.0	U, D	µg/l	50.0	16.3	50	"	"	"	"	"	X
74-87-3	Chloromethane	< 100	U, D	µg/l	100	18.4	50	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 100	U, D	µg/l	100	43.2	50	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 25.0	U, D	µg/l	25.0	15.8	50	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 25.0	U, D	µg/l	25.0	10.1	50	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	13.8	50	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	15.7	50	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	13.6	50	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 100	U, D	µg/l	100	29.2	50	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 50.0	U, D	µg/l	50.0	16.2	50	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 50.0	U, D	µg/l	50.0	13.8	50	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 50.0	U, D	µg/l	50.0	34.6	50	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**212**	D	µg/l	50.0	16.4	50	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 50.0	U, D	µg/l	50.0	18.8	50	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 50.0	U, D	µg/l	50.0	14.6	50	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 25.0	U, D	µg/l	25.0	18.0	50	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 25.0	U, D	µg/l	25.0	17.4	50	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 50.0	U, D	µg/l	50.0	16.4	50	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 100	U, D	µg/l	100	26.4	50	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 50.0	U, D	µg/l	50.0	18.0	50	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 50.0	U, D	µg/l	50.0	11.8	50	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 100	U, D	µg/l	100	25.8	50	"	"	"	"	"	X
75-09-2	Methylene chloride	< 100	U, D	µg/l	100	33.0	50	"	"	"	"	"	X
100-42-5	Styrene	< 50.0	U, D	µg/l	50.0	20.2	50	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 25.0	U, D	µg/l	25.0	16.5	50	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**1,850**	D	µg/l	50.0	28.5	50	"	"	"	"	"	X
108-88-3	Toluene	< 50.0	U, D	µg/l	50.0	15.0	50	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 50.0	U, D	µg/l	50.0	18.9	50	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 50.0	U, D	µg/l	50.0	25.4	50	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 50.0	U, D	µg/l	50.0	16.5	50	"	"	"	"	"	X
79-01-6	Trichloroethene	**166**	D	µg/l	50.0	24.8	50	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-6-11817Q SC41288-05	10C3074.0011.09	Ground Water	08-Nov-17 10:45	09-Nov-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
75-69-4	Trichlorofluoromethane (Freon 11)	< 50.0	U, D	µg/l	50.0	24.4	50	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
75-01-4	Vinyl chloride	< 50.0	U, D	µg/l	50.0	23.6	50	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 100	U, D	µg/l	100	19.0	50	"	"	"	"	"	X
95-47-6	o-Xylene	< 50.0	U, D	µg/l	50.0	14.2	50	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 150	U, D	µg/l	150	150	50	"	"	"	"	"	X
110-82-7	Cyclohexane	< 250	U, D	µg/l	250	39.4	50	"	"	"	"	"	X
79-20-9	Methyl acetate	< 250	U, D	µg/l	250	32.4	50	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 250	U, D	µg/l	250	37.1	50	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*104*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*98*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*96*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 4		ng/l	4	1	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 05:18	10670	17320005	
375-73-5	Perfluorobutanesulfonate	< 1		ng/l	1	0.4	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	**0.5**	Ja	ng/l	1	0.4	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 2		ng/l	2	0.5	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 1		ng/l	1	0.4	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**0.5**	Ja, B	ng/l	1	0.4	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*97*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*58*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*65*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*64*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*75*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*79*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	**0.15**	Ja	ug/l	0.20	0.049	1	SW-846 8270D SIM	15-Nov-17 21:45	21-Nov-17 00:18	10670	318WAI0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*85*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*83*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*70*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-7-11817	10C3074.0011.09	Ground Water	08-Nov-17 11:15	09-Nov-17
SC41288-06				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 50.0	U, D	µg/l	50.0	26.6	50	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
67-64-1	Acetone	< 500	U, D	µg/l	500	40.2	50	"	"	"	"	"	X
71-43-2	Benzene	< 50.0	U, D	µg/l	50.0	14.2	50	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 25.0	U, D	µg/l	25.0	20.8	50	"	"	"	"	"	X
75-25-2	Bromoform	< 50.0	U, D	µg/l	50.0	21.2	50	"	"	"	"	"	X
74-83-9	Bromomethane	< 100	U, D	µg/l	100	44.8	50	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 100	U, D	µg/l	100	53.5	50	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 100	U, D	µg/l	100	20.6	50	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 50.0	U, D	µg/l	50.0	21.8	50	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 50.0	U, D	µg/l	50.0	12.4	50	"	"	"	"	"	X
75-00-3	Chloroethane	< 100	U, D	µg/l	100	29.4	50	"	"	"	"	"	X
67-66-3	Chloroform	< 50.0	U, D	µg/l	50.0	16.3	50	"	"	"	"	"	X
74-87-3	Chloromethane	< 100	U, D	µg/l	100	18.4	50	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 100	U, D	µg/l	100	43.2	50	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 25.0	U, D	µg/l	25.0	15.8	50	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 25.0	U, D	µg/l	25.0	10.1	50	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	13.8	50	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	15.7	50	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 50.0	U, D	µg/l	50.0	13.6	50	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 100	U, D	µg/l	100	29.2	50	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 50.0	U, D	µg/l	50.0	16.2	50	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 50.0	U, D	µg/l	50.0	13.8	50	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 50.0	U, D	µg/l	50.0	34.6	50	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**6,990**	D, E	µg/l	50.0	16.4	50	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	**34.5**	J, D	µg/l	50.0	18.8	50	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 50.0	U, D	µg/l	50.0	14.6	50	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 25.0	U, D	µg/l	25.0	18.0	50	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 25.0	U, D	µg/l	25.0	17.4	50	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 50.0	U, D	µg/l	50.0	16.4	50	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 100	U, D	µg/l	100	26.4	50	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 50.0	U, D	µg/l	50.0	18.0	50	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 50.0	U, D	µg/l	50.0	11.8	50	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 100	U, D	µg/l	100	25.8	50	"	"	"	"	"	X
75-09-2	Methylene chloride	< 100	U, D	µg/l	100	33.0	50	"	"	"	"	"	X
100-42-5	Styrene	< 50.0	U, D	µg/l	50.0	20.2	50	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 25.0	U, D	µg/l	25.0	16.5	50	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**3,350**	D	µg/l	50.0	28.5	50	"	"	"	"	"	X
108-88-3	Toluene	< 50.0	U, D	µg/l	50.0	15.0	50	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 50.0	U, D	µg/l	50.0	18.9	50	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 50.0	U, D	µg/l	50.0	25.4	50	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 50.0	U, D	µg/l	50.0	16.5	50	"	"	"	"	"	X
79-01-6	Trichloroethene	**572**	D	µg/l	50.0	24.8	50	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-7-11817 SC41288-06	10C3074.0011.09	Ground Water	08-Nov-17 11:15	09-Nov-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
75-69-4	Trichlorofluoromethane (Freon 11)	< 50.0	U, D	µg/l	50.0	24.4	50	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
75-01-4	Vinyl chloride	**816**	D	µg/l	50.0	23.6	50	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 100	U, D	µg/l	100	19.0	50	"	"	"	"	"	X
95-47-6	o-Xylene	< 50.0	U, D	µg/l	50.0	14.2	50	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 150	U, D	µg/l	150	150	50	"	"	"	"	"	X
110-82-7	Cyclohexane	< 250	U, D	µg/l	250	39.4	50	"	"	"	"	"	X
79-20-9	Methyl acetate	< 250	U, D	µg/l	250	32.4	50	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 250	U, D	µg/l	250	37.1	50	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*103*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*111*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*122*			*70-130 %*			"	"	"	"	"	
Re-analysis of Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
156-59-2	cis-1,2-Dichloroethene	**5,450**	D	µg/l	200	65.4	200	SW846 8260C	17-Nov-17	18-Nov-17	EK	1719435	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*89*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*96*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 5		ng/l	5	1	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 05:39	10670	17320005	
375-73-5	Perfluorobutanesulfonate	< 2		ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 3		ng/l	3	0.6	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*107*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*90*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*88*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*89*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*83*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*93*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	**0.063**	Ja	ug/l	0.19	0.048	1	SW-846 8270D SIM	15-Nov-17 21:45	21-Nov-17 00:47	10670	318WAI0	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-7-11817 SC41288-06	10C3074.0011.09	Ground Water	08-Nov-17 11:15	09-Nov-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Subcontracted Analyses													
Subcontracted Analyses													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*92*			*29-123 %*			SW-846 8270D SIM	15-Nov-17 21:45	-Nov-17 00::	10670	318WAI0	
63466-71-7	*Benzo(a)pyrene-d12*	*73*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*82*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PZ-7D-11817	10C3074.0011.09	Ground Water	08-Nov-17 13:58	09-Nov-17
SC41288-07				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00	U, D	µg/l	5.00	2.66	5	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
67-64-1	Acetone	**60.6**	D	µg/l	50.0	4.02	5	"	"	"	"	"	X
71-43-2	Benzene	< 5.00	U, D	µg/l	5.00	1.42	5	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 2.50	U, D	µg/l	2.50	2.08	5	"	"	"	"	"	X
75-25-2	Bromoform	< 5.00	U, D	µg/l	5.00	2.12	5	"	"	"	"	"	X
74-83-9	Bromomethane	< 10.0	U, D	µg/l	10.0	4.48	5	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0	U, D	µg/l	10.0	5.35	5	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 10.0	U, D	µg/l	10.0	2.06	5	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 5.00	U, D	µg/l	5.00	2.18	5	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 5.00	U, D	µg/l	5.00	1.24	5	"	"	"	"	"	X
75-00-3	Chloroethane	< 10.0	U, D	µg/l	10.0	2.94	5	"	"	"	"	"	X
67-66-3	Chloroform	< 5.00	U, D	µg/l	5.00	1.63	5	"	"	"	"	"	X
74-87-3	Chloromethane	< 10.0	U, D	µg/l	10.0	1.84	5	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0	U, D	µg/l	10.0	4.32	5	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 2.50	U, D	µg/l	2.50	1.58	5	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 2.50	U, D	µg/l	2.50	1.01	5	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 5.00	U, D	µg/l	5.00	1.38	5	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 5.00	U, D	µg/l	5.00	1.57	5	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 5.00	U, D	µg/l	5.00	1.36	5	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0	U, D	µg/l	10.0	2.92	5	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 5.00	U, D	µg/l	5.00	1.62	5	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 5.00	U, D	µg/l	5.00	1.38	5	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 5.00	U, D	µg/l	5.00	3.46	5	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**576**	D, E	µg/l	5.00	1.64	5	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	**3.80**	J, D	µg/l	5.00	1.88	5	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 5.00	U, D	µg/l	5.00	1.46	5	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 2.50	U, D	µg/l	2.50	1.80	5	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 2.50	U, D	µg/l	2.50	1.74	5	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 5.00	U, D	µg/l	5.00	1.64	5	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0	U, D	µg/l	10.0	2.64	5	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 5.00	U, D	µg/l	5.00	1.80	5	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 5.00	U, D	µg/l	5.00	1.18	5	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0	U, D	µg/l	10.0	2.58	5	"	"	"	"	"	X
75-09-2	Methylene chloride	< 10.0	U, D	µg/l	10.0	3.30	5	"	"	"	"	"	X
100-42-5	Styrene	< 5.00	U, D	µg/l	5.00	2.02	5	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 2.50	U, D	µg/l	2.50	1.65	5	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**8.10**	D	µg/l	5.00	2.85	5	"	"	"	"	"	X
108-88-3	Toluene	< 5.00	U, D	µg/l	5.00	1.50	5	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 5.00	U, D	µg/l	5.00	1.89	5	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 5.00	U, D	µg/l	5.00	2.54	5	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 5.00	U, D	µg/l	5.00	1.65	5	"	"	"	"	"	X
79-01-6	Trichloroethene	< 5.00	U, D	µg/l	5.00	2.48	5	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PZ-7D-11817	10C3074.0011.09	Ground Water	08-Nov-17 13:58	09-Nov-17
SC41288-07				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00	U, D	µg/l	5.00	2.44	5	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
75-01-4	Vinyl chloride	**108**	D	µg/l	5.00	2.36	5	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 10.0	U, D	µg/l	10.0	1.90	5	"	"	"	"	"	X
95-47-6	o-Xylene	< 5.00	U, D	µg/l	5.00	1.42	5	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 15.0	U, D	µg/l	15.0	15.0	5	"	"	"	"	"	X
110-82-7	Cyclohexane	< 25.0	U, D	µg/l	25.0	3.94	5	"	"	"	"	"	X
79-20-9	Methyl acetate	< 25.0	U, D	µg/l	25.0	3.24	5	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 25.0	U, D	µg/l	25.0	3.71	5	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*102*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*99*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*			*70-130 %*			"	"	"	"	"	
Re-analysis of Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
156-59-2	cis-1,2-Dichloroethene	**485**	D	µg/l	20.0	6.54	20	SW846 8260C	17-Nov-17	18-Nov-17	EK	1719435	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*92*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*97*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*100*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*95*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	**4**	Ja	ng/l	8	2	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 05:59	10670	17320005	
375-73-5	Perfluorobutanesulfonate	**2**	Ja	ng/l	3	0.8	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 3		ng/l	3	0.8	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 5		ng/l	5	1	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 3		ng/l	3	0.8	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**2**	Ja, B	ng/l	3	0.8	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*138*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*60*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*49*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*52*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*64*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*65*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	**0.10**	Ja	ug/l	0.19	0.048	1	SW-846 8270D SIM	15-Nov-17 21:45	21-Nov-17 01:16	10670	318WAI0	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PZ-7D-11817	10C3074.0011.09	Ground Water	08-Nov-17 13:58	09-Nov-17
SC41288-07				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Subcontracted Analyses													
Subcontracted Analyses													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*97*			*29-123 %*			SW-846 8270D SIM	15-Nov-17 21:45	-Nov-17 01:	10670	318WAI0	
63466-71-7	*Benzo(a)pyrene-d12*	*87*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*89*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-8-11817	10C3074.0011.09	Ground Water	08-Nov-17 13:40	09-Nov-17
SC41288-08				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00	U, D	µg/l	5.00	2.66	5	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
67-64-1	Acetone	< 50.0	U, D	µg/l	50.0	4.02	5	"	"	"	"	"	X
71-43-2	Benzene	< 5.00	U, D	µg/l	5.00	1.42	5	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 2.50	U, D	µg/l	2.50	2.08	5	"	"	"	"	"	X
75-25-2	Bromoform	< 5.00	U, D	µg/l	5.00	2.12	5	"	"	"	"	"	X
74-83-9	Bromomethane	< 10.0	U, D	µg/l	10.0	4.48	5	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0	U, D	µg/l	10.0	5.35	5	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 10.0	U, D	µg/l	10.0	2.06	5	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 5.00	U, D	µg/l	5.00	2.18	5	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 5.00	U, D	µg/l	5.00	1.24	5	"	"	"	"	"	X
75-00-3	Chloroethane	< 10.0	U, D	µg/l	10.0	2.94	5	"	"	"	"	"	X
67-66-3	Chloroform	< 5.00	U, D	µg/l	5.00	1.63	5	"	"	"	"	"	X
74-87-3	Chloromethane	< 10.0	U, D	µg/l	10.0	1.84	5	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0	U, D	µg/l	10.0	4.32	5	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 2.50	U, D	µg/l	2.50	1.58	5	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 2.50	U, D	µg/l	2.50	1.01	5	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 5.00	U, D	µg/l	5.00	1.38	5	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 5.00	U, D	µg/l	5.00	1.57	5	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 5.00	U, D	µg/l	5.00	1.36	5	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0	U, D	µg/l	10.0	2.92	5	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 5.00	U, D	µg/l	5.00	1.62	5	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 5.00	U, D	µg/l	5.00	1.38	5	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 5.00	U, D	µg/l	5.00	3.46	5	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**565**	D, E	µg/l	5.00	1.64	5	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 5.00	U, D	µg/l	5.00	1.88	5	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 5.00	U, D	µg/l	5.00	1.46	5	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 2.50	U, D	µg/l	2.50	1.80	5	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 2.50	U, D	µg/l	2.50	1.74	5	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 5.00	U, D	µg/l	5.00	1.64	5	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0	U, D	µg/l	10.0	2.64	5	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 5.00	U, D	µg/l	5.00	1.80	5	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	**12.8**	D	µg/l	5.00	1.18	5	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0	U, D	µg/l	10.0	2.58	5	"	"	"	"	"	X
75-09-2	Methylene chloride	< 10.0	U, D	µg/l	10.0	3.30	5	"	"	"	"	"	X
100-42-5	Styrene	< 5.00	U, D	µg/l	5.00	2.02	5	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 2.50	U, D	µg/l	2.50	1.65	5	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**181**	D	µg/l	5.00	2.85	5	"	"	"	"	"	X
108-88-3	Toluene	< 5.00	U, D	µg/l	5.00	1.50	5	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 5.00	U, D	µg/l	5.00	1.89	5	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 5.00	U, D	µg/l	5.00	2.54	5	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 5.00	U, D	µg/l	5.00	1.65	5	"	"	"	"	"	X
79-01-6	Trichloroethene	**12.6**	D	µg/l	5.00	2.48	5	"	"	"	"	"	X

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00	U, D	µg/l	5.00	2.44	5	SW846 8260C	15-Nov-17	16-Nov-17	GMA	1719294	X
75-01-4	Vinyl chloride	**308**	D	µg/l	5.00	2.36	5	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 10.0	U, D	µg/l	10.0	1.90	5	"	"	"	"	"	X
95-47-6	o-Xylene	< 5.00	U, D	µg/l	5.00	1.42	5	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 15.0	U, D	µg/l	15.0	15.0	5	"	"	"	"	"	X
110-82-7	Cyclohexane	< 25.0	U, D	µg/l	25.0	3.94	5	"	"	"	"	"	X
79-20-9	Methyl acetate	< 25.0	U, D	µg/l	25.0	3.24	5	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 25.0	U, D	µg/l	25.0	3.71	5	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*104*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*100*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*70-130 %*			"	"	"	"	"	
Re-analysis of Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
156-59-2	cis-1,2-Dichloroethene	**461**	D	µg/l	20.0	6.54	20	SW846 8260C	17-Nov-17	18-Nov-17	EK	1719435	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*90*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*104*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*98*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 5		ng/l	5	1	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 06:20	10670	17320005	
375-73-5	Perfluorobutanesulfonate	< 2		ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 3		ng/l	3	0.7	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**0.5**	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*171*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*140*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*162*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*148*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*151*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*148*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	**0.078**	Ja	ug/l	0.20	0.050	1	SW-846 8270D SIM	15-Nov-17 21:45	21-Nov-17 01:46	10670	318WAI0	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PW-8-11817 SC41288-08	10C3074.0011.09	Ground Water	08-Nov-17 13:40	09-Nov-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Subcontracted Analyses													
Subcontracted Analyses													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*90*			*29-123 %*			SW-846 8270D SIM	15-Nov-17 21:45	-Nov-17 01:	10670	318WAI0	
63466-71-7	*Benzo(a)pyrene-d12*	*81*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*88*			*42-119 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719294 - SW846 5030 Water MS										
Blank (1719294-BLK1)					Prepared & Analyzed: 15-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00						
Acetone	< 10.0	U	µg/l	10.0						
Benzene	< 1.00	U	µg/l	1.00						
Bromodichloromethane	< 0.50	U	µg/l	0.50						
Bromoform	< 1.00	U	µg/l	1.00						
Bromomethane	< 2.00	U	µg/l	2.00						
2-Butanone (MEK)	< 2.00	U	µg/l	2.00						
Carbon disulfide	< 2.00	U	µg/l	2.00						
Carbon tetrachloride	< 1.00	U	µg/l	1.00						
Chlorobenzene	< 1.00	U	µg/l	1.00						
Chloroethane	< 2.00	U	µg/l	2.00						
Chloroform	< 1.00	U	µg/l	1.00						
Chloromethane	< 2.00	U	µg/l	2.00						
1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00						
Dibromochloromethane	< 0.50	U	µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50						
1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00						
1,1-Dichloroethane	< 1.00	U	µg/l	1.00						
1,2-Dichloroethane	< 1.00	U	µg/l	1.00						
1,1-Dichloroethene	< 1.00	U	µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
1,2-Dichloropropane	< 1.00	U	µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
Ethylbenzene	< 1.00	U	µg/l	1.00						
2-Hexanone (MBK)	< 2.00	U	µg/l	2.00						
Isopropylbenzene	< 1.00	U	µg/l	1.00						
Methyl tert-butyl ether	< 1.00	U	µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00						
Methylene chloride	< 2.00	U	µg/l	2.00						
Styrene	< 1.00	U	µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50						
Tetrachloroethene	< 1.00	U	µg/l	1.00						
Toluene	< 1.00	U	µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00						
1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00						
1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00						
Trichloroethene	< 1.00	U	µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00						
Vinyl chloride	< 1.00	U	µg/l	1.00						
m,p-Xylene	< 2.00	U	µg/l	2.00						
o-Xylene	< 1.00	U	µg/l	1.00						
Total Xylenes	< 3.00	U	µg/l	3.00						
Cyclohexane	< 5.00	U	µg/l	5.00						
Methyl acetate	< 5.00	U	µg/l	5.00						
Methylcyclohexane	< 5.00	U	µg/l	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719294 - SW846 5030 Water MS										
Blank (1719294-BLK1)					Prepared & Analyzed: 15-Nov-17					
Surrogate: 4-Bromofluorobenzene	*52.3*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*50.6*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.6*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*51.8*		µg/l		*50.0*		*104*	*70-130*		
LCS (1719294-BS1)					Prepared: 15-Nov-17 Analyzed: 16-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**24.3**		µg/l		20.0		122	70-130		
Acetone	**25.9**		µg/l		20.0		129	70-130		
Benzene	**21.5**		µg/l		20.0		108	70-130		
Bromodichloromethane	**20.6**		µg/l		20.0		103	70-130		
Bromoform	**20.4**		µg/l		20.0		102	70-130		
Bromomethane	**19.1**		µg/l		20.0		95	70-130		
2-Butanone (MEK)	**17.1**		µg/l		20.0		86	70-130		
Carbon disulfide	**23.1**		µg/l		20.0		116	70-130		
Carbon tetrachloride	**22.5**		µg/l		20.0		113	70-130		
Chlorobenzene	**21.0**		µg/l		20.0		105	70-130		
Chloroethane	**24.1**		µg/l		20.0		120	70-130		
Chloroform	**20.4**		µg/l		20.0		102	70-130		
Chloromethane	**25.0**		µg/l		20.0		125	70-130		
1,2-Dibromo-3-chloropropane	**16.5**		µg/l		20.0		83	70-130		
Dibromochloromethane	**22.4**		µg/l		20.0		112	70-130		
1,2-Dibromoethane (EDB)	**19.8**		µg/l		20.0		99	70-130		
1,2-Dichlorobenzene	**21.0**		µg/l		20.0		105	70-130		
1,3-Dichlorobenzene	**21.0**		µg/l		20.0		105	70-130		
1,4-Dichlorobenzene	**20.8**		µg/l		20.0		104	70-130		
Dichlorodifluoromethane (Freon12)	**21.9**		µg/l		20.0		109	70-130		
1,1-Dichloroethane	**19.5**		µg/l		20.0		98	70-130		
1,2-Dichloroethane	**20.7**		µg/l		20.0		104	70-130		
1,1-Dichloroethene	**28.1**	QM9	µg/l		20.0		141	70-130		
cis-1,2-Dichloroethene	**22.1**		µg/l		20.0		110	70-130		
trans-1,2-Dichloroethene	**21.2**		µg/l		20.0		106	70-130		
1,2-Dichloropropane	**19.8**		µg/l		20.0		99	70-130		
cis-1,3-Dichloropropene	**18.9**		µg/l		20.0		94	70-130		
trans-1,3-Dichloropropene	**19.2**		µg/l		20.0		96	70-130		
Ethylbenzene	**20.4**		µg/l		20.0		102	70-130		
2-Hexanone (MBK)	**17.1**		µg/l		20.0		86	70-130		
Isopropylbenzene	**21.2**		µg/l		20.0		106	70-130		
Methyl tert-butyl ether	**17.0**		µg/l		20.0		85	70-130		
4-Methyl-2-pentanone (MIBK)	**16.8**		µg/l		20.0		84	70-130		
Methylene chloride	**22.4**		µg/l		20.0		112	70-130		
Styrene	**20.3**		µg/l		20.0		101	70-130		
1,1,2,2-Tetrachloroethane	**19.0**		µg/l		20.0		95	70-130		
Tetrachloroethene	**22.3**		µg/l		20.0		112	70-130		
Toluene	**21.3**		µg/l		20.0		106	70-130		
1,2,4-Trichlorobenzene	**19.5**		µg/l		20.0		97	70-130		
1,1,1-Trichloroethane	**20.9**		µg/l		20.0		104	70-130		
1,1,2-Trichloroethane	**21.1**		µg/l		20.0		106	70-130		
Trichloroethene	**21.4**		µg/l		20.0		107	70-130		
Trichlorofluoromethane (Freon 11)	**26.3**	QC2	µg/l		20.0		132	70-130		
Vinyl chloride	**23.9**		µg/l		20.0		119	70-130		
m,p-Xylene	**20.3**		µg/l		20.0		102	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719294 - SW846 5030 Water MS										
LCS (1719294-BS1)						Prepared: 15-Nov-17 Analyzed: 16-Nov-17				
o-Xylene	**20.4**		µg/l		20.0		102	70-130		
Cyclohexane	**21.1**		µg/l		20.0		106	70-130		
Methyl acetate	**23.6**		µg/l		20.0		118	70-130		
Methylcyclohexane	**23.2**		µg/l		20.0		116	70-130		
Surrogate: 4-Bromofluorobenzene	*51.6*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.3*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*50.1*		µg/l		*50.0*		*100*	*70-130*		
LCS Dup (1719294-BSD1)						Prepared: 15-Nov-17 Analyzed: 16-Nov-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**18.1**	QR2	µg/l		20.0		90	70-130	29	20
Acetone	**25.9**		µg/l		20.0		129	70-130	0.08	20
Benzene	**22.0**		µg/l		20.0		110	70-130	2	20
Bromodichloromethane	**20.8**		µg/l		20.0		104	70-130	1	20
Bromoform	**21.8**		µg/l		20.0		109	70-130	6	20
Bromomethane	**25.9**	QR2	µg/l		20.0		130	70-130	30	20
2-Butanone (MEK)	**18.1**		µg/l		20.0		90	70-130	5	20
Carbon disulfide	**16.9**	QR2	µg/l		20.0		84	70-130	31	20
Carbon tetrachloride	**22.6**		µg/l		20.0		113	70-130	0.3	20
Chlorobenzene	**22.2**		µg/l		20.0		111	70-130	6	20
Chloroethane	**33.0**	QM9, QR5	µg/l		20.0		165	70-130	31	20
Chloroform	**21.9**		µg/l		20.0		110	70-130	7	20
Chloromethane	**31.2**	QR2	µg/l		20.0		156	70-130	22	20
1,2-Dibromo-3-chloropropane	**17.9**		µg/l		20.0		89	70-130	8	20
Dibromochloromethane	**22.8**		µg/l		20.0		114	70-130	2	20
1,2-Dibromoethane (EDB)	**22.2**		µg/l		20.0		111	70-130	11	20
1,2-Dichlorobenzene	**22.4**		µg/l		20.0		112	70-130	7	20
1,3-Dichlorobenzene	**22.2**		µg/l		20.0		111	70-130	6	20
1,4-Dichlorobenzene	**21.7**		µg/l		20.0		109	70-130	4	20
Dichlorodifluoromethane (Freon12)	**22.6**		µg/l		20.0		113	70-130	3	20
1,1-Dichloroethane	**20.9**		µg/l		20.0		104	70-130	7	20
1,2-Dichloroethane	**21.7**		µg/l		20.0		108	70-130	5	20
1,1-Dichloroethene	**25.5**		µg/l		20.0		128	70-130	10	20
cis-1,2-Dichloroethene	**22.6**		µg/l		20.0		113	70-130	2	20
trans-1,2-Dichloroethene	**22.3**		µg/l		20.0		112	70-130	5	20
1,2-Dichloropropane	**20.4**		µg/l		20.0		102	70-130	3	20
cis-1,3-Dichloropropene	**20.8**		µg/l		20.0		104	70-130	10	20
trans-1,3-Dichloropropene	**21.8**		µg/l		20.0		109	70-130	12	20
Ethylbenzene	**21.5**		µg/l		20.0		108	70-130	5	20
2-Hexanone (MBK)	**20.0**		µg/l		20.0		100	70-130	15	20
Isopropylbenzene	**22.5**		µg/l		20.0		113	70-130	6	20
Methyl tert-butyl ether	**19.6**		µg/l		20.0		98	70-130	14	20
4-Methyl-2-pentanone (MIBK)	**19.1**		µg/l		20.0		95	70-130	13	20
Methylene chloride	**17.0**	QR5	µg/l		20.0		85	70-130	27	20
Styrene	**21.2**		µg/l		20.0		106	70-130	5	20
1,1,2,2-Tetrachloroethane	**21.2**		µg/l		20.0		106	70-130	11	20
Tetrachloroethene	**23.8**		µg/l		20.0		119	70-130	6	20
Toluene	**22.6**		µg/l		20.0		113	70-130	6	20
1,2,4-Trichlorobenzene	**21.7**		µg/l		20.0		109	70-130	11	20
1,1,1-Trichloroethane	**21.7**		µg/l		20.0		109	70-130	4	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719294 - SW846 5030 Water MS										
LCS Dup (1719294-BSD1)					Prepared: 15-Nov-17 Analyzed: 16-Nov-17					
1,1,2-Trichloroethane	**22.4**		µg/l		20.0		112	70-130	6	20
Trichloroethene	**21.9**		µg/l		20.0		109	70-130	2	20
Trichlorofluoromethane (Freon 11)	**29.1**	QC2	µg/l		20.0		145	70-130	10	20
Vinyl chloride	**24.0**		µg/l		20.0		120	70-130	0.3	20
m,p-Xylene	**21.8**		µg/l		20.0		109	70-130	7	20
o-Xylene	**21.5**		µg/l		20.0		107	70-130	5	20
Cyclohexane	**22.0**		µg/l		20.0		110	70-130	4	30
Methyl acetate	**14.7**	QR2	µg/l		20.0		74	70-130	47	30
Methylcyclohexane	**22.4**		µg/l		20.0		112	70-130	3	30
Surrogate: 4-Bromofluorobenzene	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.4*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*50.2*		µg/l		*50.0*		*100*	*70-130*		
Matrix Spike (1719294-MS1)			**Source: SC41288-04**		Prepared: 15-Nov-17 Analyzed: 16-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**23.4**	D	µg/l		20.0	0.00	117	70-130		
Acetone	**30.7**	QM7, D	µg/l		20.0	0.00	154	70-130		
Benzene	**21.4**	D	µg/l		20.0	0.00	107	70-130		
Bromodichloromethane	**20.2**	D	µg/l		20.0	0.00	101	70-130		
Bromoform	**19.5**	D	µg/l		20.0	0.00	98	70-130		
Bromomethane	**21.2**	D	µg/l		20.0	0.00	106	70-130		
2-Butanone (MEK)	**15.6**	D	µg/l		20.0	0.00	78	70-130		
Carbon disulfide	**22.7**	D	µg/l		20.0	0.00	113	70-130		
Carbon tetrachloride	**22.2**	D	µg/l		20.0	0.00	111	70-130		
Chlorobenzene	**21.5**	D	µg/l		20.0	0.00	107	70-130		
Chloroethane	**28.8**	QM7, D	µg/l		20.0	0.00	144	70-130		
Chloroform	**20.7**	D	µg/l		20.0	0.00	103	70-130		
Chloromethane	**26.7**	QM7, D	µg/l		20.0	0.00	133	70-130		
1,2-Dibromo-3-chloropropane	**16.6**	D	µg/l		20.0	0.00	83	70-130		
Dibromochloromethane	**21.3**	D	µg/l		20.0	0.00	106	70-130		
1,2-Dibromoethane (EDB)	**20.4**	D	µg/l		20.0	0.00	102	70-130		
1,2-Dichlorobenzene	**21.4**	D	µg/l		20.0	0.00	107	70-130		
1,3-Dichlorobenzene	**21.2**	D	µg/l		20.0	0.00	106	70-130		
1,4-Dichlorobenzene	**21.3**	D	µg/l		20.0	0.00	106	70-130		
Dichlorodifluoromethane (Freon12)	**19.1**	D	µg/l		20.0	0.00	96	70-130		
1,1-Dichloroethane	**20.4**	D	µg/l		20.0	0.00	102	70-130		
1,2-Dichloroethane	**20.7**	D	µg/l		20.0	0.00	104	70-130		
1,1-Dichloroethene	**38.0**	QM7, D	µg/l		20.0	0.00	190	70-130		
cis-1,2-Dichloroethene	**26.6**	D	µg/l		20.0	4.55	110	70-130		
trans-1,2-Dichloroethene	**22.0**	D	µg/l		20.0	0.00	110	70-130		
1,2-Dichloropropane	**20.0**	D	µg/l		20.0	0.00	100	70-130		
cis-1,3-Dichloropropene	**18.9**	D	µg/l		20.0	0.00	94	70-130		
trans-1,3-Dichloropropene	**19.5**	D	µg/l		20.0	0.00	97	70-130		
Ethylbenzene	**20.8**	D	µg/l		20.0	0.00	104	70-130		
2-Hexanone (MBK)	**18.0**	D	µg/l		20.0	0.00	90	70-130		
Isopropylbenzene	**21.9**	D	µg/l		20.0	0.00	109	70-130		
Methyl tert-butyl ether	**17.3**	D	µg/l		20.0	0.00	86	70-130		
4-Methyl-2-pentanone (MIBK)	**17.5**	D	µg/l		20.0	0.00	88	70-130		
Methylene chloride	**23.6**	D	µg/l		20.0	0.00	118	70-130		
Styrene	**20.6**	D	µg/l		20.0	0.00	103	70-130		
1,1,2,2-Tetrachloroethane	**19.4**	D	µg/l		20.0	0.00	97	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719294 - SW846 5030 Water MS										
Matrix Spike (1719294-MS1)			**Source: SC41288-04**		Prepared: 15-Nov-17 Analyzed: 16-Nov-17					
Tetrachloroethene	**54.3**	D	µg/l		20.0	32.2	111	70-130		
Toluene	**21.3**	D	µg/l		20.0	0.00	107	70-130		
1,2,4-Trichlorobenzene	**20.1**	D	µg/l		20.0	0.00	101	70-130		
1,1,1-Trichloroethane	**21.0**	D	µg/l		20.0	0.00	105	70-130		
1,1,2-Trichloroethane	**20.6**	D	µg/l		20.0	0.00	103	70-130		
Trichloroethene	**24.6**	D	µg/l		20.0	2.94	108	70-130		
Trichlorofluoromethane (Freon 11)	**27.1**	QC2, D	µg/l		20.0	0.00	136	70-130		
Vinyl chloride	**22.3**	D	µg/l		20.0	0.00	111	70-130		
m,p-Xylene	**20.8**	D	µg/l		20.0	0.00	104	70-130		
o-Xylene	**21.4**	D	µg/l		20.0	0.00	107	70-130		
Cyclohexane	**21.7**	D	µg/l		20.0	0.00	109	70-130		
Methyl acetate	**26.7**	QM7, D	µg/l		20.0	0.00	134	70-130		
Methylcyclohexane	**22.2**	D	µg/l		20.0	0.00	111	70-130		
Surrogate: 4-Bromofluorobenzene	*51.7*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*49.6*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.1*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*50.2*		µg/l		*50.0*		*100*	*70-130*		
Matrix Spike Dup (1719294-MSD1)			**Source: SC41288-04**		Prepared: 15-Nov-17 Analyzed: 16-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**22.2**	D	µg/l		20.0	0.00	111	70-130		20
Acetone	**27.9**	QM7, D	µg/l		20.0	0.00	140	70-130		20
Benzene	**21.1**	D	µg/l		20.0	0.00	105	70-130	1	20
Bromodichloromethane	**20.3**	D	µg/l		20.0	0.00	102	70-130		20
Bromoform	**21.5**	D	µg/l		20.0	0.00	108	70-130		20
Bromomethane	**21.8**	D	µg/l		20.0	0.00	109	70-130		20
2-Butanone (MEK)	**14.8**	D	µg/l		20.0	0.00	74	70-130		20
Carbon disulfide	**22.6**	D	µg/l		20.0	0.00	113	70-130	0.4	20
Carbon tetrachloride	**21.6**	D	µg/l		20.0	0.00	108	70-130	2	20
Chlorobenzene	**21.4**	D	µg/l		20.0	0.00	107	70-130	0.2	20
Chloroethane	**28.8**	QM7, D	µg/l		20.0	0.00	144	70-130		20
Chloroform	**21.1**	D	µg/l		20.0	0.00	106	70-130	2	20
Chloromethane	**25.4**	D	µg/l		20.0	0.00	127	70-130	5	20
1,2-Dibromo-3-chloropropane	**16.1**	D	µg/l		20.0	0.00	81	70-130		20
Dibromochloromethane	**21.5**	D	µg/l		20.0	0.00	108	70-130	1	20
1,2-Dibromoethane (EDB)	**21.0**	D	µg/l		20.0	0.00	105	70-130	3	20
1,2-Dichlorobenzene	**21.3**	D	µg/l		20.0	0.00	106	70-130	0.4	20
1,3-Dichlorobenzene	**21.3**	D	µg/l		20.0	0.00	106	70-130	0.3	20
1,4-Dichlorobenzene	**20.8**	D	µg/l		20.0	0.00	104	70-130	2	20
Dichlorodifluoromethane (Freon12)	**18.7**	D	µg/l		20.0	0.00	93	70-130		20
1,1-Dichloroethane	**20.4**	D	µg/l		20.0	0.00	102	70-130	0.05	20
1,2-Dichloroethane	**20.6**	D	µg/l		20.0	0.00	103	70-130	0.5	20
1,1-Dichloroethene	**25.9**	QR5, D	µg/l		20.0	0.00	129	70-130	38	20
cis-1,2-Dichloroethene	**26.3**	D	µg/l		20.0	4.55	109	70-130	1	20
trans-1,2-Dichloroethene	**21.2**	D	µg/l		20.0	0.00	106	70-130	3	20
1,2-Dichloropropane	**19.7**	D	µg/l		20.0	0.00	98	70-130	2	20
cis-1,3-Dichloropropene	**19.6**	D	µg/l		20.0	0.00	98	70-130	4	20
trans-1,3-Dichloropropene	**19.5**	D	µg/l		20.0	0.00	98	70-130	0.3	20
Ethylbenzene	**20.7**	D	µg/l		20.0	0.00	104	70-130	0.7	20
2-Hexanone (MBK)	**16.7**	D	µg/l		20.0	0.00	84	70-130		20
Isopropylbenzene	**21.7**	D	µg/l		20.0	0.00	108	70-130	0.8	20
Methyl tert-butyl ether	**17.0**	D	µg/l		20.0	0.00	85	70-130	2	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719294 - SW846 5030 Water MS										
Matrix Spike Dup (1719294-MSD1)			**Source: SC41288-04**		Prepared: 15-Nov-17 Analyzed: 16-Nov-17					
4-Methyl-2-pentanone (MIBK)	**16.8**	D	µg/l		20.0	0.00	84	70-130		20
Methylene chloride	**23.9**	D	µg/l		20.0	0.00	119	70-130		20
Styrene	**21.4**	D	µg/l		20.0	0.00	107	70-130	4	20
1,1,2,2-Tetrachloroethane	**19.7**	D	µg/l		20.0	0.00	98	70-130	1	20
Tetrachloroethene	**52.5**	D	µg/l		20.0	32.2	102	70-130	3	20
Toluene	**21.5**	D	µg/l		20.0	0.00	107	70-130	0.7	20
1,2,4-Trichlorobenzene	**20.2**	D	µg/l		20.0	0.00	101	70-130	0.1	20
1,1,1-Trichloroethane	**20.5**	D	µg/l		20.0	0.00	102	70-130		20
1,1,2-Trichloroethane	**20.6**	D	µg/l		20.0	0.00	103	70-130	0.05	20
Trichloroethene	**23.5**	D	µg/l		20.0	2.94	103	70-130		20
Trichlorofluoromethane (Freon 11)	**24.8**	D	µg/l		20.0	0.00	124	70-130	9	20
Vinyl chloride	**22.5**	D	µg/l		20.0	0.00	112	70-130		20
m,p-Xylene	**21.0**	D	µg/l		20.0	0.00	105	70-130	0.9	20
o-Xylene	**20.6**	D	µg/l		20.0	0.00	103	70-130	3	20
Cyclohexane	**20.0**	D	µg/l		20.0	0.00	100	70-130		30
Methyl acetate	**27.0**	QM7, D	µg/l		20.0	0.00	135	70-130		30
Methylcyclohexane	**21.7**	D	µg/l		20.0	0.00	109	70-130		30
Surrogate: 4-Bromofluorobenzene	*52.2*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*50.7*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.8*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Batch 1719435 - SW846 5030 Water MS										
Blank (1719435-BLK1)					Prepared & Analyzed: 17-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00						
Acetone	< 10.0	U	µg/l	10.0						
Benzene	< 1.00	U	µg/l	1.00						
Bromodichloromethane	< 0.50	U	µg/l	0.50						
Bromoform	< 1.00	U	µg/l	1.00						
Bromomethane	< 2.00	U	µg/l	2.00						
2-Butanone (MEK)	< 2.00	U	µg/l	2.00						
Carbon disulfide	< 2.00	U	µg/l	2.00						
Carbon tetrachloride	< 1.00	U	µg/l	1.00						
Chlorobenzene	< 1.00	U	µg/l	1.00						
Chloroethane	< 2.00	U	µg/l	2.00						
Chloroform	< 1.00	U	µg/l	1.00						
Chloromethane	**0.38**	J	µg/l	2.00						
1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00						
Dibromochloromethane	< 0.50	U	µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50						
1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00						
1,1-Dichloroethane	< 1.00	U	µg/l	1.00						
1,2-Dichloroethane	< 1.00	U	µg/l	1.00						
1,1-Dichloroethene	< 1.00	U	µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
1,2-Dichloropropane	< 1.00	U	µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719435 - SW846 5030 Water MS										
Blank (1719435-BLK1)					Prepared & Analyzed: 17-Nov-17					
trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
Ethylbenzene	< 1.00	U	µg/l	1.00						
2-Hexanone (MBK)	< 2.00	U	µg/l	2.00						
Isopropylbenzene	< 1.00	U	µg/l	1.00						
Methyl tert-butyl ether	< 1.00	U	µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00						
Methylene chloride	< 2.00	U	µg/l	2.00						
Styrene	< 1.00	U	µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50						
Tetrachloroethene	< 1.00	U	µg/l	1.00						
Toluene	< 1.00	U	µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00						
1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00						
1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00						
Trichloroethene	< 1.00	U	µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00						
Vinyl chloride	< 1.00	U	µg/l	1.00						
m,p-Xylene	< 2.00	U	µg/l	2.00						
o-Xylene	< 1.00	U	µg/l	1.00						
Total Xylenes	< 3.00	U	µg/l	3.00						
Cyclohexane	< 5.00	U	µg/l	5.00						
Methyl acetate	< 5.00	U	µg/l	5.00						
Methylcyclohexane	< 5.00	U	µg/l	5.00						
Surrogate: 4-Bromofluorobenzene	*45.3*		µg/l		*50.0*		*91*	*70-130*		
Surrogate: Toluene-d8	*49.2*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*48.5*		µg/l		*50.0*		*97*	*70-130*		
LCS (1719435-BS1)					Prepared & Analyzed: 17-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**21.2**		µg/l		20.0		106	70-130		
Acetone	**19.9**		µg/l		20.0		99	70-130		
Benzene	**22.5**		µg/l		20.0		112	70-130		
Bromodichloromethane	**21.7**		µg/l		20.0		108	70-130		
Bromoform	**21.0**		µg/l		20.0		105	70-130		
Bromomethane	**25.0**		µg/l		20.0		125	70-130		
2-Butanone (MEK)	**18.4**		µg/l		20.0		92	70-130		
Carbon disulfide	**23.3**		µg/l		20.0		116	70-130		
Carbon tetrachloride	**21.6**		µg/l		20.0		108	70-130		
Chlorobenzene	**21.9**		µg/l		20.0		109	70-130		
Chloroethane	**23.0**		µg/l		20.0		115	70-130		
Chloroform	**21.0**		µg/l		20.0		105	70-130		
Chloromethane	**19.9**		µg/l		20.0		99	70-130		
1,2-Dibromo-3-chloropropane	**20.2**		µg/l		20.0		101	70-130		
Dibromochloromethane	**21.7**		µg/l		20.0		109	70-130		
1,2-Dibromoethane (EDB)	**20.4**		µg/l		20.0		102	70-130		
1,2-Dichlorobenzene	**22.6**		µg/l		20.0		113	70-130		
1,3-Dichlorobenzene	**21.8**		µg/l		20.0		109	70-130		
1,4-Dichlorobenzene	**21.4**		µg/l		20.0		107	70-130		
Dichlorodifluoromethane (Freon12)	**20.4**		µg/l		20.0		102	70-130		
1,1-Dichloroethane	**22.2**		µg/l		20.0		111	70-130		
1,2-Dichloroethane	**20.8**		µg/l		20.0		104	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719435 - SW846 5030 Water MS										
LCS (1719435-BS1)						Prepared & Analyzed: 17-Nov-17				
1,1-Dichloroethene	**21.4**		µg/l		20.0		107	70-130		
cis-1,2-Dichloroethene	**20.7**		µg/l		20.0		103	70-130		
trans-1,2-Dichloroethene	**21.0**		µg/l		20.0		105	70-130		
1,2-Dichloropropane	**21.6**		µg/l		20.0		108	70-130		
cis-1,3-Dichloropropene	**20.6**		µg/l		20.0		103	70-130		
trans-1,3-Dichloropropene	**20.4**		µg/l		20.0		102	70-130		
Ethylbenzene	**21.4**		µg/l		20.0		107	70-130		
2-Hexanone (MBK)	**20.2**		µg/l		20.0		101	70-130		
Isopropylbenzene	**20.8**		µg/l		20.0		104	70-130		
Methyl tert-butyl ether	**21.8**		µg/l		20.0		109	70-130		
4-Methyl-2-pentanone (MIBK)	**20.0**		µg/l		20.0		100	70-130		
Methylene chloride	**20.9**		µg/l		20.0		104	70-130		
Styrene	**22.8**		µg/l		20.0		114	70-130		
1,1,2,2-Tetrachloroethane	**22.8**		µg/l		20.0		114	70-130		
Tetrachloroethene	**22.0**		µg/l		20.0		110	70-130		
Toluene	**21.9**		µg/l		20.0		110	70-130		
1,2,4-Trichlorobenzene	**21.6**		µg/l		20.0		108	70-130		
1,1,1-Trichloroethane	**22.1**		µg/l		20.0		110	70-130		
1,1,2-Trichloroethane	**22.5**		µg/l		20.0		112	70-130		
Trichloroethene	**21.8**		µg/l		20.0		109	70-130		
Trichlorofluoromethane (Freon 11)	**22.2**		µg/l		20.0		111	70-130		
Vinyl chloride	**23.6**		µg/l		20.0		118	70-130		
m,p-Xylene	**21.7**		µg/l		20.0		109	70-130		
o-Xylene	**21.3**		µg/l		20.0		107	70-130		
Cyclohexane	**22.1**		µg/l		20.0		111	70-130		
Methyl acetate	**19.4**		µg/l		20.0		97	70-130		
Methylcyclohexane	**21.2**		µg/l		20.0		106	70-130		
Surrogate: 4-Bromofluorobenzene	*53.2*		µg/l		*50.0*		*106*	*70-130*		
Surrogate: Toluene-d8	*51.1*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.9*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*46.9*		µg/l		*50.0*		*94*	*70-130*		
LCS Dup (1719435-BSD1)						Prepared & Analyzed: 17-Nov-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.0**		µg/l		20.0		100	70-130	6	20
Acetone	**19.7**		µg/l		20.0		99	70-130	0.9	20
Benzene	**22.1**		µg/l		20.0		110	70-130	2	20
Bromodichloromethane	**20.5**		µg/l		20.0		102	70-130	6	20
Bromoform	**20.6**		µg/l		20.0		103	70-130	2	20
Bromomethane	**23.5**		µg/l		20.0		118	70-130	6	20
2-Butanone (MEK)	**18.8**		µg/l		20.0		94	70-130	2	20
Carbon disulfide	**21.6**		µg/l		20.0		108	70-130	7	20
Carbon tetrachloride	**20.2**		µg/l		20.0		101	70-130	7	20
Chlorobenzene	**20.4**		µg/l		20.0		102	70-130	7	20
Chloroethane	**21.8**		µg/l		20.0		109	70-130	5	20
Chloroform	**20.3**		µg/l		20.0		102	70-130	3	20
Chloromethane	**18.8**		µg/l		20.0		94	70-130	6	20
1,2-Dibromo-3-chloropropane	**20.0**		µg/l		20.0		100	70-130	0.9	20
Dibromochloromethane	**21.6**		µg/l		20.0		108	70-130	0.6	20
1,2-Dibromoethane (EDB)	**21.0**		µg/l		20.0		105	70-130	3	20
1,2-Dichlorobenzene	**22.0**		µg/l		20.0		110	70-130	3	20
1,3-Dichlorobenzene	**20.6**		µg/l		20.0		103	70-130	6	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719435 - SW846 5030 Water MS										
LCS Dup (1719435-BSD1)					Prepared & Analyzed: 17-Nov-17					
1,4-Dichlorobenzene	**20.6**		µg/l		20.0		103	70-130	4	20
Dichlorodifluoromethane (Freon12)	**19.2**		µg/l		20.0		96	70-130	6	20
1,1-Dichloroethane	**21.0**		µg/l		20.0		105	70-130	5	20
1,2-Dichloroethane	**21.5**		µg/l		20.0		107	70-130	3	20
1,1-Dichloroethene	**20.6**		µg/l		20.0		103	70-130	4	20
cis-1,2-Dichloroethene	**19.8**		µg/l		20.0		99	70-130	4	20
trans-1,2-Dichloroethene	**20.6**		µg/l		20.0		103	70-130	2	20
1,2-Dichloropropane	**22.0**		µg/l		20.0		110	70-130	2	20
cis-1,3-Dichloropropene	**19.7**		µg/l		20.0		99	70-130	4	20
trans-1,3-Dichloropropene	**20.9**		µg/l		20.0		104	70-130	2	20
Ethylbenzene	**19.9**		µg/l		20.0		99	70-130	7	20
2-Hexanone (MBK)	**20.3**		µg/l		20.0		101	70-130	0.5	20
Isopropylbenzene	**20.2**		µg/l		20.0		101	70-130	3	20
Methyl tert-butyl ether	**22.2**		µg/l		20.0		111	70-130	2	20
4-Methyl-2-pentanone (MIBK)	**20.6**		µg/l		20.0		103	70-130	3	20
Methylene chloride	**20.9**		µg/l		20.0		104	70-130	0.05	20
Styrene	**21.3**		µg/l		20.0		107	70-130	7	20
1,1,2,2-Tetrachloroethane	**22.4**		µg/l		20.0		112	70-130	2	20
Tetrachloroethene	**20.9**		µg/l		20.0		104	70-130	5	20
Toluene	**21.7**		µg/l		20.0		108	70-130	1	20
1,2,4-Trichlorobenzene	**20.5**		µg/l		20.0		102	70-130	5	20
1,1,1-Trichloroethane	**21.0**		µg/l		20.0		105	70-130	5	20
1,1,2-Trichloroethane	**23.0**		µg/l		20.0		115	70-130	2	20
Trichloroethene	**20.2**		µg/l		20.0		101	70-130	8	20
Trichlorofluoromethane (Freon 11)	**20.9**		µg/l		20.0		104	70-130	6	20
Vinyl chloride	**21.4**		µg/l		20.0		107	70-130	10	20
m,p-Xylene	**20.1**		µg/l		20.0		101	70-130	8	20
o-Xylene	**20.4**		µg/l		20.0		102	70-130	4	20
Cyclohexane	**21.6**		µg/l		20.0		108	70-130	2	30
Methyl acetate	**20.4**		µg/l		20.0		102	70-130	5	30
Methylcyclohexane	**20.3**		µg/l		20.0		101	70-130	4	30
Surrogate: 4-Bromofluorobenzene	*53.4*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Toluene-d8	*51.8*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.6*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*47.8*		µg/l		*50.0*		*96*	*70-130*		
Matrix Spike (1719435-MS1)			**Source: SC41288-06RE1**		Prepared & Analyzed: 17-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**21.6**	D	µg/l		20.0	0.00	108	70-130		
Acetone	**20.7**	D	µg/l		20.0	0.00	103	70-130		
Benzene	**23.0**	D	µg/l		20.0	0.00	115	70-130		
Bromodichloromethane	**22.0**	D	µg/l		20.0	0.00	110	70-130		
Bromoform	**22.7**	D	µg/l		20.0	0.00	114	70-130		
Bromomethane	**25.7**	D	µg/l		20.0	0.00	128	70-130		
2-Butanone (MEK)	**19.2**	D	µg/l		20.0	0.00	96	70-130		
Carbon disulfide	**23.2**	D	µg/l		20.0	0.22	115	70-130		
Carbon tetrachloride	**22.2**	D	µg/l		20.0	0.00	111	70-130		
Chlorobenzene	**22.4**	D	µg/l		20.0	0.00	112	70-130		
Chloroethane	**23.3**	D	µg/l		20.0	0.00	116	70-130		
Chloroform	**25.7**	D	µg/l		20.0	0.00	129	70-130		
Chloromethane	**19.5**	D	µg/l		20.0	0.45	95	70-130		
1,2-Dibromo-3-chloropropane	**21.8**	D	µg/l		20.0	0.00	109	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719435 - SW846 5030 Water MS										
Matrix Spike (1719435-MS1)			**Source: SC41288-06RE1**			Prepared & Analyzed: 17-Nov-17				
Dibromochloromethane	**22.8**	D	µg/l		20.0	0.00	114	70-130		
1,2-Dibromoethane (EDB)	**21.5**	D	µg/l		20.0	0.00	107	70-130		
1,2-Dichlorobenzene	**23.3**	D	µg/l		20.0	0.00	117	70-130		
1,3-Dichlorobenzene	**22.2**	D	µg/l		20.0	0.00	111	70-130		
1,4-Dichlorobenzene	**22.0**	D	µg/l		20.0	0.00	110	70-130		
Dichlorodifluoromethane (Freon12)	**19.8**	D	µg/l		20.0	0.00	99	70-130		
1,1-Dichloroethane	**22.5**	D	µg/l		20.0	0.00	112	70-130		
1,2-Dichloroethane	**22.0**	D	µg/l		20.0	0.00	110	70-130		
1,1-Dichloroethene	**22.3**	D	µg/l		20.0	0.00	111	70-130		
cis-1,2-Dichloroethene	**63.0**	QM7, D	µg/l		20.0	27.2	179	70-130		
trans-1,2-Dichloroethene	**22.0**	D	µg/l		20.0	0.27	109	70-130		
1,2-Dichloropropane	**21.9**	D	µg/l		20.0	0.00	109	70-130		
cis-1,3-Dichloropropene	**21.4**	D	µg/l		20.0	0.00	107	70-130		
trans-1,3-Dichloropropene	**21.2**	D	µg/l		20.0	0.00	106	70-130		
Ethylbenzene	**22.4**	D	µg/l		20.0	0.00	112	70-130		
2-Hexanone (MBK)	**20.5**	D	µg/l		20.0	0.00	103	70-130		
Isopropylbenzene	**22.3**	D	µg/l		20.0	0.00	112	70-130		
Methyl tert-butyl ether	**23.1**	D	µg/l		20.0	0.00	115	70-130		
4-Methyl-2-pentanone (MIBK)	**20.5**	D	µg/l		20.0	0.00	103	70-130		
Methylene chloride	**21.5**	D	µg/l		20.0	0.00	108	70-130		
Styrene	**23.6**	D	µg/l		20.0	0.00	118	70-130		
1,1,2,2-Tetrachloroethane	**24.3**	D	µg/l		20.0	0.00	121	70-130		
Tetrachloroethene	**40.4**	D	µg/l		20.0	17.4	115	70-130		
Toluene	**23.3**	D	µg/l		20.0	0.00	116	70-130		
1,2,4-Trichlorobenzene	**21.6**	D	µg/l		20.0	0.00	108	70-130		
1,1,1-Trichloroethane	**23.4**	D	µg/l		20.0	0.00	117	70-130		
1,1,2-Trichloroethane	**23.0**	D	µg/l		20.0	0.00	115	70-130		
Trichloroethene	**24.7**	D	µg/l		20.0	3.09	108	70-130		
Trichlorofluoromethane (Freon 11)	**22.1**	D	µg/l		20.0	0.00	110	70-130		
Vinyl chloride	**27.1**	D	µg/l		20.0	3.95	116	70-130		
m,p-Xylene	**22.2**	D	µg/l		20.0	0.00	111	70-130		
o-Xylene	**22.8**	D	µg/l		20.0	0.00	114	70-130		
Cyclohexane	**23.0**	D	µg/l		20.0	0.00	115	70-130		
Methyl acetate	**25.0**	D	µg/l		20.0	0.00	125	70-130		
Methylcyclohexane	**21.5**	D	µg/l		20.0	0.00	107	70-130		
Surrogate: 4-Bromofluorobenzene	*54.9*		µg/l		*50.0*		*110*	*70-130*		
Surrogate: Toluene-d8	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.4*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*55.2*		µg/l		*50.0*		*110*	*70-130*		
Matrix Spike Dup (1719435-MSD1)			**Source: SC41288-06RE1**			Prepared & Analyzed: 17-Nov-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.0**	D	µg/l		20.0	0.00	100	70-130		20
Acetone	**19.4**	D	µg/l		20.0	0.00	97	70-130		20
Benzene	**22.6**	D	µg/l		20.0	0.00	113	70-130		20
Bromodichloromethane	**21.2**	D	µg/l		20.0	0.00	106	70-130		20
Bromoform	**21.4**	D	µg/l		20.0	0.00	107	70-130		20
Bromomethane	**24.3**	D	µg/l		20.0	0.00	121	70-130		20
2-Butanone (MEK)	**18.5**	D	µg/l		20.0	0.00	92	70-130		20
Carbon disulfide	**22.1**	D	µg/l		20.0	0.22	109	70-130		20
Carbon tetrachloride	**21.4**	D	µg/l		20.0	0.00	107	70-130		20
Chlorobenzene	**21.4**	D	µg/l		20.0	0.00	107	70-130		20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719435 - SW846 5030 Water MS										
Matrix Spike Dup (1719435-MSD1)			**Source: SC41288-06RE1**		Prepared & Analyzed: 17-Nov-17					
Chloroethane	**22.6**	D	µg/l		20.0	0.00	113	70-130		20
Chloroform	**20.7**	D	µg/l		20.0	0.00	104	70-130		20
Chloromethane	**19.0**	D	µg/l		20.0	0.45	93	70-130		20
1,2-Dibromo-3-chloropropane	**20.3**	D	µg/l		20.0	0.00	101	70-130		20
Dibromochloromethane	**21.7**	D	µg/l		20.0	0.00	108	70-130		20
1,2-Dibromoethane (EDB)	**20.7**	D	µg/l		20.0	0.00	103	70-130		20
1,2-Dichlorobenzene	**22.0**	D	µg/l		20.0	0.00	110	70-130		20
1,3-Dichlorobenzene	**20.7**	D	µg/l		20.0	0.00	104	70-130		20
1,4-Dichlorobenzene	**20.6**	D	µg/l		20.0	0.00	103	70-130		20
Dichlorodifluoromethane (Freon12)	**19.4**	D	µg/l		20.0	0.00	97	70-130		20
1,1-Dichloroethane	**21.8**	D	µg/l		20.0	0.00	109	70-130		20
1,2-Dichloroethane	**21.5**	D	µg/l		20.0	0.00	108	70-130		20
1,1-Dichloroethene	**20.3**	D	µg/l		20.0	0.00	101	70-130		20
cis-1,2-Dichloroethene	**46.5**	D	µg/l		20.0	27.2	96	70-130		20
trans-1,2-Dichloroethene	**20.4**	D	µg/l		20.0	0.27	100	70-130		20
1,2-Dichloropropane	**21.9**	D	µg/l		20.0	0.00	110	70-130		20
cis-1,3-Dichloropropene	**21.2**	D	µg/l		20.0	0.00	106	70-130		20
trans-1,3-Dichloropropene	**21.5**	D	µg/l		20.0	0.00	108	70-130		20
Ethylbenzene	**21.4**	D	µg/l		20.0	0.00	107	70-130		20
2-Hexanone (MBK)	**20.2**	D	µg/l		20.0	0.00	101	70-130		20
Isopropylbenzene	**21.2**	D	µg/l		20.0	0.00	106	70-130		20
Methyl tert-butyl ether	**22.0**	D	µg/l		20.0	0.00	110	70-130		20
4-Methyl-2-pentanone (MIBK)	**20.5**	D	µg/l		20.0	0.00	102	70-130		20
Methylene chloride	**20.0**	D	µg/l		20.0	0.00	100	70-130		20
Styrene	**22.5**	D	µg/l		20.0	0.00	113	70-130		20
1,1,2,2-Tetrachloroethane	**23.1**	D	µg/l		20.0	0.00	116	70-130		20
Tetrachloroethene	**39.0**	D	µg/l		20.0	17.4	108	70-130		20
Toluene	**22.5**	D	µg/l		20.0	0.00	112	70-130		20
1,2,4-Trichlorobenzene	**20.6**	D	µg/l		20.0	0.00	103	70-130		20
1,1,1-Trichloroethane	**22.6**	D	µg/l		20.0	0.00	113	70-130		20
1,1,2-Trichloroethane	**22.4**	D	µg/l		20.0	0.00	112	70-130		20
Trichloroethene	**24.7**	D	µg/l		20.0	3.09	108	70-130		20
Trichlorofluoromethane (Freon 11)	**21.1**	D	µg/l		20.0	0.00	106	70-130		20
Vinyl chloride	**24.8**	D	µg/l		20.0	3.95	104	70-130		20
m,p-Xylene	**20.7**	D	µg/l		20.0	0.00	103	70-130		20
o-Xylene	**21.0**	D	µg/l		20.0	0.00	105	70-130		20
Cyclohexane	**21.9**	D	µg/l		20.0	0.00	109	70-130		30
Methyl acetate	**24.5**	D	µg/l		20.0	0.00	122	70-130		30
Methylcyclohexane	**20.8**	D	µg/l		20.0	0.00	104	70-130		30
Surrogate: 4-Bromofluorobenzene	*53.6*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Toluene-d8	*51.0*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.8*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*48.5*		µg/l		*50.0*		*97*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17320005 - METHOD										
Blank (BLK3200B)						Prepared: 16-Nov-17 Analyzed: 22-Nov-17				
Perfluorononanoic acid	< 1	Ua	ng/l	1				-		
Perfluoro-octanesulfonate	< 3	Ua	ng/l	3				-		
Perfluorohexanesulfonate	< 2	Ua	ng/l	2				-		
Perfluoroheptanoic acid	< 1	Ua	ng/l	1				-		
Perfluorobutanesulfonate	< 1	Ua	ng/l	1				-		
Perfluorooctanoic acid	**0.8**	Ja	ng/l	1				-		
Surrogate: 13C8-PFOS	*15*		ng/l		*19*		*77*	*43-115*		
Surrogate: 13C8-PFOA	*16*		ng/l		*20*		*80*	*43-112*		
Surrogate: 13C3-PFBS	*15*		ng/l		*19*		*79*	*26-148*		
Surrogate: 13C4-PFHpA	*17*		ng/l		*20*		*85*	*35-126*		
Surrogate: 13C3-PFHxS	*16*		ng/l		*19*		*83*	*34-126*		
Surrogate: 13C9-PFNA	*17*		ng/l		*20*		*86*	*32-134*		
LCS (LCS3205Q)						Prepared: 16-Nov-17 Analyzed: 22-Nov-17				
Perfluorohexanesulfonate	**6**		ng/l	2	5		126	70-130		
Perfluorobutanesulfonate	**6**		ng/l	1	5		116	70-130		
Perfluoroheptanoic acid	**7**		ng/l	1	5		123	70-130		
Perfluorononanoic acid	**7**		ng/l	1	5		132	70-130		
Perfluoro-octanesulfonate	**6**		ng/l	3	5		113	70-130		
Perfluorooctanoic acid	**6**		ng/l	1	5		117	70-130		
Surrogate: 13C3-PFBS	*12*		ng/l		*19*		*67*	*26-148*		
Surrogate: 13C9-PFNA	*15*		ng/l		*20*		*76*	*32-134*		
Surrogate: 13C8-PFOS	*14*		ng/l		*19*		*73*	*43-115*		
Surrogate: 13C8-PFOA	*15*		ng/l		*20*		*77*	*43-112*		
Surrogate: 13C3-PFHxS	*14*		ng/l		*19*		*76*	*34-126*		
Surrogate: 13C4-PFHpA	*15*		ng/l		*20*		*75*	*35-126*		
Matrix Spike Dup (P306581M)						Prepared: 16-Nov-17 Analyzed: 28-Nov-17				
Perfluorononanoic acid	**7**		ng/l	0.9	5	1	115	70-130	6	30
Perfluorobutanesulfonate	**10**		ng/l	0.9	5	5	117	70-130	11	30
Perfluorohexanesulfonate	**8**		ng/l	2	5	3	98	70-130	5	30
Perfluoro-octanesulfonate	**19**		ng/l	3	5	13	117	70-130	9	30
Perfluorooctanoic acid	**18**		ng/l	0.9	5	13	104	70-130	7	30
Perfluoroheptanoic acid	**10**		ng/l	0.9	5	4	111	70-130	10	30
Surrogate: 13C3-PFBS	*25*		ng/l		*18*		*143*	*26-148*		
Surrogate: 13C3-PFHxS	*11*		ng/l		*18*		*59*	*34-126*		
Surrogate: 13C4-PFHpA	*12*		ng/l		*19*		*64*	*35-126*		
Surrogate: 13C8-PFOA	*12*		ng/l		*19*		*61*	*43-112*		
Surrogate: 13C8-PFOS	*12*		ng/l		*18*		*68*	*43-115*		
Surrogate: 13C9-PFNA	*16*		ng/l		*19*		*83*	*32-134*		
Matrix Spike (P306581R)						Prepared: 16-Nov-17 Analyzed: 23-Nov-17				
Perfluoro-octanesulfonate	**17**		ng/l	3	5	13	84	70-130		
Perfluorooctanoic acid	**17**		ng/l	1	5	13	81	70-130		
Perfluorohexanesulfonate	**8**		ng/l	2	5	3	106	70-130		
Perfluorononanoic acid	**7**		ng/l	1	5	1	107	70-130		
Perfluoroheptanoic acid	**9**		ng/l	1	5	4	91	70-130		
Perfluorobutanesulfonate	**9**		ng/l	1	5	5	92	70-130		
Surrogate: 13C3-PFBS	*26*		ng/l		*18*		*147*	*26-148*		
Surrogate: 13C9-PFNA	*14*		ng/l		*19*		*76*	*32-134*		
Surrogate: 13C8-PFOS	*12*		ng/l		*18*		*67*	*43-115*		
Surrogate: 13C8-PFOA	*12*		ng/l		*19*		*61*	*43-112*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17320005 - METHOD										
Matrix Spike (P306581R)						Prepared: 16-Nov-17 Analyzed: 23-Nov-17				
Surrogate: 13C4-PFHpA	*13*		ng/l		*19*		*66*	*35-126*		
Surrogate: 13C3-PFHxS	*11*		ng/l		*18*		*61*	*34-126*		
SW-846 8270D SIM										
Batch 17318WAI026 - SW-846 3510C										
LCS (P8WILCSQ)						Prepared: 15-Nov-17 Analyzed: 20-Nov-17				
1,4-Dioxane	**0.52**		ug/l	0.20	1.0		52	28-103		
Surrogate: 1-Methylnaphthalene-d10	*0.90*		ug/l		*1.0*		*90*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.92*		ug/l		*1.0*		*92*	*39-121*		
Surrogate: Fluoranthene-d10	*0.86*		ug/l		*1.0*		*86*	*42-119*		
LCSD (P8WILCSY)						Prepared: 15-Nov-17 Analyzed: 20-Nov-17				
1,4-Dioxane	**0.48**		ug/l	0.20	1.0		48	28-103	8	30
Surrogate: 1-Methylnaphthalene-d10	*0.89*		ug/l		*1.0*		*89*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.90*		ug/l		*1.0*		*90*	*39-121*		
Surrogate: Fluoranthene-d10	*0.85*		ug/l		*1.0*		*84*	*42-119*		
Blank (PLKWI31B)						Prepared: 15-Nov-17 Analyzed: 20-Nov-17				
1,4-Dioxane	**0.088**	Ja	ug/l	0.20				-		
Surrogate: Fluoranthene-d10	*0.97*		ug/l		*1.0*		*97*	*42-119*		
Surrogate: 1-Methylnaphthalene-d10	*0.93*		ug/l		*1.0*		*93*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.92*		ug/l		*1.0*		*92*	*39-121*		

Notes and Definitions

B	Detected in blank
D	Data reported from a dilution
E	This flag indicates the concentration for this analyte is an estimated value due to exceeding the calibration range or interferences resulting in a biased final concentration.
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
J	Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
Ja	Estimated value
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QR5	RPD out of acceptance range.
U	Analyte included in the analysis, but not detected at or above the MDL.
Ua	
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC 41288 e

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: AS PER CONTRACT

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: MIKE STEFFAN
ECology + ENVIRONMENT INC.
368 PLEASANT VIEW DR
LANCASTER NY 14086
Telephone #:
Project Mgr:

Invoice To: MIKE STEFFAN
E+E
368 PLEASANT VIEW DR.
LANCASTER NY 14086
P.O No.: Quote #:

Project No: 10C3074.0011.09
Site Name: MR C's
Location: EAST AURORA State: NY
Sampler(s):

F=Field Filtered 1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= NONE 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic		Analysis: VOC's	PFAS	1,4 Dioxane						Check if chlorinated
	List Preservative Code below:										2	11	11						
41288-01	TB-11817	11/8/17	0750	G	W	2					X								☐
-02	PZ-6A-11817	11/8/17	0903	G	GW	3	2		2		X	X	X						☐
-03	MPT-6S 11817	11/8/17	1133	G	GW	3	2		2		X	X	X						☐
-04	PW-6 11817	11/8/17	1045	G	GW	3	2		2		X	X	X						☐
-05	PW-6 11817 FD	11/8/17	1046	G	GW	3	2		2		X	X	X						☐
-06	PW-7 11817	11/8/17	1115	G	GW	3	2		2		X	X	X						☐
-07	PZ-7D 11817	11/8/17	1358	G	GW	3	2		2		X	X	X						☐
-08	PW-8 11817	11/8/17	1340	G	GW	3	2		2		X	X	X						☐
																			☐
																			☐

QA/QC Reporting Notes:
* additional charges may appply

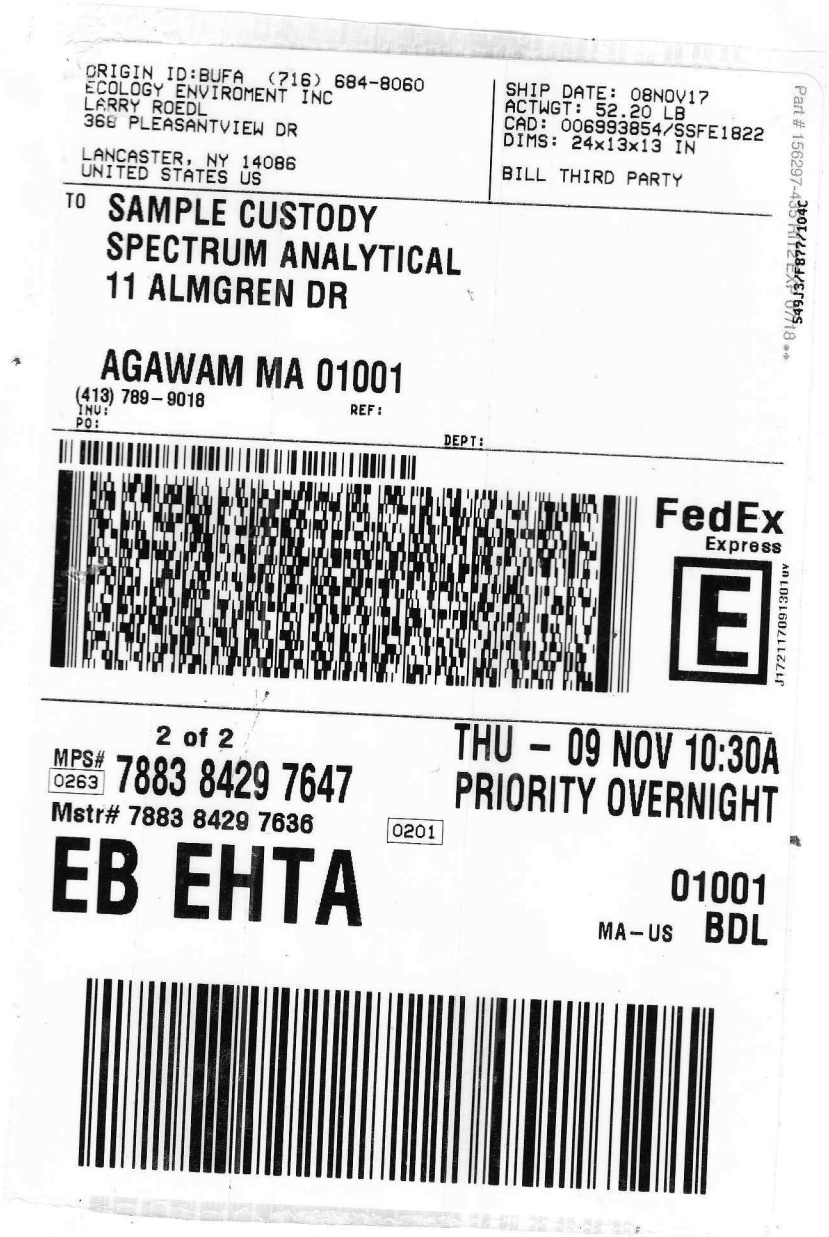
MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC
☐ DQA*
☐ ASP A* ☒ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other:
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp °C
		11/8/17	1800	Observed 2.9
Fedex		11/9/17	1053	Correction Factor 0
				Corrected 2.9
				IR ID # 2

☐ EDD format:
☐ E-mail to: MSTEFFAN@ENE.COM

Condition upon receipt: Custody Seals: ☑ Present ☑ Intact ☐ Broken
☐ Ambient ☑ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen


ORIGIN JNBUFA (716) 684-8060
ECOLOGY ENVIROMENT INC
LARRY ROEDL
368 PLEASANTVIEW DR
LANCASTER, NY 14086
UNITED STATES US
SHIP DATE: 08NOV17
ACTWGT: 54.20 LB
CAD: 006993854/SSFE1822
DIMS: 24x13x13 IN
BILL THIR
TO SAMPLE CUSTODY
SPECTRUM ANALYTICAL
11 ALMGREN DR
AGAWAM MA 01001
(413) 789-9018
REF:
DEPT:
RT 745
ST 19
FedEx
Express
1 of 2
TRK# 0201 7883 8429 7636
MASTER
THU - 09 NOV
PRIORITY OVERNIGHT
EB EHTA
01001
MA-US BDL



ORIGIN ID:BUFA (716) 684-8060
ECOLOGY ENVIROMENT INC
LARRY ROEDL
368 PLEASANTVIEW DR

LANCASTER, NY 14086
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SHIP DATE: 08NOV17
ACTWGT: 52.20 LB
CAD: 006993854/SSFE1822
DIMS: 24x13x13 IN

BILL THIRD PARTY

TO SAMPLE CUSTODY
SPECTRUM ANALYTICAL
11 ALMGREN DR

AGAWAM MA 01001
(413) 789-9018
INV:
PO:
REF:
DEPT:

FedEx Express

2 of 2
MPS# 0263 7883 8429 7647
Mstr# 7883 8429 7636

THU - 09 NOV 10:30A
PRIORITY OVERNIGHT

0201

EB EHTA

01001
MA-US BDL

Batch Summary

1719294

Volatile Organic Compounds

1719294-BLK1
1719294-BS1
1719294-BSD1
1719294-MS1
1719294-MSD1
SC41288-01 (TB-11817)
SC41288-02 (PZ-6A-11817)
SC41288-03 (MPI-6S-11817)
SC41288-04 (PW-6-11817)
SC41288-05 (PW-6-11817Q)
SC41288-06 (PW-7-11817)
SC41288-07 (PZ-7D-11817)
SC41288-08 (PW-8-11817)

1719435

Volatile Organic Compounds

1719435-BLK1
1719435-BS1
1719435-BSD1
1719435-MS1
1719435-MSD1
SC41288-06RE1 (PW-7-11817)
SC41288-07RE1 (PZ-7D-11817)
SC41288-08RE1 (PW-8-11817)

17318WAI026

Subcontracted Analyses

P8WILCSQ
P8WILCSY
PLKWI31B
SC41288-02 (PZ-6A-11817)
SC41288-03 (MPI-6S-11817)
SC41288-04 (PW-6-11817)
SC41288-05 (PW-6-11817Q)
SC41288-06 (PW-7-11817)
SC41288-07 (PZ-7D-11817)
SC41288-08 (PW-8-11817)

17320005

Subcontracted Analyses

BLK3200B
LCS3205Q
P306581M
P306581R
SC41288-02 (PZ-6A-11817)
SC41288-03 (MPI-6S-11817)
SC41288-04 (PW-6-11817)
SC41288-05 (PW-6-11817Q)
SC41288-06 (PW-7-11817)
SC41288-07 (PZ-7D-11817)
SC41288-08 (PW-8-11817)

S709132

Volatile Organic Compounds

S709132-CAL1
S709132-CAL2
S709132-CAL3
S709132-CAL4
S709132-CAL5
S709132-CAL6
S709132-CAL7
S709132-CAL8
S709132-CAL9
S709132-CALA
S709132-CALB
S709132-ICV1
S709132-LCV1
S709132-LCV2
S709132-TUN1

S710094

Volatile Organic Compounds

S710094-CCV1
S710094-TUN1

S710162

Volatile Organic Compounds

S710162-CCV1
S710162-TUN1

S710164

Volatile Organic Compounds

S710164-CAL1
S710164-CAL2
S710164-CAL3
S710164-CAL4
S710164-CAL5
S710164-CAL6
S710164-CAL7
S710164-CAL8
S710164-CAL9
S710164-ICV1
S710164-LCV1
S710164-LCV2
S710164-TUN1

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☑ Final Report
☐ Revised Report

Report Date:
08-Dec-17 11:43

Laboratory Report
SC41221

Ecology and Environment, Inc.
368 Pleasant View Drive
Lancaster, NY 14086
Attn: Mike Steffan

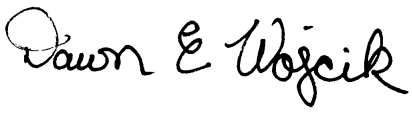
Project: Mr. C's Groundwaters
Project #: 10C3074.0011.09

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director



Eurofins Spectrum Analytical holds primary NELAC certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 23 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC41221

Project: Mr. C's Groundwaters

Project Number: 10C3074.0011.09

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC41221-01	TB-11717	Water	07-Nov-17 07:56	08-Nov-17 10:30
SC41221-02	MPI-2S 11717	Ground Water	07-Nov-17 08:53	08-Nov-17 10:30
SC41221-03	MW-11 11717	Ground Water	07-Nov-17 11:00	08-Nov-17 10:30
SC41221-04	MW-7 11717	Ground Water	07-Nov-17 12:18	08-Nov-17 10:30
SC41221-05	MPI-14BR 11717	Ground Water	07-Nov-17 14:37	08-Nov-17 10:30

CASE NARRATIVE:

Data has been reported to the RDL. This report includes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the detection limit are reported as "<" (less than) the detection limit in this report.

The samples were received 2.7 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

EPA 537 modified

Samples:

SC41221-02 *MPI-2S 11717*

Detected in blank

Perfluorooctanoic acid

SC41221-03 *MW-11 11717*

Detected in blank

Perfluorooctanoic acid

SC41221-04 *MW-7 11717*

Detected in blank

Perfluorooctanoic acid

SC41221-05 *MPI-14BR 11717*

Detected in blank

Perfluorooctanoic acid

SW846 8260C

Calibration:

1711018

Analyte quantified by quadratic equation type calibration.

2-Hexanone (MBK)
Vinyl chloride

This affected the following samples:

1719218-BLK1
1719218-BS1
1719218-BSD1
MPI-14BR 11717
MPI-2S 11717
MW-11 11717
MW-7 11717
S709964-ICV1
S710042-CCV1
TB-11717

SW846 8260C

Samples:

S710042-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,2-Dibromo-3-chloropropane (-22.6%)
Bromoform (-27.4%)
Carbon tetrachloride (-24.9%)
Trichlorofluoromethane (Freon 11) (25.3%)

This affected the following samples:

1719218-BLK1
1719218-BS1
1719218-BSD1
MPI-14BR 11717
MPI-2S 11717
MW-11 11717
MW-7 11717
TB-11717

SC41221-04 *MW-7 11717*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Sample Acceptance Check Form

Client:	Ecology and Environment, Inc.
Project:	Mr. C's Groundwaters / 10C3074.0011.09
Work Order:	SC41221
Sample(s) received on:	11/8/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☑	☐	☐
Were custody seals intact?	☑	☐	☐
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC41221-02 **Client ID:** MPI-2S 11717

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	3		0.9	ng/l	EPA 537 modified
Perfluorohexanesulfonate	0.8	Ja	2	ng/l	EPA 537 modified
Perfluorooctanoic acid	1	B	0.9	ng/l	EPA 537 modified
1,1,1-Trichloroethane	2.63		1.00	µg/l	SW846 8260C
Chloroform	6.08		1.00	µg/l	SW846 8260C
Tetrachloroethene	2.37		1.00	µg/l	SW846 8260C

Lab ID: SC41221-03 **Client ID:** MW-11 11717

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	4		1	ng/l	EPA 537 modified
Perfluoroheptanoic acid	7		1	ng/l	EPA 537 modified
Perfluorohexanesulfonate	3		2	ng/l	EPA 537 modified
Perfluorononanoic acid	0.6	Ja	1	ng/l	EPA 537 modified
Perfluoro-octanesulfonate	4		3	ng/l	EPA 537 modified
Perfluorooctanoic acid	17	B	1	ng/l	EPA 537 modified
Tetrachloroethene	61.5		1.00	µg/l	SW846 8260C

Lab ID: SC41221-04 **Client ID:** MW-7 11717

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	3		1	ng/l	EPA 537 modified
Perfluoroheptanoic acid	5		1	ng/l	EPA 537 modified
Perfluorohexanesulfonate	2	Ja	2	ng/l	EPA 537 modified
Perfluoro-octanesulfonate	2	Ja	3	ng/l	EPA 537 modified
Perfluorooctanoic acid	12	B	1	ng/l	EPA 537 modified
Tetrachloroethene	701	D	20.0	µg/l	SW846 8260C

Lab ID: SC41221-05 **Client ID:** MPI-14BR 11717

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	3		2	ng/l	EPA 537 modified
Perfluorooctanoic acid	0.6	Ja, B	2	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	0.42	J	1.00	µg/l	SW846 8260C
Tetrachloroethene	2.21		1.00	µg/l	SW846 8260C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-11717	10C3074.0011.09	Water	07-Nov-17 07:56	08-Nov-17
SC41221-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-11717	10C3074.0011.09	Water	07-Nov-17 07:56	08-Nov-17
SC41221-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*87*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*117*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*107*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-2S 11717	10C3074.0011.09	Ground Water	07-Nov-17 08:53	08-Nov-17
SC41221-02				

Volatile Organic Compounds

Volatile Organic Compounds by SW846 8260
Prepared by method SW846 5030 Water MS

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	**6.08**		µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**2.37**		µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	**2.63**		µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-2S 11717	10C3074.0011.09	Ground Water	07-Nov-17 08:53	08-Nov-17
SC41221-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*89*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*116*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*107*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 3		ng/l	3	0.8	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 02:13	10670	17320005	
375-73-5	Perfluorobutanesulfonate	**3**		ng/l	0.9	0.3	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 0.9		ng/l	0.9	0.3	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	**0.8**	Ja	ng/l	2	0.4	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 0.9		ng/l	0.9	0.3	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**1**	B	ng/l	0.9	0.3	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*84*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*69*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*70*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*69*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*68*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*70*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.19		ug/l	0.19	0.048	1	SW-846 8270D SIM	13-Nov-17 08:00	20-Nov-17 15:20	10670	314WAA0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*91*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*86*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*99*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-11 11717	10C3074.0011.09	Ground Water	07-Nov-17 11:00	08-Nov-17
SC41221-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**61.5**		µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-11 11717	10C3074.0011.09	Ground Water	07-Nov-17 11:00	08-Nov-17
SC41221-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*88*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*114*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*106*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	**4**		ng/l	3	0.8	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 02:34	10670	17320005	
375-73-5	Perfluorobutanesulfonate	**4**		ng/l	1	0.3	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	**7**		ng/l	1	0.3	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	**3**		ng/l	2	0.4	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	**0.6**	Ja	ng/l	1	0.3	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**17**	B	ng/l	1	0.3	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*89*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*71*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*69*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*68*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*73*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*73*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.19		ug/l	0.19	0.048	1	SW-846 8270D SIM	13-Nov-17 08:00	20-Nov-17 15:54	10670	314WAA0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*87*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*78*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*97*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-7 11717	10C3074.0011.09	Ground Water	07-Nov-17 12:18	08-Nov-17
SC41221-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 20.0	U, D	µg/l	20.0	10.6	20	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
67-64-1	Acetone	< 200	U, D	µg/l	200	16.1	20	"	"	"	"	"	X
71-43-2	Benzene	< 20.0	U, D	µg/l	20.0	5.68	20	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 10.0	U, D	µg/l	10.0	8.34	20	"	"	"	"	"	X
75-25-2	Bromoform	< 20.0	U, D	µg/l	20.0	8.50	20	"	"	"	"	"	X
74-83-9	Bromomethane	< 40.0	U, D	µg/l	40.0	17.9	20	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 40.0	U, D	µg/l	40.0	21.4	20	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 40.0	U, D	µg/l	40.0	8.24	20	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 20.0	U, D	µg/l	20.0	8.74	20	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 20.0	U, D	µg/l	20.0	4.98	20	"	"	"	"	"	X
75-00-3	Chloroethane	< 40.0	U, D	µg/l	40.0	11.8	20	"	"	"	"	"	X
67-66-3	Chloroform	< 20.0	U, D	µg/l	20.0	6.52	20	"	"	"	"	"	X
74-87-3	Chloromethane	< 40.0	U, D	µg/l	40.0	7.36	20	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 40.0	U, D	µg/l	40.0	17.3	20	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 10.0	U, D	µg/l	10.0	6.34	20	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 10.0	U, D	µg/l	10.0	4.04	20	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 20.0	U, D	µg/l	20.0	5.54	20	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 20.0	U, D	µg/l	20.0	6.28	20	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 20.0	U, D	µg/l	20.0	5.44	20	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 40.0	U, D	µg/l	40.0	11.7	20	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 20.0	U, D	µg/l	20.0	6.46	20	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 20.0	U, D	µg/l	20.0	5.54	20	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 20.0	U, D	µg/l	20.0	13.9	20	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 20.0	U, D	µg/l	20.0	6.54	20	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 20.0	U, D	µg/l	20.0	7.54	20	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 20.0	U, D	µg/l	20.0	5.84	20	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 10.0	U, D	µg/l	10.0	7.18	20	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 10.0	U, D	µg/l	10.0	6.94	20	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 20.0	U, D	µg/l	20.0	6.58	20	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 40.0	U, D	µg/l	40.0	10.6	20	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 20.0	U, D	µg/l	20.0	7.20	20	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 20.0	U, D	µg/l	20.0	4.74	20	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 40.0	U, D	µg/l	40.0	10.3	20	"	"	"	"	"	X
75-09-2	Methylene chloride	< 40.0	U, D	µg/l	40.0	13.2	20	"	"	"	"	"	X
100-42-5	Styrene	< 20.0	U, D	µg/l	20.0	8.10	20	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 10.0	U, D	µg/l	10.0	6.60	20	"	"	"	"	"	X
127-18-4	Tetrachloroethene	701	D	µg/l	20.0	11.4	20	"	"	"	"	"	X
108-88-3	Toluene	< 20.0	U, D	µg/l	20.0	5.98	20	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 20.0	U, D	µg/l	20.0	7.56	20	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 20.0	U, D	µg/l	20.0	10.2	20	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 20.0	U, D	µg/l	20.0	6.60	20	"	"	"	"	"	X
79-01-6	Trichloroethene	< 20.0	U, D	µg/l	20.0	9.94	20	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-7 11717	10C3074.0011.09	Ground Water	07-Nov-17 12:18	08-Nov-17
SC41221-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
75-69-4	Trichlorofluoromethane (Freon 11)	< 20.0	U, D	µg/l	20.0	9.74	20	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
75-01-4	Vinyl chloride	< 20.0	U, D	µg/l	20.0	9.44	20	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 40.0	U, D	µg/l	40.0	7.60	20	"	"	"	"	"	X
95-47-6	o-Xylene	< 20.0	U, D	µg/l	20.0	5.66	20	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 60.0	U, D	µg/l	60.0	60.0	20	"	"	"	"	"	X
110-82-7	Cyclohexane	< 100	U, D	µg/l	100	15.7	20	"	"	"	"	"	X
79-20-9	Methyl acetate	< 100	U, D	µg/l	100	12.9	20	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 100	U, D	µg/l	100	14.8	20	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*90*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*118*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*107*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	2	Ja	ng/l	3	0.8	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 03:36	10670	17320005	
375-73-5	Perfluorobutanesulfonate	3		ng/l	1	0.3	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	5		ng/l	1	0.3	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	2	Ja	ng/l	2	0.4	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 1		ng/l	1	0.3	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	12	B	ng/l	1	0.3	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*98*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*71*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*74*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*76*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*78*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*81*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.20		ug/l	0.20	0.049	1	SW-846 8270D SIM	13-Nov-17 08:00	20-Nov-17 16:27	10670	314WAA0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*93*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*86*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*99*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-14BR 11717	10C3074.0011.09	Ground Water	07-Nov-17 14:37	08-Nov-17
SC41221-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**0.42**	J	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**2.21**		µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-14BR 11717	10C3074.0011.09	Ground Water	07-Nov-17 14:37	08-Nov-17
SC41221-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*91*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*98*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*115*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*105*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 5		ng/l	5	1	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 03:56	10670	17320005	
375-73-5	Perfluorobutanesulfonate	**3**		ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 3		ng/l	3	0.7	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**0.6**	Ja, B	ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*90*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*69*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*75*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*74*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*76*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*82*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.19		ug/l	0.19	0.048	1	SW-846 8270D SIM	13-Nov-17 08:00	20-Nov-17 17:00	10670	314WAA0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*86*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*80*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*96*			*42-119 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719218 - SW846 5030 Water MS										
Blank (1719218-BLK1)					Prepared & Analyzed: 14-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00						
Acetone	< 10.0	U	µg/l	10.0						
Benzene	< 1.00	U	µg/l	1.00						
Bromodichloromethane	< 0.50	U	µg/l	0.50						
Bromoform	< 1.00	U	µg/l	1.00						
Bromomethane	< 2.00	U	µg/l	2.00						
2-Butanone (MEK)	< 2.00	U	µg/l	2.00						
Carbon disulfide	< 2.00	U	µg/l	2.00						
Carbon tetrachloride	< 1.00	U	µg/l	1.00						
Chlorobenzene	< 1.00	U	µg/l	1.00						
Chloroethane	< 2.00	U	µg/l	2.00						
Chloroform	< 1.00	U	µg/l	1.00						
Chloromethane	< 2.00	U	µg/l	2.00						
1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00						
Dibromochloromethane	< 0.50	U	µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50						
1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00						
1,1-Dichloroethane	< 1.00	U	µg/l	1.00						
1,2-Dichloroethane	< 1.00	U	µg/l	1.00						
1,1-Dichloroethene	< 1.00	U	µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
1,2-Dichloropropane	< 1.00	U	µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
Ethylbenzene	< 1.00	U	µg/l	1.00						
2-Hexanone (MBK)	< 2.00	U	µg/l	2.00						
Isopropylbenzene	< 1.00	U	µg/l	1.00						
Methyl tert-butyl ether	< 1.00	U	µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00						
Methylene chloride	< 2.00	U	µg/l	2.00						
Styrene	< 1.00	U	µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50						
Tetrachloroethene	< 1.00	U	µg/l	1.00						
Toluene	< 1.00	U	µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00						
1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00						
1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00						
Trichloroethene	< 1.00	U	µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00						
Vinyl chloride	< 1.00	U	µg/l	1.00						
m,p-Xylene	< 2.00	U	µg/l	2.00						
o-Xylene	< 1.00	U	µg/l	1.00						
Total Xylenes	< 3.00	U	µg/l	3.00						
Cyclohexane	< 5.00	U	µg/l	5.00						
Methyl acetate	< 5.00	U	µg/l	5.00						
Methylcyclohexane	< 5.00	U	µg/l	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719218 - SW846 5030 Water MS										
Blank (1719218-BLK1)						Prepared & Analyzed: 14-Nov-17				
Surrogate: 4-Bromofluorobenzene	*45.9*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: Toluene-d8	*50.1*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*58.7*		µg/l		*50.0*		*117*	*70-130*		
Surrogate: Dibromofluoromethane	*52.9*		µg/l		*50.0*		*106*	*70-130*		
LCS (1719218-BS1)						Prepared & Analyzed: 14-Nov-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**23.3**		µg/l		20.0		116	70-130		
Acetone	**22.8**		µg/l		20.0		114	70-130		
Benzene	**21.6**		µg/l		20.0		108	70-130		
Bromodichloromethane	**18.1**		µg/l		20.0		90	70-130		
Bromoform	**14.5**		µg/l		20.0		73	70-130		
Bromomethane	**20.7**		µg/l		20.0		104	70-130		
2-Butanone (MEK)	**19.6**		µg/l		20.0		98	70-130		
Carbon disulfide	**18.1**		µg/l		20.0		90	70-130		
Carbon tetrachloride	**15.0**		µg/l		20.0		75	70-130		
Chlorobenzene	**20.6**		µg/l		20.0		103	70-130		
Chloroethane	**20.6**		µg/l		20.0		103	70-130		
Chloroform	**21.8**		µg/l		20.0		109	70-130		
Chloromethane	**23.5**		µg/l		20.0		118	70-130		
1,2-Dibromo-3-chloropropane	**15.5**		µg/l		20.0		77	70-130		
Dibromochloromethane	**17.7**		µg/l		20.0		88	70-130		
1,2-Dibromoethane (EDB)	**20.7**		µg/l		20.0		103	70-130		
1,2-Dichlorobenzene	**20.2**		µg/l		20.0		101	70-130		
1,3-Dichlorobenzene	**22.1**		µg/l		20.0		110	70-130		
1,4-Dichlorobenzene	**21.0**		µg/l		20.0		105	70-130		
Dichlorodifluoromethane (Freon12)	**23.9**		µg/l		20.0		119	70-130		
1,1-Dichloroethane	**21.7**		µg/l		20.0		109	70-130		
1,2-Dichloroethane	**22.0**		µg/l		20.0		110	70-130		
1,1-Dichloroethene	**21.5**		µg/l		20.0		107	70-130		
cis-1,2-Dichloroethene	**21.7**		µg/l		20.0		109	70-130		
trans-1,2-Dichloroethene	**19.8**		µg/l		20.0		99	70-130		
1,2-Dichloropropane	**20.0**		µg/l		20.0		100	70-130		
cis-1,3-Dichloropropene	**17.0**		µg/l		20.0		85	70-130		
trans-1,3-Dichloropropene	**16.9**		µg/l		20.0		84	70-130		
Ethylbenzene	**20.0**		µg/l		20.0		100	70-130		
2-Hexanone (MBK)	**17.8**		µg/l		20.0		89	70-130		
Isopropylbenzene	**20.8**		µg/l		20.0		104	70-130		
Methyl tert-butyl ether	**19.1**		µg/l		20.0		95	70-130		
4-Methyl-2-pentanone (MIBK)	**18.5**		µg/l		20.0		93	70-130		
Methylene chloride	**22.5**		µg/l		20.0		113	70-130		
Styrene	**18.7**		µg/l		20.0		94	70-130		
1,1,2,2-Tetrachloroethane	**21.6**		µg/l		20.0		108	70-130		
Tetrachloroethene	**20.2**		µg/l		20.0		101	70-130		
Toluene	**21.5**		µg/l		20.0		107	70-130		
1,2,4-Trichlorobenzene	**16.5**		µg/l		20.0		82	70-130		
1,1,1-Trichloroethane	**18.6**		µg/l		20.0		93	70-130		
1,1,2-Trichloroethane	**22.3**		µg/l		20.0		112	70-130		
Trichloroethene	**20.4**		µg/l		20.0		102	70-130		
Trichlorofluoromethane (Freon 11)	**25.1**		µg/l		20.0		125	70-130		
Vinyl chloride	**22.8**		µg/l		20.0		114	70-130		
m,p-Xylene	**19.8**		µg/l		20.0		99	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719218 - SW846 5030 Water MS										
LCS (1719218-BS1)					Prepared & Analyzed: 14-Nov-17					
o-Xylene	**21.2**		µg/l		20.0		106	70-130		
Cyclohexane	**19.7**		µg/l		20.0		99	70-130		
Methyl acetate	**23.6**		µg/l		20.0		118	70-130		
Methylcyclohexane	**19.1**		µg/l		20.0		95	70-130		
Surrogate: 4-Bromofluorobenzene	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*50.2*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.3*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*50.6*		µg/l		*50.0*		*101*	*70-130*		
LCS Dup (1719218-BSD1)					Prepared & Analyzed: 14-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**22.1**		µg/l		20.0		110	70-130	5	20
Acetone	**21.4**		µg/l		20.0		107	70-130	6	20
Benzene	**20.9**		µg/l		20.0		104	70-130	3	20
Bromodichloromethane	**18.5**		µg/l		20.0		93	70-130	2	20
Bromoform	**14.5**		µg/l		20.0		72	70-130	0.3	20
Bromomethane	**21.2**		µg/l		20.0		106	70-130	2	20
2-Butanone (MEK)	**18.2**		µg/l		20.0		91	70-130	8	20
Carbon disulfide	**17.5**		µg/l		20.0		88	70-130	3	20
Carbon tetrachloride	**14.9**		µg/l		20.0		75	70-130	0.5	20
Chlorobenzene	**19.9**		µg/l		20.0		100	70-130	3	20
Chloroethane	**19.4**		µg/l		20.0		97	70-130	5	20
Chloroform	**21.5**		µg/l		20.0		107	70-130	2	20
Chloromethane	**23.6**		µg/l		20.0		118	70-130	0.4	20
1,2-Dibromo-3-chloropropane	**15.8**		µg/l		20.0		79	70-130	2	20
Dibromochloromethane	**17.8**		µg/l		20.0		89	70-130	0.3	20
1,2-Dibromoethane (EDB)	**21.3**		µg/l		20.0		106	70-130	3	20
1,2-Dichlorobenzene	**19.6**		µg/l		20.0		98	70-130	3	20
1,3-Dichlorobenzene	**20.7**		µg/l		20.0		104	70-130	6	20
1,4-Dichlorobenzene	**20.0**		µg/l		20.0		100	70-130	5	20
Dichlorodifluoromethane (Freon12)	**22.9**		µg/l		20.0		114	70-130	4	20
1,1-Dichloroethane	**20.1**		µg/l		20.0		101	70-130	8	20
1,2-Dichloroethane	**21.7**		µg/l		20.0		108	70-130	2	20
1,1-Dichloroethene	**21.2**		µg/l		20.0		106	70-130	1	20
cis-1,2-Dichloroethene	**20.3**		µg/l		20.0		101	70-130	7	20
trans-1,2-Dichloroethene	**20.4**		µg/l		20.0		102	70-130	3	20
1,2-Dichloropropane	**20.3**		µg/l		20.0		102	70-130	1	20
cis-1,3-Dichloropropene	**16.6**		µg/l		20.0		83	70-130	2	20
trans-1,3-Dichloropropene	**16.8**		µg/l		20.0		84	70-130	0.5	20
Ethylbenzene	**18.9**		µg/l		20.0		95	70-130	6	20
2-Hexanone (MBK)	**17.6**		µg/l		20.0		88	70-130	1	20
Isopropylbenzene	**19.7**		µg/l		20.0		99	70-130	5	20
Methyl tert-butyl ether	**18.7**		µg/l		20.0		94	70-130	2	20
4-Methyl-2-pentanone (MIBK)	**18.2**		µg/l		20.0		91	70-130	2	20
Methylene chloride	**22.2**		µg/l		20.0		111	70-130	1	20
Styrene	**17.2**		µg/l		20.0		86	70-130	8	20
1,1,2,2-Tetrachloroethane	**21.1**		µg/l		20.0		105	70-130	2	20
Tetrachloroethene	**19.4**		µg/l		20.0		97	70-130	4	20
Toluene	**20.8**		µg/l		20.0		104	70-130	3	20
1,2,4-Trichlorobenzene	**16.6**		µg/l		20.0		83	70-130	0.7	20
1,1,1-Trichloroethane	**17.8**		µg/l		20.0		89	70-130	4	20
1,1,2-Trichloroethane	**22.2**		µg/l		20.0		111	70-130	0.5	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719218 - SW846 5030 Water MS										
LCS Dup (1719218-BSD1)					Prepared & Analyzed: 14-Nov-17					
Trichloroethene	**20.1**		µg/l		20.0		101	70-130	1	20
Trichlorofluoromethane (Freon 11)	**23.4**		µg/l		20.0		117	70-130	7	20
Vinyl chloride	**21.4**		µg/l		20.0		107	70-130	6	20
m,p-Xylene	**18.4**		µg/l		20.0		92	70-130	8	20
o-Xylene	**20.0**		µg/l		20.0		100	70-130	6	20
Cyclohexane	**18.6**		µg/l		20.0		93	70-130	6	30
Methyl acetate	**23.0**		µg/l		20.0		115	70-130	2	30
Methylcyclohexane	**18.4**		µg/l		20.0		92	70-130	3	30
Surrogate: 4-Bromofluorobenzene	*51.3*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.3*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.2*		µg/l		*50.0*		*106*	*70-130*		
Surrogate: Dibromofluoromethane	*50.1*		µg/l		*50.0*		*100*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17320005 - METHOD										
Blank (BLK3200B)						Prepared: 16-Nov-17 Analyzed: 22-Nov-17				
Perfluorobutanesulfonate	< 1	Ua	ng/l	1				-		
Perfluorononanoic acid	< 1	Ua	ng/l	1				-		
Perfluoroheptanoic acid	< 1	Ua	ng/l	1				-		
Perfluorooctanoic acid	**0.8**	Ja	ng/l	1				-		
Perfluoro-octanesulfonate	< 3	Ua	ng/l	3				-		
Perfluorohexanesulfonate	< 2	Ua	ng/l	2				-		
Surrogate: 13C4-PFHpA	*17*		ng/l		*20*		*85*	*35-126*		
Surrogate: 13C3-PFBS	*15*		ng/l		*19*		*79*	*26-148*		
Surrogate: 13C3-PFHxS	*16*		ng/l		*19*		*83*	*34-126*		
Surrogate: 13C8-PFOA	*16*		ng/l		*20*		*80*	*43-112*		
Surrogate: 13C9-PFNA	*17*		ng/l		*20*		*86*	*32-134*		
Surrogate: 13C8-PFOS	*15*		ng/l		*19*		*77*	*43-115*		
LCS (LCS3205Q)						Prepared: 16-Nov-17 Analyzed: 22-Nov-17				
Perfluoro-octanesulfonate	**6**		ng/l	3	5		113	70-130		
Perfluorononanoic acid	**7**		ng/l	1	5		132	70-130		
Perfluorohexanesulfonate	**6**		ng/l	2	5		126	70-130		
Perfluoroheptanoic acid	**7**		ng/l	1	5		123	70-130		
Perfluorobutanesulfonate	**6**		ng/l	1	5		116	70-130		
Perfluorooctanoic acid	**6**		ng/l	1	5		117	70-130		
Surrogate: 13C8-PFOA	*15*		ng/l		*20*		*77*	*43-112*		
Surrogate: 13C4-PFHpA	*15*		ng/l		*20*		*75*	*35-126*		
Surrogate: 13C3-PFBS	*12*		ng/l		*19*		*67*	*26-148*		
Surrogate: 13C3-PFHxS	*14*		ng/l		*19*		*76*	*34-126*		
Surrogate: 13C9-PFNA	*15*		ng/l		*20*		*76*	*32-134*		
Surrogate: 13C8-PFOS	*14*		ng/l		*19*		*73*	*43-115*		
Matrix Spike Dup (P306581M)						Prepared: 16-Nov-17 Analyzed: 28-Nov-17				
Perfluorohexanesulfonate	**8**		ng/l	2	5	3	98	70-130	5	30
Perfluoroheptanoic acid	**10**		ng/l	0.9	5	4	111	70-130	10	30
Perfluorononanoic acid	**7**		ng/l	0.9	5	1	115	70-130	6	30
Perfluoro-octanesulfonate	**19**		ng/l	3	5	13	117	70-130	9	30
Perfluorooctanoic acid	**18**		ng/l	0.9	5	13	104	70-130	7	30
Perfluorobutanesulfonate	**10**		ng/l	0.9	5	5	117	70-130	11	30
Surrogate: 13C4-PFHpA	*12*		ng/l		*19*		*64*	*35-126*		
Surrogate: 13C3-PFHxS	*11*		ng/l		*18*		*59*	*34-126*		
Surrogate: 13C8-PFOA	*12*		ng/l		*19*		*61*	*43-112*		
Surrogate: 13C8-PFOS	*12*		ng/l		*18*		*68*	*43-115*		
Surrogate: 13C9-PFNA	*16*		ng/l		*19*		*83*	*32-134*		
Surrogate: 13C3-PFBS	*25*		ng/l		*18*		*143*	*26-148*		
Matrix Spike (P306581R)						Prepared: 16-Nov-17 Analyzed: 23-Nov-17				
Perfluoroheptanoic acid	**9**		ng/l	1	5	4	91	70-130		
Perfluorooctanoic acid	**17**		ng/l	1	5	13	81	70-130		
Perfluoro-octanesulfonate	**17**		ng/l	3	5	13	84	70-130		
Perfluorohexanesulfonate	**8**		ng/l	2	5	3	106	70-130		
Perfluorobutanesulfonate	**9**		ng/l	1	5	5	92	70-130		
Perfluorononanoic acid	**7**		ng/l	1	5	1	107	70-130		
Surrogate: 13C9-PFNA	*14*		ng/l		*19*		*76*	*32-134*		
Surrogate: 13C8-PFOS	*12*		ng/l		*18*		*67*	*43-115*		
Surrogate: 13C8-PFOA	*12*		ng/l		*19*		*61*	*43-112*		
Surrogate: 13C3-PFBS	*26*		ng/l		*18*		*147*	*26-148*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17320005 - METHOD										
Matrix Spike (P306581R)					Prepared: 16-Nov-17 Analyzed: 23-Nov-17					
Surrogate: 13C3-PFHxS	*11*		ng/l		*18*		*61*	*34-126*		
Surrogate: 13C4-PFHpA	*13*		ng/l		*19*		*66*	*35-126*		
SW-846 8270D SIM										
Batch 17314WAA026 - SW-846 3510C										
Matrix Spike Dup (P306581M)					Prepared: 13-Nov-17 Analyzed: 18-Nov-17					
1,4-Dioxane	**0.50**		ug/l	0.19	0.97	0.022	52	28-103	6	30
Surrogate: Fluoranthene-d10	*0.99*		ug/l		*0.97*		*102*	*42-119*		
Surrogate: Benzo(a)pyrene-d12	*0.95*		ug/l		*0.97*		*98*	*39-121*		
Surrogate: 1-Methylnaphthalene-d10	*0.94*		ug/l		*0.97*		*97*	*29-123*		
Matrix Spike (P306581R)					Prepared: 13-Nov-17 Analyzed: 18-Nov-17					
1,4-Dioxane	**0.47**		ug/l	0.20	0.99	0.022	48	28-103		
Surrogate: 1-Methylnaphthalene-d10	*0.95*		ug/l		*0.99*		*95*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.94*		ug/l		*0.99*		*95*	*39-121*		
Surrogate: Fluoranthene-d10	*1.0*		ug/l		*0.99*		*102*	*42-119*		
LCS (P4WALCSQ)					Prepared: 13-Nov-17 Analyzed: 17-Nov-17					
1,4-Dioxane	**0.61**		ug/l	0.20	1.0		61	28-103		
Surrogate: Benzo(a)pyrene-d12	*0.94*		ug/l		*1.0*		*94*	*39-121*		
Surrogate: Fluoranthene-d10	*1.0*		ug/l		*1.0*		*103*	*42-119*		
Surrogate: 1-Methylnaphthalene-d10	*0.78*		ug/l		*1.0*		*78*	*29-123*		
Blank (PLKWA31B)					Prepared: 13-Nov-17 Analyzed: 17-Nov-17					
1,4-Dioxane	< 0.20	Ua	ug/l	0.20				-		
Surrogate: 1-Methylnaphthalene-d10	*0.81*		ug/l		*1.0*		*81*	*29-123*		
Surrogate: Fluoranthene-d10	*0.97*		ug/l		*1.0*		*97*	*42-119*		
Surrogate: Benzo(a)pyrene-d12	*0.89*		ug/l		*1.0*		*89*	*39-121*		

Notes and Definitions

B	Detected in blank
D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
J	Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
Ja	Estimated value
U	Analyte included in the analysis, but not detected at or above the MDL.
Ua	
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC 41221

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: As per Contract

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: Mike Steffan
Ecology + Environment Inc
368 Pleasantview Dr
Lancaster NY 14086
Telephone #:
Project Mgr:

Invoice To: Mike Steffan
E+E
368 Pleasantview Dr
Lancaster NY 14086
P.O No.: Quote #:

Project No: 10C3074.0011.09
Site Name: Mr C's
Location: East Aurora State: NY
Sampler(s):

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= None 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	List Preservative Code below: 2	11	11	Analysis: Vocs	PFAS	1,4 Dioxane	Check if chlorinated
41221-01	TB-11717	11/7/17	0756	G	W	1							X			☐
-02	MPI-2S 11717	11/7/17	0853	G	GW	3	2		2				X	X	X	☐
-03	MW-11 11717	11/7/17	1100	G	GW	3	2		2				X	X	X	☐
-04	MW-7 11717	11/7/17	1218	G	GW	3	2		2				X	X	X	☐
-05	MPI-14BR 11717	11/7/17	1437	G	GW	3	2		2				X	X	X	☐
																☐
																☐
																☐
																☐
																☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☒ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: As Per Contract
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:
Laurence Mead		11/7/17	1800
Fedex	Allen	11/8/17	1130

Temp °C: Observed 2.7 | Correction Factor 0 | Corrected 2.7 | IR ID # 1

☐ EDD format:
☐ E-mail to: MSteffan@ene.com

Condition upon receipt: Custody Seals: ☑ Present ☑ Intact ☐ Broken
☐ Ambient ☑ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

ORIGIN ID:BUFA (716) 684-8060
LARRY ROEDL
ECOLOGY & ENVIROMENT INC
368 PLEASANTVIEW DR.
LANCASTER, NY 14086
UNITED STATES US

SHIP DATE: 07NOV17
ACTWGT: 60.00 LB
CAD: 006993854/SSFE1822
DIMS: 24x13x14 IN
BILL THIRD PARTY

TO SAMPLE CUSTODY
SPECTRUM ANALYTICAL
11 ALMGREN DR

AGAWAM MA 01001
(413) 789-9018
INV:
PO: REF:
DEPT:

FedEx Express

TRK# 0201 7883 6795 8782

WED - 08 NOV 10:30A
PRIORITY OVERNIGHT

EB EHTA

01001
MA-US BDL

Batch Summary

1719218

Volatile Organic Compounds

1719218-BLK1
1719218-BS1
1719218-BSD1
SC41221-01 (TB-11717)
SC41221-02 (MPI-2S 11717)
SC41221-03 (MW-11 11717)
SC41221-04 (MW-7 11717)
SC41221-05 (MPI-14BR 11717)

17314WAA026

Subcontracted Analyses

P306581M
P306581R
P4WALCSQ
PLKWA31B
SC41221-02 (MPI-2S 11717)
SC41221-03 (MW-11 11717)
SC41221-04 (MW-7 11717)
SC41221-05 (MPI-14BR 11717)

17320005

Subcontracted Analyses

BLK3200B
LCS3205Q
P306581M
P306581R
SC41221-02 (MPI-2S 11717)
SC41221-03 (MW-11 11717)
SC41221-04 (MW-7 11717)
SC41221-05 (MPI-14BR 11717)

S709964

Volatile Organic Compounds

S709964-CAL1
S709964-CAL2
S709964-CAL3
S709964-CAL4
S709964-CAL5
S709964-CAL6
S709964-CAL7
S709964-CAL8
S709964-CAL9
S709964-CALA
S709964-CALB
S709964-ICV1
S709964-LCV1
S709964-TUN1

S710042

Volatile Organic Compounds

S710042-CCV1
S710042-TUN1

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☑ Final Report
☐ Revised Report

Report Date:
08-Dec-17 11:40

Laboratory Report
SC41167

Ecology and Environment, Inc.
368 Pleasant View Drive
Lancaster, NY 14086
Attn: Mike Steffan

Project: Mr. C's Groundwaters
Project #: 10C3074.0011.09

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director

Dawn E Wojcik

Eurofins Spectrum Analytical holds primary NELAC certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 26 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC41167

Project: Mr. C's Groundwaters

Project Number: 10C3074.0011.09

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC41167-01	PZ-1D-11617	Ground Water	06-Nov-17 09:03	07-Nov-17 11:30
SC41167-02	TB-11617	Ground Water	06-Nov-17 09:00	07-Nov-17 11:30
SC41167-03	MPI-9SR-11617	Ground Water	06-Nov-17 10:48	07-Nov-17 11:30
SC41167-04	MPI-8SR-11617	Ground Water	06-Nov-17 12:13	07-Nov-17 11:30
SC41167-05	MPI-13BR-11617	Ground Water	06-Nov-17 14:53	07-Nov-17 11:30

CASE NARRATIVE:

Data has been reported to the RDL. This report includes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the detection limit are reported as "<" (less than) the detection limit in this report.

The samples were received 3.6 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

EPA 537 modified

Spikes:

9306725 *Source: SC41167-04*

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

Perfluorooctanoic acid

9306728 *Source: SC41167-04*

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

Perfluorooctanoic acid

Samples:

SC41167-01 *PZ-1D-11617*

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

Perfluorooctanoic acid

SC41167-03 *MPI-9SR-11617*

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

Perfluorooctanoic acid

SC41167-04 *MPI-8SR-11617*

Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)

Perfluorooctanoic acid

SW846 8260C

Calibration:

1710009

SW846 8260C

Calibration:

1710009

Analyte quantified by quadratic equation type calibration.

1,1,2,2-Tetrachloroethane
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane (EDB)
2-Hexanone (MBK)
4-Methyl-2-pentanone (MIBK)
Bromodichloromethane
Bromoform
Carbon disulfide
Carbon tetrachloride
cis-1,3-Dichloropropene
Dibromochloromethane
Styrene
trans-1,3-Dichloropropene
Vinyl chloride

This affected the following samples:

1719217-BLK1
1719217-BS1
1719217-BSD1
1719217-MS1
1719217-MSD1
MPI-13BR-11617
MPI-8SR-11617
MPI-9SR-11617
PZ-1D-11617
S708827-ICV1
S710044-CCV1
TB-11617

Laboratory Control Samples:

1719217 BS/BSD

Bromomethane percent recoveries (157/158) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MPI-13BR-11617
MPI-8SR-11617
MPI-9SR-11617
PZ-1D-11617
TB-11617

1719217 BSD

Methylene chloride RPD 22% (20%) is outside individual acceptance criteria.

Spikes:

1719217-MS1 *Source: SC41167-04*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Bromomethane
Tetrachloroethene

1719217-MSD1 *Source: SC41167-04*

SW846 8260C

Spikes:

1719217-MSD1 *Source: SC41167-04*

RPD out of acceptance range.

Bromomethane

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Methyl acetate
Tetrachloroethene

Samples:

S710044-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

Methylene chloride (-22.1%)

Analyte percent drift is outside individual acceptance criteria (20), but within overall method allowances.

Bromomethane (58.0%)

This affected the following samples:

1719217-BLK1
1719217-BS1
1719217-BSD1
1719217-MS1
1719217-MSD1
MPI-13BR-11617
MPI-8SR-11617
MPI-9SR-11617
PZ-1D-11617
TB-11617

Sample Acceptance Check Form

Client:	Ecology and Environment, Inc.
Project:	Mr. C's Groundwaters / 10C3074.0011.09
Work Order:	SC41167
Sample(s) received on:	11/7/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☑	☐	☐
Were custody seals intact?	☑	☐	☐
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC41167-01 **Client ID:** PZ-1D-11617

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	2		0.9	ng/l	EPA 537 modified
Perfluoroheptanoic acid	1		0.9	ng/l	EPA 537 modified
Perfluorohexanesulfonate	1	Ja	2	ng/l	EPA 537 modified
Perfluorononanoic acid	0.4	Ja	0.9	ng/l	EPA 537 modified
Perfluoro-octanesulfonate	3		3	ng/l	EPA 537 modified
Perfluorooctanoic acid	3	B	0.9	ng/l	EPA 537 modified
Chloroform	0.42	J	1.00	µg/l	SW846 8260C
cis-1,2-Dichloroethene	2.31		1.00	µg/l	SW846 8260C
Tetrachloroethene	17.4		1.00	µg/l	SW846 8260C
trans-1,2-Dichloroethene	0.84	J	1.00	µg/l	SW846 8260C
Trichloroethene	2.67		1.00	µg/l	SW846 8260C

Lab ID: SC41167-03 **Client ID:** MPI-9SR-11617

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	3		2	ng/l	EPA 537 modified
Perfluorooctanoic acid	2	B	2	ng/l	EPA 537 modified
Tetrachloroethene	0.60	J	1.00	µg/l	SW846 8260C

Lab ID: SC41167-04 **Client ID:** MPI-8SR-11617

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	5		0.9	ng/l	EPA 537 modified
Perfluoroheptanoic acid	4		0.9	ng/l	EPA 537 modified
Perfluorohexanesulfonate	3		2	ng/l	EPA 537 modified
Perfluorononanoic acid	1		0.9	ng/l	EPA 537 modified
Perfluoro-octanesulfonate	13		3	ng/l	EPA 537 modified
Perfluorooctanoic acid	13	B	0.9	ng/l	EPA 537 modified
Chloroform	1.20		1.00	µg/l	SW846 8260C
cis-1,2-Dichloroethene	55.4		1.00	µg/l	SW846 8260C
Tetrachloroethene	76.6		1.00	µg/l	SW846 8260C
trans-1,2-Dichloroethene	0.95	J	1.00	µg/l	SW846 8260C
Trichloroethene	7.31		1.00	µg/l	SW846 8260C

Lab ID: SC41167-05 **Client ID:** MPI-13BR-11617

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	1	Ja	2	ng/l	EPA 537 modified
Methyl tert-butyl ether	0.37	J	1.00	µg/l	SW846 8260C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PZ-1D-11617	10C3074.0011.09	Ground Water	06-Nov-17 09:03	07-Nov-17
SC41167-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	14-Nov-17	15-Nov-17	MP	1719217	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	**0.42**	J	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**2.31**		µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	**0.84**	J	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**17.4**		µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	**2.67**		µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PZ-1D-11617	10C3074.0011.09	Ground Water	06-Nov-17 09:03	07-Nov-17
SC41167-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	14-Nov-17	15-Nov-17	MP	1719217	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*97*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*98*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*99*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*106*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	3		ng/l	3	0.8	1	EPA 537 modified	16-Nov-17 15:00	22-Nov-17 23:29	10670	17320005	
375-73-5	Perfluorobutanesulfonate	2		ng/l	0.9	0.3	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	1		ng/l	0.9	0.3	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	1	Ja	ng/l	2	0.4	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	0.4	Ja	ng/l	0.9	0.3	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	3	B	ng/l	0.9	0.3	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*96*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*76*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*82*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*71*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*67*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*75*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.19		ug/l	0.19	0.048	1	SW-846 8270D SIM	13-Nov-17 08:00	20-Nov-17 13:40	10670	314WAA0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*85*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*86*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*98*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-11617	10C3074.0011.09	Ground Water	06-Nov-17 09:00	07-Nov-17
SC41167-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	14-Nov-17	15-Nov-17	MP	1719217	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-11617	10C3074.0011.09	Ground Water	06-Nov-17 09:00	07-Nov-17
SC41167-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	14-Nov-17	15-Nov-17	MP	1719217	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*98*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*98*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*99*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*106*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-9SR-11617	10C3074.0011.09	Ground Water	06-Nov-17 10:48	07-Nov-17
SC41167-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	14-Nov-17	15-Nov-17	MP	1719217	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**0.60**	J	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-9SR-11617	10C3074.0011.09	Ground Water	06-Nov-17 10:48	07-Nov-17
SC41167-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	14-Nov-17	15-Nov-17	MP	1719217	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*98*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*98*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*99*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*107*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 5		ng/l	5	1	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 00:31	10670	17320005	
375-73-5	Perfluorobutanesulfonate	3		ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 3		ng/l	3	0.7	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	2	B	ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*91*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*68*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*70*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*74*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*70*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*84*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.19		ug/l	0.19	0.048	1	SW-846 8270D SIM	13-Nov-17 08:00	20-Nov-17 14:13	10670	314WAA0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*92*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*91*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*100*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-8SR-11617	10C3074.0011.09	Ground Water	06-Nov-17 12:13	07-Nov-17
SC41167-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	14-Nov-17	15-Nov-17	MP	1719217	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	**1.20**		µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**55.4**		µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	**0.95**	J	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**76.6**		µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	**7.31**		µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-8SR-11617	10C3074.0011.09	Ground Water	06-Nov-17 12:13	07-Nov-17
SC41167-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	14-Nov-17	15-Nov-17	MP	1719217	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*93*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*109*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	13		ng/l	3	0.8	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 00:51	10670	17320005	
375-73-5	Perfluorobutanesulfonate	5		ng/l	0.9	0.3	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	4		ng/l	0.9	0.3	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	3		ng/l	2	0.4	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	1		ng/l	0.9	0.3	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	13	B	ng/l	0.9	0.3	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*148*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*62*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*61*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*59*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*67*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*78*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.20		ug/l	0.20	0.050	1	SW-846 8270D SIM	13-Nov-17 08:00	18-Nov-17 07:53	10670	314WAA0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*79*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*81*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*92*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-13BR-11617	10C3074.0011.09	Ground Water	06-Nov-17 14:53	07-Nov-17
SC41167-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	14-Nov-17	15-Nov-17	MP	1719217	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	**0.37**	J	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 2.00	U	µg/l	2.00	2.00	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-13BR-11617	10C3074.0011.09	Ground Water	06-Nov-17 14:53	07-Nov-17
SC41167-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	14-Nov-17	15-Nov-17	MP	1719217	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*97*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*100*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*108*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 5		ng/l	5	1	1	EPA 537 modified	16-Nov-17 15:00	23-Nov-17 01:53	10670	17320005	
375-73-5	Perfluorobutanesulfonate	1	Ja	ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 3		ng/l	3	0.7	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*73*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*70*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*72*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*73*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*63*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*65*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.20		ug/l	0.20	0.049	1	SW-846 8270D SIM	13-Nov-17 08:00	20-Nov-17 14:47	10670	314WAA0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*85*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*78*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*96*			*42-119 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719217 - SW846 5030 Water MS										
Blank (1719217-BLK1)					Prepared & Analyzed: 14-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00						
Acetone	< 10.0	U	µg/l	10.0						
Benzene	< 1.00	U	µg/l	1.00						
Bromodichloromethane	< 0.50	U	µg/l	0.50						
Bromoform	< 1.00	U	µg/l	1.00						
Bromomethane	< 2.00	U	µg/l	2.00						
2-Butanone (MEK)	< 2.00	U	µg/l	2.00						
Carbon disulfide	< 2.00	U	µg/l	2.00						
Carbon tetrachloride	< 1.00	U	µg/l	1.00						
Chlorobenzene	< 1.00	U	µg/l	1.00						
Chloroethane	< 2.00	U	µg/l	2.00						
Chloroform	< 1.00	U	µg/l	1.00						
Chloromethane	< 2.00	U	µg/l	2.00						
1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00						
Dibromochloromethane	< 0.50	U	µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50						
1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00						
1,1-Dichloroethane	< 1.00	U	µg/l	1.00						
1,2-Dichloroethane	< 1.00	U	µg/l	1.00						
1,1-Dichloroethene	< 1.00	U	µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
1,2-Dichloropropane	< 1.00	U	µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
Ethylbenzene	< 1.00	U	µg/l	1.00						
2-Hexanone (MBK)	< 2.00	U	µg/l	2.00						
Isopropylbenzene	< 1.00	U	µg/l	1.00						
Methyl tert-butyl ether	< 1.00	U	µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00						
Methylene chloride	< 2.00	U	µg/l	2.00						
Styrene	< 1.00	U	µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50						
Tetrachloroethene	< 1.00	U	µg/l	1.00						
Toluene	< 1.00	U	µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00						
1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00						
1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00						
Trichloroethene	< 1.00	U	µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00						
Vinyl chloride	< 1.00	U	µg/l	1.00						
m,p-Xylene	< 2.00	U	µg/l	2.00						
o-Xylene	< 1.00	U	µg/l	1.00						
Total Xylenes	< 3.00	U	µg/l	3.00						
Cyclohexane	< 5.00	U	µg/l	5.00						
Methyl acetate	< 5.00	U	µg/l	5.00						
Methylcyclohexane	< 5.00	U	µg/l	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719217 - SW846 5030 Water MS										
Blank (1719217-BLK1)						Prepared & Analyzed: 14-Nov-17				
Surrogate: 4-Bromofluorobenzene	*48.8*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*48.8*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.4*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: Dibromofluoromethane	*52.0*		µg/l		*50.0*		*104*	*70-130*		
LCS (1719217-BS1)						Prepared & Analyzed: 14-Nov-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**21.8**		µg/l		20.0		109	70-130		
Acetone	**19.6**		µg/l		20.0		98	70-130		
Benzene	**22.4**		µg/l		20.0		112	70-130		
Bromodichloromethane	**21.3**		µg/l		20.0		107	70-130		
Bromoform	**23.5**		µg/l		20.0		117	70-130		
Bromomethane	**31.4**		µg/l		20.0		157	70-130		
2-Butanone (MEK)	**19.9**		µg/l		20.0		99	70-130		
Carbon disulfide	**22.8**		µg/l		20.0		114	70-130		
Carbon tetrachloride	**21.4**		µg/l		20.0		107	70-130		
Chlorobenzene	**22.9**		µg/l		20.0		115	70-130		
Chloroethane	**20.6**		µg/l		20.0		103	70-130		
Chloroform	**22.4**		µg/l		20.0		112	70-130		
Chloromethane	**15.5**		µg/l		20.0		77	70-130		
1,2-Dibromo-3-chloropropane	**21.2**		µg/l		20.0		106	70-130		
Dibromochloromethane	**21.6**		µg/l		20.0		108	70-130		
1,2-Dibromoethane (EDB)	**22.0**		µg/l		20.0		110	70-130		
1,2-Dichlorobenzene	**22.4**		µg/l		20.0		112	70-130		
1,3-Dichlorobenzene	**23.0**		µg/l		20.0		115	70-130		
1,4-Dichlorobenzene	**22.0**		µg/l		20.0		110	70-130		
Dichlorodifluoromethane (Freon12)	**20.5**		µg/l		20.0		102	70-130		
1,1-Dichloroethane	**21.8**		µg/l		20.0		109	70-130		
1,2-Dichloroethane	**21.3**		µg/l		20.0		106	70-130		
1,1-Dichloroethene	**19.3**		µg/l		20.0		97	70-130		
cis-1,2-Dichloroethene	**23.1**		µg/l		20.0		116	70-130		
trans-1,2-Dichloroethene	**22.7**		µg/l		20.0		113	70-130		
1,2-Dichloropropane	**21.3**		µg/l		20.0		106	70-130		
cis-1,3-Dichloropropene	**20.7**		µg/l		20.0		104	70-130		
trans-1,3-Dichloropropene	**20.9**		µg/l		20.0		105	70-130		
Ethylbenzene	**23.3**		µg/l		20.0		116	70-130		
2-Hexanone (MBK)	**19.3**		µg/l		20.0		97	70-130		
Isopropylbenzene	**22.6**		µg/l		20.0		113	70-130		
Methyl tert-butyl ether	**22.2**		µg/l		20.0		111	70-130		
4-Methyl-2-pentanone (MIBK)	**19.4**		µg/l		20.0		97	70-130		
Methylene chloride	**19.5**		µg/l		20.0		97	70-130		
Styrene	**21.2**		µg/l		20.0		106	70-130		
1,1,2,2-Tetrachloroethane	**22.9**		µg/l		20.0		115	70-130		
Tetrachloroethene	**21.7**		µg/l		20.0		109	70-130		
Toluene	**22.0**		µg/l		20.0		110	70-130		
1,2,4-Trichlorobenzene	**19.8**		µg/l		20.0		99	70-130		
1,1,1-Trichloroethane	**22.8**		µg/l		20.0		114	70-130		
1,1,2-Trichloroethane	**23.1**		µg/l		20.0		115	70-130		
Trichloroethene	**22.0**		µg/l		20.0		110	70-130		
Trichlorofluoromethane (Freon 11)	**21.6**		µg/l		20.0		108	70-130		
Vinyl chloride	**22.1**		µg/l		20.0		110	70-130		
m,p-Xylene	**23.4**		µg/l		20.0		117	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719217 - SW846 5030 Water MS										
LCS (1719217-BS1)					Prepared & Analyzed: 14-Nov-17					
o-Xylene	**23.9**		µg/l		20.0		120	70-130		
Cyclohexane	**21.3**		µg/l		20.0		106	70-130		
Methyl acetate	**20.4**		µg/l		20.0		102	70-130		
Methylcyclohexane	**21.0**		µg/l		20.0		105	70-130		
Surrogate: 4-Bromofluorobenzene	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*46.6*		µg/l		*50.0*		*93*	*70-130*		
Surrogate: Dibromofluoromethane	*51.8*		µg/l		*50.0*		*104*	*70-130*		
LCS Dup (1719217-BSD1)					Prepared & Analyzed: 14-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**18.8**		µg/l		20.0		94	70-130	15	20
Acetone	**18.0**		µg/l		20.0		90	70-130	9	20
Benzene	**22.8**		µg/l		20.0		114	70-130	2	20
Bromodichloromethane	**21.3**		µg/l		20.0		106	70-130	0.4	20
Bromoform	**23.3**		µg/l		20.0		117	70-130	0.6	20
Bromomethane	**31.6**		µg/l		20.0		158	70-130	0.6	20
2-Butanone (MEK)	**18.8**		µg/l		20.0		94	70-130	6	20
Carbon disulfide	**23.4**		µg/l		20.0		117	70-130	2	20
Carbon tetrachloride	**22.2**		µg/l		20.0		111	70-130	4	20
Chlorobenzene	**23.4**		µg/l		20.0		117	70-130	2	20
Chloroethane	**20.7**		µg/l		20.0		104	70-130	0.6	20
Chloroform	**22.6**		µg/l		20.0		113	70-130	0.6	20
Chloromethane	**16.0**		µg/l		20.0		80	70-130	3	20
1,2-Dibromo-3-chloropropane	**19.5**		µg/l		20.0		98	70-130	8	20
Dibromochloromethane	**21.6**		µg/l		20.0		108	70-130	0.1	20
1,2-Dibromoethane (EDB)	**21.4**		µg/l		20.0		107	70-130	3	20
1,2-Dichlorobenzene	**22.1**		µg/l		20.0		111	70-130	1	20
1,3-Dichlorobenzene	**23.0**		µg/l		20.0		115	70-130	0	20
1,4-Dichlorobenzene	**21.7**		µg/l		20.0		108	70-130	1	20
Dichlorodifluoromethane (Freon12)	**21.2**		µg/l		20.0		106	70-130	3	20
1,1-Dichloroethane	**22.0**		µg/l		20.0		110	70-130	0.8	20
1,2-Dichloroethane	**20.5**		µg/l		20.0		102	70-130	4	20
1,1-Dichloroethene	**20.0**		µg/l		20.0		100	70-130	3	20
cis-1,2-Dichloroethene	**23.5**		µg/l		20.0		117	70-130	1	20
trans-1,2-Dichloroethene	**23.1**		µg/l		20.0		116	70-130	2	20
1,2-Dichloropropane	**21.4**		µg/l		20.0		107	70-130	0.6	20
cis-1,3-Dichloropropene	**20.7**		µg/l		20.0		103	70-130	0.3	20
trans-1,3-Dichloropropene	**20.7**		µg/l		20.0		104	70-130	0.9	20
Ethylbenzene	**23.7**		µg/l		20.0		118	70-130	2	20
2-Hexanone (MBK)	**17.3**		µg/l		20.0		87	70-130	11	20
Isopropylbenzene	**23.1**		µg/l		20.0		116	70-130	2	20
Methyl tert-butyl ether	**21.5**		µg/l		20.0		108	70-130	3	20
4-Methyl-2-pentanone (MIBK)	**18.4**		µg/l		20.0		92	70-130	5	20
Methylene chloride	**15.6**		µg/l		20.0		78	70-130	22	20
Styrene	**21.4**		µg/l		20.0		107	70-130	1	20
1,1,2,2-Tetrachloroethane	**22.0**		µg/l		20.0		110	70-130	4	20
Tetrachloroethene	**22.4**		µg/l		20.0		112	70-130	3	20
Toluene	**22.2**		µg/l		20.0		111	70-130	1	20
1,2,4-Trichlorobenzene	**19.1**		µg/l		20.0		95	70-130	4	20
1,1,1-Trichloroethane	**23.3**		µg/l		20.0		116	70-130	2	20
1,1,2-Trichloroethane	**22.4**		µg/l		20.0		112	70-130	3	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719217 - SW846 5030 Water MS										
LCS Dup (1719217-BSD1)					Prepared & Analyzed: 14-Nov-17					
Trichloroethene	**21.9**		µg/l		20.0		110	70-130	0.5	20
Trichlorofluoromethane (Freon 11)	**22.6**		µg/l		20.0		113	70-130	4	20
Vinyl chloride	**22.9**		µg/l		20.0		115	70-130	4	20
m,p-Xylene	**23.6**		µg/l		20.0		118	70-130	0.9	20
o-Xylene	**23.9**		µg/l		20.0		119	70-130	0.1	20
Cyclohexane	**21.8**		µg/l		20.0		109	70-130	3	30
Methyl acetate	**17.0**		µg/l		20.0		85	70-130	19	30
Methylcyclohexane	**21.9**		µg/l		20.0		109	70-130	4	30
Surrogate: 4-Bromofluorobenzene	*51.9*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*45.8*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: Dibromofluoromethane	*51.9*		µg/l		*50.0*		*104*	*70-130*		
Matrix Spike (1719217-MS1)			**Source: SC41167-04**		Prepared: 14-Nov-17 Analyzed: 15-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**17.2**		µg/l		20.0	0.00	86	70-130		
Acetone	**18.0**		µg/l		20.0	0.00	90	70-130		
Benzene	**22.1**		µg/l		20.0	0.00	111	70-130		
Bromodichloromethane	**21.2**		µg/l		20.0	0.00	106	70-130		
Bromoform	**23.5**		µg/l		20.0	0.00	118	70-130		
Bromomethane	**29.3**	QM7	µg/l		20.0	0.00	146	70-130		
2-Butanone (MEK)	**18.6**		µg/l		20.0	0.00	93	70-130		
Carbon disulfide	**16.7**		µg/l		20.0	0.00	83	70-130		
Carbon tetrachloride	**21.4**		µg/l		20.0	0.00	107	70-130		
Chlorobenzene	**22.8**		µg/l		20.0	0.00	114	70-130		
Chloroethane	**20.1**		µg/l		20.0	0.00	100	70-130		
Chloroform	**23.4**		µg/l		20.0	1.20	111	70-130		
Chloromethane	**15.3**		µg/l		20.0	0.00	77	70-130		
1,2-Dibromo-3-chloropropane	**20.0**		µg/l		20.0	0.00	100	70-130		
Dibromochloromethane	**21.6**		µg/l		20.0	0.00	108	70-130		
1,2-Dibromoethane (EDB)	**20.7**		µg/l		20.0	0.00	104	70-130		
1,2-Dichlorobenzene	**21.8**		µg/l		20.0	0.00	109	70-130		
1,3-Dichlorobenzene	**22.5**		µg/l		20.0	0.00	112	70-130		
1,4-Dichlorobenzene	**21.3**		µg/l		20.0	0.00	107	70-130		
Dichlorodifluoromethane (Freon12)	**19.0**		µg/l		20.0	0.00	95	70-130		
1,1-Dichloroethane	**21.8**		µg/l		20.0	0.00	109	70-130		
1,2-Dichloroethane	**20.9**		µg/l		20.0	0.00	104	70-130		
1,1-Dichloroethene	**19.1**		µg/l		20.0	0.00	96	70-130		
cis-1,2-Dichloroethene	**73.6**		µg/l		20.0	55.4	91	70-130		
trans-1,2-Dichloroethene	**23.9**		µg/l		20.0	0.95	115	70-130		
1,2-Dichloropropane	**21.6**		µg/l		20.0	0.00	108	70-130		
cis-1,3-Dichloropropene	**20.6**		µg/l		20.0	0.00	103	70-130		
trans-1,3-Dichloropropene	**20.8**		µg/l		20.0	0.00	104	70-130		
Ethylbenzene	**23.0**		µg/l		20.0	0.00	115	70-130		
2-Hexanone (MBK)	**18.7**		µg/l		20.0	0.00	93	70-130		
Isopropylbenzene	**22.0**		µg/l		20.0	0.00	110	70-130		
Methyl tert-butyl ether	**21.9**		µg/l		20.0	0.00	110	70-130		
4-Methyl-2-pentanone (MIBK)	**18.8**		µg/l		20.0	0.00	94	70-130		
Methylene chloride	**15.7**		µg/l		20.0	0.00	79	70-130		
Styrene	**20.6**		µg/l		20.0	0.00	103	70-130		
1,1,2,2-Tetrachloroethane	**22.0**		µg/l		20.0	0.00	110	70-130		
Tetrachloroethene	**87.9**	QM7	µg/l		20.0	76.6	57	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719217 - SW846 5030 Water MS										
Matrix Spike (1719217-MS1)			**Source: SC41167-04**		Prepared: 14-Nov-17 Analyzed: 15-Nov-17					
Toluene	**21.7**		µg/l		20.0	0.00	109	70-130		
1,2,4-Trichlorobenzene	**18.6**		µg/l		20.0	0.00	93	70-130		
1,1,1-Trichloroethane	**22.3**		µg/l		20.0	0.00	112	70-130		
1,1,2-Trichloroethane	**22.5**		µg/l		20.0	0.00	113	70-130		
Trichloroethene	**28.7**		µg/l		20.0	7.31	107	70-130		
Trichlorofluoromethane (Freon 11)	**21.5**		µg/l		20.0	0.00	107	70-130		
Vinyl chloride	**22.4**		µg/l		20.0	0.00	112	70-130		
m,p-Xylene	**23.1**		µg/l		20.0	0.00	116	70-130		
o-Xylene	**23.6**		µg/l		20.0	0.00	118	70-130		
Cyclohexane	**20.8**		µg/l		20.0	0.00	104	70-130		
Methyl acetate	**15.3**		µg/l		20.0	0.00	77	70-130		
Methylcyclohexane	**20.4**		µg/l		20.0	0.00	102	70-130		
Surrogate: 4-Bromofluorobenzene	*51.6*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*49.0*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*46.6*		µg/l		*50.0*		*93*	*70-130*		
Surrogate: Dibromofluoromethane	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Matrix Spike Dup (1719217-MSD1)			**Source: SC41167-04**		Prepared: 14-Nov-17 Analyzed: 15-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**16.8**		µg/l		20.0	0.00	84	70-130	2	20
Acetone	**18.5**		µg/l		20.0	0.00	92	70-130	3	20
Benzene	**21.8**		µg/l		20.0	0.00	109	70-130	1	20
Bromodichloromethane	**21.4**		µg/l		20.0	0.00	107	70-130	0.6	20
Bromoform	**23.5**		µg/l		20.0	0.00	117	70-130	0.2	20
Bromomethane	**22.7**	QR5	µg/l		20.0	0.00	114	70-130	25	20
2-Butanone (MEK)	**19.2**		µg/l		20.0	0.00	96	70-130	3	20
Carbon disulfide	**16.6**		µg/l		20.0	0.00	83	70-130	0.5	20
Carbon tetrachloride	**21.0**		µg/l		20.0	0.00	105	70-130	2	20
Chlorobenzene	**22.1**		µg/l		20.0	0.00	111	70-130	3	20
Chloroethane	**20.1**		µg/l		20.0	0.00	100	70-130	0.05	20
Chloroform	**23.3**		µg/l		20.0	1.20	110	70-130	0.6	20
Chloromethane	**16.8**		µg/l		20.0	0.00	84	70-130	9	20
1,2-Dibromo-3-chloropropane	**20.3**		µg/l		20.0	0.00	102	70-130	2	20
Dibromochloromethane	**21.7**		µg/l		20.0	0.00	108	70-130	0.3	20
1,2-Dibromoethane (EDB)	**21.2**		µg/l		20.0	0.00	106	70-130	2	20
1,2-Dichlorobenzene	**21.2**		µg/l		20.0	0.00	106	70-130	3	20
1,3-Dichlorobenzene	**21.9**		µg/l		20.0	0.00	109	70-130	3	20
1,4-Dichlorobenzene	**20.9**		µg/l		20.0	0.00	104	70-130	2	20
Dichlorodifluoromethane (Freon12)	**18.2**		µg/l		20.0	0.00	91	70-130	4	20
1,1-Dichloroethane	**21.7**		µg/l		20.0	0.00	108	70-130	0.5	20
1,2-Dichloroethane	**20.7**		µg/l		20.0	0.00	104	70-130	0.8	20
1,1-Dichloroethene	**18.8**		µg/l		20.0	0.00	94	70-130	2	20
cis-1,2-Dichloroethene	**72.7**		µg/l		20.0	55.4	86	70-130	1	20
trans-1,2-Dichloroethene	**23.2**		µg/l		20.0	0.95	111	70-130	3	20
1,2-Dichloropropane	**21.0**		µg/l		20.0	0.00	105	70-130	3	20
cis-1,3-Dichloropropene	**20.5**		µg/l		20.0	0.00	103	70-130	0.3	20
trans-1,3-Dichloropropene	**20.5**		µg/l		20.0	0.00	102	70-130	2	20
Ethylbenzene	**22.3**		µg/l		20.0	0.00	112	70-130	3	20
2-Hexanone (MBK)	**18.6**		µg/l		20.0	0.00	93	70-130	0.4	20
Isopropylbenzene	**21.4**		µg/l		20.0	0.00	107	70-130	3	20
Methyl tert-butyl ether	**22.0**		µg/l		20.0	0.00	110	70-130	0.2	20
4-Methyl-2-pentanone (MIBK)	**18.8**		µg/l		20.0	0.00	94	70-130	0.4	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719217 - SW846 5030 Water MS										
Matrix Spike Dup (1719217-MSD1)			**Source: SC41167-04**		Prepared: 14-Nov-17 Analyzed: 15-Nov-17					
Methylene chloride	**15.6**		µg/l		20.0	0.00	78	70-130	0.5	20
Styrene	**20.1**		µg/l		20.0	0.00	100	70-130	3	20
1,1,2,2-Tetrachloroethane	**21.8**		µg/l		20.0	0.00	109	70-130	0.9	20
Tetrachloroethene	**86.0**	QM7	µg/l		20.0	76.6	47	70-130	2	20
Toluene	**21.4**		µg/l		20.0	0.00	107	70-130	1	20
1,2,4-Trichlorobenzene	**18.4**		µg/l		20.0	0.00	92	70-130	0.9	20
1,1,1-Trichloroethane	**21.8**		µg/l		20.0	0.00	109	70-130	2	20
1,1,2-Trichloroethane	**22.5**		µg/l		20.0	0.00	112	70-130	0.2	20
Trichloroethene	**28.3**		µg/l		20.0	7.31	105	70-130	1	20
Trichlorofluoromethane (Freon 11)	**20.9**		µg/l		20.0	0.00	105	70-130	3	20
Vinyl chloride	**22.4**		µg/l		20.0	0.00	112	70-130	0.2	20
m,p-Xylene	**22.6**		µg/l		20.0	0.00	113	70-130	2	20
o-Xylene	**23.2**		µg/l		20.0	0.00	116	70-130	2	20
Cyclohexane	**20.0**		µg/l		20.0	0.00	100	70-130	4	30
Methyl acetate	**13.7**	QM7	µg/l		20.0	0.00	69	70-130	11	30
Methylcyclohexane	**19.6**		µg/l		20.0	0.00	98	70-130	4	30
Surrogate: 4-Bromofluorobenzene	*51.8*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*49.4*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*46.0*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: Dibromofluoromethane	*52.0*		µg/l		*50.0*		*104*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17320005 - METHOD										
Matrix Spike (9306725)			**Source: SC41167-04**			Prepared: 16-Nov-17 Analyzed: 23-Nov-17				
Perfluorooctanoic acid	**17**	B	ng/l	1	5	13	81	70-130		
Perfluoro-octanesulfonate	**17**		ng/l	3	5	13	84	70-130		
Perfluorononanoic acid	**7**		ng/l	1	5	1	107	70-130		
Perfluorohexanesulfonate	**8**		ng/l	2	5	3	106	70-130		
Perfluoroheptanoic acid	**9**		ng/l	1	5	4	91	70-130		
Perfluorobutanesulfonate	**9**		ng/l	1	5	5	92	70-130		
Surrogate: 13C9-PFNA	*14*		ng/l		*19*		*76*	*32-134*		
Surrogate: 13C8-PFOS	*12*		ng/l		*18*		*67*	*43-115*		
Surrogate: 13C8-PFOA	*12*		ng/l		*19*		*61*	*43-112*		
Surrogate: 13C3-PFHxS	*11*		ng/l		*18*		*61*	*34-126*		
Surrogate: 13C3-PFBS	*26*		ng/l		*18*		*147*	*26-148*		
Surrogate: 13C4-PFHpA	*13*		ng/l		*19*		*66*	*35-126*		
Matrix Spike Dup (9306728)			**Source: SC41167-04**			Prepared: 16-Nov-17 Analyzed: 28-Nov-17				
Perfluoro-octanesulfonate	**19**		ng/l	3	5	13	117	70-130	9	30
Perfluorobutanesulfonate	**10**		ng/l	0.9	5	5	117	70-130	11	30
Perfluorononanoic acid	**7**		ng/l	0.9	5	1	115	70-130	6	30
Perfluorohexanesulfonate	**8**		ng/l	2	5	3	98	70-130	5	30
Perfluorooctanoic acid	**18**	B	ng/l	0.9	5	13	104	70-130	7	30
Perfluoroheptanoic acid	**10**		ng/l	0.9	5	4	111	70-130	10	30
Surrogate: 13C8-PFOA	*12*		ng/l		*19*		*61*	*43-112*		
Surrogate: 13C3-PFBS	*25*		ng/l		*18*		*143*	*26-148*		
Surrogate: 13C4-PFHpA	*12*		ng/l		*19*		*64*	*35-126*		
Surrogate: 13C8-PFOS	*12*		ng/l		*18*		*68*	*43-115*		
Surrogate: 13C9-PFNA	*16*		ng/l		*19*		*83*	*32-134*		
Surrogate: 13C3-PFHxS	*11*		ng/l		*18*		*59*	*34-126*		
Blank (BLK3200B)						Prepared: 16-Nov-17 Analyzed: 22-Nov-17				
Perfluorobutanesulfonate	< 1	Ua	ng/l	1				-		
Perfluoroheptanoic acid	< 1	Ua	ng/l	1				-		
Perfluorohexanesulfonate	< 2	Ua	ng/l	2				-		
Perfluorononanoic acid	< 1	Ua	ng/l	1				-		
Perfluorooctanoic acid	**0.8**	Ja	ng/l	1				-		
Perfluoro-octanesulfonate	< 3	Ua	ng/l	3				-		
Surrogate: 13C8-PFOS	*15*		ng/l		*19*		*77*	*43-115*		
Surrogate: 13C3-PFHxS	*16*		ng/l		*19*		*83*	*34-126*		
Surrogate: 13C3-PFBS	*15*		ng/l		*19*		*79*	*26-148*		
Surrogate: 13C4-PFHpA	*17*		ng/l		*20*		*85*	*35-126*		
Surrogate: 13C8-PFOA	*16*		ng/l		*20*		*80*	*43-112*		
Surrogate: 13C9-PFNA	*17*		ng/l		*20*		*86*	*32-134*		
LCS (LCS3205Q)						Prepared: 16-Nov-17 Analyzed: 22-Nov-17				
Perfluorobutanesulfonate	**6**		ng/l	1	5		116	70-130		
Perfluoroheptanoic acid	**7**		ng/l	1	5		123	70-130		
Perfluorooctanoic acid	**6**		ng/l	1	5		117	70-130		
Perfluoro-octanesulfonate	**6**		ng/l	3	5		113	70-130		
Perfluorononanoic acid	**7**		ng/l	1	5		132	70-130		
Perfluorohexanesulfonate	**6**		ng/l	2	5		126	70-130		
Surrogate: 13C9-PFNA	*15*		ng/l		*20*		*76*	*32-134*		
Surrogate: 13C8-PFOS	*14*		ng/l		*19*		*73*	*43-115*		
Surrogate: 13C8-PFOA	*15*		ng/l		*20*		*77*	*43-112*		
Surrogate: 13C4-PFHpA	*15*		ng/l		*20*		*75*	*35-126*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17320005 - METHOD										
LCS (LCS3205Q)							Prepared: 16-Nov-17 Analyzed: 22-Nov-17			
Surrogate: 13C3-PFBS	*12*		ng/l		*19*		*67*	*26-148*		
Surrogate: 13C3-PFHxS	*14*		ng/l		*19*		*76*	*34-126*		
SW-846 8270D SIM										
Batch 17314WAA026 - SW-846 3510C										
Matrix Spike (9306725)			**Source: SC41167-04**				Prepared: 13-Nov-17 Analyzed: 18-Nov-17			
1,4-Dioxane	**0.48**		ug/l	0.20	0.99	BRL	48	28-103		
Surrogate: Benzo(a)pyrene-d12	*0.94*		ug/l		*0.99*		*95*	*39-121*		
Surrogate: Fluoranthene-d10	*1.0*		ug/l		*0.99*		*102*	*42-119*		
Surrogate: 1-Methylnaphthalene-d10	*0.95*		ug/l		*0.99*		*95*	*29-123*		
Matrix Spike Dup (9306728)			**Source: SC41167-04**				Prepared: 13-Nov-17 Analyzed: 18-Nov-17			
1,4-Dioxane	**0.50**		ug/l	0.19	0.97	BRL	52	28-103	6	30
Surrogate: 1-Methylnaphthalene-d10	*0.94*		ug/l		*0.97*		*97*	*29-123*		
Surrogate: Fluoranthene-d10	*0.99*		ug/l		*0.97*		*102*	*42-119*		
Surrogate: Benzo(a)pyrene-d12	*0.95*		ug/l		*0.97*		*98*	*39-121*		
LCS (P4WALCSQ)							Prepared: 13-Nov-17 Analyzed: 17-Nov-17			
1,4-Dioxane	**0.61**		ug/l	0.20	1.0		61	28-103		
Surrogate: 1-Methylnaphthalene-d10	*0.78*		ug/l		*1.0*		*78*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.94*		ug/l		*1.0*		*94*	*39-121*		
Surrogate: Fluoranthene-d10	*1.0*		ug/l		*1.0*		*103*	*42-119*		
Blank (PLKWA31B)							Prepared: 13-Nov-17 Analyzed: 17-Nov-17			
1,4-Dioxane	< 0.20	Ua	ug/l	0.20				-		
Surrogate: 1-Methylnaphthalene-d10	*0.81*		ug/l		*1.0*		*81*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.89*		ug/l		*1.0*		*89*	*39-121*		
Surrogate: Fluoranthene-d10	*0.97*		ug/l		*1.0*		*97*	*42-119*		

Notes and Definitions

B	Value <CRDL>=IDL (Inorg) - Detected in blank (Org.)
J	Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
Ja	Estimated value
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR5	RPD out of acceptance range.
U	Analyte included in the analysis, but not detected at or above the MDL.
Ua	
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC 41167

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: As per Contract

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: Mike Steffan
368 Pleasantview Dr
Ecology + Environment Inc.
Lancaster NY 14086
Telephone #: (716) 684-8060
Project Mgr: Mike Steffan

Invoice To: Mike Steffan
Ecology + Environment Inc.
368 Pleasantview Dr
Lancaster NY 14086
P.O No.: _____ Quote #: _____

Project No: 10C3074.0011.09
Site Name: Mr C's Dry Cleaners
Location: East Aurora State: NY
Sampler(s): Lauren Rund

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= None 12= _____

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= _____ X2= _____ X3= _____

G= Grab C=Compsite

List Preservative Code below: 11 | 2 | 11

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: As per Contract
State-specific reporting standards:

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: PFAS	VOA's	1,4 Dioxane	Check if chlorinated
41167-01	PZ-1D-11617	11/6/17	0903	G	GW	3	2		2	X	X	X	☐
-02	TB-11617	11/6/17	0900	G	GW	1					X		☐
-03	MPI-9SR-11617	11/6/17	1048	G	GW	3	2		2	X	X	X	☐
-04	MPI-8SR-11617	11/6/17	1213	G	GW	9	6		6	X	X	X	☐ MS/MSD
-05	MPI-14BR-11617	11/6/17	1453	G	GW	3	2		2	X	X	X	☐
													☐
													☐
													☐
													☐
													☐

Relinquished by:	Received by:	Date:	Time:	Temp °C
Lauren Rund		11/6/17	1800	Observed 3.6
Fedex	Alex	11/7/17	1130	Correction Factor 0
				Corrected 3.6
				IR ID # 01

☐ EDD format: As per Contract
☐ E-mail to: MSTEFFAN@ene.com

Condition upon receipt: Custody Seals: ☑ Present ☑ Intact ☐ Broken
☐ Ambient ☑ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

ORIGIN ID:BUFA (716) 684-8060
ECOLOGY & ENVIROMENT

368 PLEASANT VIEW DR

LANCASTER, NY 14086
UNITED STATES US

SHIP DATE: 06NOV17
ACTWGT: 39.60 LB
CAD: 0069938555/SSFE1822
DIMS: 24x13x14 IN

BILL RECIPIENT

TO **SPECTRUM ANALYTICAL**
SPECTRUM ANALYTICAL
11 ALMGREN DR

AGAWAM MA 01001
(413) 789-9018 REF:
INV:
PO: DEPT:

RT 746 2
ST 11 10:30

Express

2 of 2
MPS# 0263 7883 5229 7126
Mstr# 7883 5229 7115 0201

TUE - 07 NOV 10:30A
PRIORITY OVERNIGHT

EB EHTA

01001
MA-US BDL

549J3/FB77/104C

ORIGIN ID:BUFA (716) 684-8060
ECOLOGY & ENVIROMENT

368 PLEASANT VIEW DR

LANCASTER, NY 14086
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SHIP DATE: 06NOV17
ACTWGT: 39.60 LB
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DIMS: 24x13x14 IN

BILL RECIPIENT

TO **SPECTRUM ANALYTICAL**
SPECTRUM ANALYTICAL
11 ALMGREN DR

AGAWAM MA 01001
(413) 789-9018 REF:
INV:
PO: DEPT:

RT 746 2
ST 11 10:30 E 7115 11.07

1 of 2
TRK# 0201 7883 5229 7115
MASTER

TUE - 07 NOV 10:30A
PRIORITY OVERNIGHT

EB EHTA

01001
MA-US BDL

549J3/FB77/104C

SC 41167

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: As per Contract

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Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: Mike Steffan
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Ecology + Environment Inc.
Lancaster NY 14086
Telephone #: (716) 684-8060
Project Mgr: Mike Steffan

Invoice To: Mike Steffan
Ecology + Environment Inc.
368 Pleasantview Dr
Lancaster NY 14086
P.O No.: _____ Quote #: _____

Project No: 10C3074.0011.09
Site Name: Mr C's Dry Cleaners
Location: East Aurora State: NY
Sampler(s): [signature]

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= None 12= _____

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= _____ X2= _____ X3= _____

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: PFAS	VOA's	1,4 Dioxane						Check if chlorinated
						List Preservative Code below:				11	2	11						
41167-01	PZ-1D-11617	11/6/17	0903	G	GW	3	2		2	X	X	X						☐
-02	TB-11617	11/6/17	0900	G	GW	1					X							☐
-03	MPI-9SR-11617	11/6/17	1048	G	GW	3	2		2	X	X	X						☐
-04	MPI-8SR-11617	11/6/17	1213	G	GW	9	6		6	X	X	X						☐ MS/MSD
-05	MPI-14BR-11617	11/6/17	1453	G	GW	3	2		2	X	X	X						☐
	13																	☐ ID change per client req 11/7/17
																		☐
																		☐
																		☐
																		☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: As per Contract
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:
Lauren Trull		11/6/17	1800
Fedex	[signature]	11/7/17	1130

Temp °C: Observed 3.6; Correction Factor 0; Corrected 3.6; IR ID # 01

☐ EDD format: As per Contract
☐ E-mail to: MSteffan@ene.com

Condition upon receipt: Custody Seals: ☑ Present ☑ Intact ☐ Broken
☐ Ambient ☑ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

1719217

Volatile Organic Compounds

1719217-BLK1
1719217-BS1
1719217-BSD1
1719217-MS1
1719217-MSD1
SC41167-01 (PZ-1D-11617)
SC41167-02 (TB-11617)
SC41167-03 (MPI-9SR-11617)
SC41167-04 (MPI-8SR-11617)
SC41167-05 (MPI-13BR-11617)

17314WAA026

Subcontracted Analyses

9306725
9306728
P4WALCSQ
PLKWA31B
SC41167-01 (PZ-1D-11617)
SC41167-03 (MPI-9SR-11617)
SC41167-04 (MPI-8SR-11617)
SC41167-05 (MPI-13BR-11617)

17320005

Subcontracted Analyses

9306725
9306728
BLK3200B
LCS3205Q
SC41167-01 (PZ-1D-11617)
SC41167-03 (MPI-9SR-11617)
SC41167-04 (MPI-8SR-11617)
SC41167-05 (MPI-13BR-11617)

S708827

Volatile Organic Compounds

S708827-CAL1
S708827-CAL2
S708827-CAL3
S708827-CAL4
S708827-CAL5
S708827-CAL6
S708827-CAL7
S708827-CAL8
S708827-CAL9
S708827-ICV1
S708827-LCV1
S708827-LCV2
S708827-TUN1

S710044

Volatile Organic Compounds

S710044-CCV1
S710044-TUN1

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☑ Final Report
☐ Revised Report

Report Date:
01-Dec-17 11:33

Laboratory Report
SC41109

Ecology and Environment, Inc.
368 Pleasant View Drive
Lancaster, NY 14086
Attn: Mike Steffan

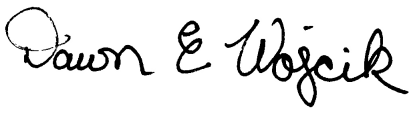
Project: Mr. C's Groundwaters
Project #: 10C3074.0011.09

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director



Eurofins Spectrum Analytical holds primary NELAC certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 25 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC41109

Project: Mr. C's Groundwaters

Project Number: 10C3074.0011.09

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC41109-01	MPI-55-11317	Ground Water	03-Nov-17 08:58	04-Nov-17 10:29
SC41109-02	MPI-55-11317Q	Ground Water	03-Nov-17 08:58	04-Nov-17 10:29
SC41109-03	MW-8-11317	Ground Water	03-Nov-17 10:50	04-Nov-17 10:29
SC41109-04	PZ-3B-11317	Ground Water	03-Nov-17 12:45	04-Nov-17 10:29
SC41109-05	ESI-2R-11317	Ground Water	03-Nov-17 14:58	04-Nov-17 10:29

CASE NARRATIVE:

Data has been reported to the RDL. This report includes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the detection limit are reported as "<" (less than) the detection limit in this report.

The samples were received 4.4 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 8260C

Calibration:

1711018

Analyte quantified by quadratic equation type calibration.

2-Hexanone (MBK)
Vinyl chloride

This affected the following samples:

1719218-BLK1
1719218-BS1
1719218-BSD1
1719218-MS1
1719218-MSD1
ESI-2R-11317
MPI-55-11317
MPI-55-11317Q
MW-8-11317
PZ-3B-11317
S709964-ICV1
S710042-CCV1

Samples:

S710042-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,2-Dibromo-3-chloropropane (-22.6%)
Bromoform (-27.4%)
Carbon tetrachloride (-24.9%)
Trichlorofluoromethane (Freon 11) (25.3%)

This affected the following samples:

1719218-BLK1
1719218-BS1
1719218-BSD1
1719218-MS1
1719218-MSD1
ESI-2R-11317
MPI-55-11317
MPI-55-11317Q
MW-8-11317
PZ-3B-11317

SW846 8260C

Samples:

SC41109-04	*PZ-3B-11317*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Sample Acceptance Check Form

Client:	Ecology and Environment, Inc.
Project:	Mr. C's Groundwaters / 10C3074.0011.09
Work Order:	SC41109
Sample(s) received on:	11/4/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☑	☐	☐
Were custody seals intact?	☑	☐	☐
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC41109-01 **Client ID:** MPI-55-11317

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	2		2	ng/l	EPA 537 modified
Perfluorooctanoic acid	5		2	ng/l	EPA 537 modified
Acetone	1.51	J	10.0	µg/l	SW846 8260C
cis-1,2-Dichloroethene	4.38		1.00	µg/l	SW846 8260C
Tetrachloroethene	30.4		1.00	µg/l	SW846 8260C
trans-1,2-Dichloroethene	1.35		1.00	µg/l	SW846 8260C
Trichloroethene	4.21		1.00	µg/l	SW846 8260C

Lab ID: SC41109-02 **Client ID:** MPI-55-11317Q

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorooctanoic acid	4		2	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	4.24		1.00	µg/l	SW846 8260C
Tetrachloroethene	30.2		1.00	µg/l	SW846 8260C
trans-1,2-Dichloroethene	1.55		1.00	µg/l	SW846 8260C
Trichloroethene	4.38		1.00	µg/l	SW846 8260C

Lab ID: SC41109-03 **Client ID:** MW-8-11317

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	2		2	ng/l	EPA 537 modified
Perfluoroheptanoic acid	2		2	ng/l	EPA 537 modified
Perfluoro-octanesulfonate	10		5	ng/l	EPA 537 modified
Perfluorooctanoic acid	8		2	ng/l	EPA 537 modified
cis-1,2-Dichloroethene	24.6		1.00	µg/l	SW846 8260C
Tetrachloroethene	8.03		1.00	µg/l	SW846 8260C
trans-1,2-Dichloroethene	7.06		1.00	µg/l	SW846 8260C
Trichloroethene	3.43		1.00	µg/l	SW846 8260C
Vinyl chloride	11.8		1.00	µg/l	SW846 8260C

Lab ID: SC41109-04 **Client ID:** PZ-3B-11317

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	2		1	ng/l	EPA 537 modified
Perfluoroheptanoic acid	1		1	ng/l	EPA 537 modified
Perfluorooctanoic acid	4		1	ng/l	EPA 537 modified
Tetrachloroethene	174	D	5.00	µg/l	SW846 8260C
Trichloroethene	5.90	D	5.00	µg/l	SW846 8260C

Lab ID: SC41109-05 **Client ID:** ESI-2R-11317

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	51		1	ng/l	EPA 537 modified
Perfluoroheptanoic acid	6		1	ng/l	EPA 537 modified
Perfluorooctanoic acid	7		1	ng/l	EPA 537 modified

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-55-11317	10C3074.0011.09	Ground Water	03-Nov-17 08:58	04-Nov-17
SC41109-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
67-64-1	Acetone	**1.51**	J	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**4.38**		µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	**1.35**		µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**30.4**		µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	**4.21**		µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-55-11317	10C3074.0011.09	Ground Water	03-Nov-17 08:58	04-Nov-17
SC41109-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*92*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*114*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*105*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 5		ng/l	5	1	1	EPA 537 modified	14-Nov-17 08:05	22-Nov-17 03:08	10670	17318001	
375-73-5	Perfluorobutanesulfonate	**2**		ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 3		ng/l	3	0.6	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**5**		ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*103*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*81*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*85*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*85*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*82*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*102*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.20		ug/l	0.20	0.049	1	SW-846 8270D SIM	08-Nov-17 16:30	17-Nov-17 11:46	10670	312WAL0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*88*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*84*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*94*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-55-11317Q	10C3074.0011.09	Ground Water	03-Nov-17 08:58	04-Nov-17
SC41109-02				

Volatile Organic Compounds

Volatile Organic Compounds by SW846 8260
Prepared by method SW846 5030 Water MS

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**4.24**		µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	**1.55**		µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**30.2**		µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	**4.38**		µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-55-11317Q	10C3074.0011.09	Ground Water	03-Nov-17 08:58	04-Nov-17
SC41109-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*91*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*115*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*110*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 5		ng/l	5	1	1	EPA 537 modified	14-Nov-17 08:05	22-Nov-17 03:29	10670	17318001	
375-73-5	Perfluorobutanesulfonate	< 2		ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 3		ng/l	3	0.7	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**4**		ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*120*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*72*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*80*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*79*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*92*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*119*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.19		ug/l	0.19	0.048	1	SW-846 8270D SIM	08-Nov-17 16:30	17-Nov-17 12:18	10670	312WAL0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*83*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*81*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*93*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-8-11317	10C3074.0011.09	Ground Water	03-Nov-17 10:50	04-Nov-17
SC41109-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**24.6**		µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	**7.06**		µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**8.03**		µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	**3.43**		µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-8-11317	10C3074.0011.09	Ground Water	03-Nov-17 10:50	04-Nov-17
SC41109-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
75-01-4	Vinyl chloride	**11.8**		µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*89*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*117*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*125*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	**10**		ng/l	5	1	1	EPA 537 modified	14-Nov-17 08:05	27-Nov-17 19:36	10670	17318001	
375-73-5	Perfluorobutanesulfonate	**2**		ng/l	2	0.5	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	**2**		ng/l	2	0.5	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 3		ng/l	3	0.7	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 2		ng/l	2	0.5	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**8**		ng/l	2	0.5	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*128*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*76*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*82*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*86*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*88*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*105*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.20		ug/l	0.20	0.049	1	SW-846 8270D SIM	08-Nov-17 16:30	17-Nov-17 12:51	10670	312WAL0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*89*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*80*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*92*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PZ-3B-11317	10C3074.0011.09	Ground Water	03-Nov-17 12:45	04-Nov-17
SC41109-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00	U, D	µg/l	5.00	2.66	5	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
67-64-1	Acetone	< 50.0	U, D	µg/l	50.0	4.02	5	"	"	"	"	"	X
71-43-2	Benzene	< 5.00	U, D	µg/l	5.00	1.42	5	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 2.50	U, D	µg/l	2.50	2.08	5	"	"	"	"	"	X
75-25-2	Bromoform	< 5.00	U, D	µg/l	5.00	2.12	5	"	"	"	"	"	X
74-83-9	Bromomethane	< 10.0	U, D	µg/l	10.0	4.48	5	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0	U, D	µg/l	10.0	5.35	5	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 10.0	U, D	µg/l	10.0	2.06	5	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 5.00	U, D	µg/l	5.00	2.18	5	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 5.00	U, D	µg/l	5.00	1.24	5	"	"	"	"	"	X
75-00-3	Chloroethane	< 10.0	U, D	µg/l	10.0	2.94	5	"	"	"	"	"	X
67-66-3	Chloroform	< 5.00	U, D	µg/l	5.00	1.63	5	"	"	"	"	"	X
74-87-3	Chloromethane	< 10.0	U, D	µg/l	10.0	1.84	5	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0	U, D	µg/l	10.0	4.32	5	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 2.50	U, D	µg/l	2.50	1.58	5	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 2.50	U, D	µg/l	2.50	1.01	5	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 5.00	U, D	µg/l	5.00	1.38	5	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 5.00	U, D	µg/l	5.00	1.57	5	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 5.00	U, D	µg/l	5.00	1.36	5	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0	U, D	µg/l	10.0	2.92	5	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 5.00	U, D	µg/l	5.00	1.62	5	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 5.00	U, D	µg/l	5.00	1.38	5	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 5.00	U, D	µg/l	5.00	3.46	5	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 5.00	U, D	µg/l	5.00	1.64	5	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 5.00	U, D	µg/l	5.00	1.88	5	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 5.00	U, D	µg/l	5.00	1.46	5	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 2.50	U, D	µg/l	2.50	1.80	5	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 2.50	U, D	µg/l	2.50	1.74	5	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 5.00	U, D	µg/l	5.00	1.64	5	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0	U, D	µg/l	10.0	2.64	5	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 5.00	U, D	µg/l	5.00	1.80	5	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 5.00	U, D	µg/l	5.00	1.18	5	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0	U, D	µg/l	10.0	2.58	5	"	"	"	"	"	X
75-09-2	Methylene chloride	< 10.0	U, D	µg/l	10.0	3.30	5	"	"	"	"	"	X
100-42-5	Styrene	< 5.00	U, D	µg/l	5.00	2.02	5	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 2.50	U, D	µg/l	2.50	1.65	5	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**174**	D	µg/l	5.00	2.85	5	"	"	"	"	"	X
108-88-3	Toluene	< 5.00	U, D	µg/l	5.00	1.50	5	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 5.00	U, D	µg/l	5.00	1.89	5	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 5.00	U, D	µg/l	5.00	2.54	5	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 5.00	U, D	µg/l	5.00	1.65	5	"	"	"	"	"	X
79-01-6	Trichloroethene	**5.90**	D	µg/l	5.00	2.48	5	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PZ-3B-11317	10C3074.0011.09	Ground Water	03-Nov-17 12:45	04-Nov-17
SC41109-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00	U, D	µg/l	5.00	2.44	5	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
75-01-4	Vinyl chloride	< 5.00	U, D	µg/l	5.00	2.36	5	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 10.0	U, D	µg/l	10.0	1.90	5	"	"	"	"	"	X
95-47-6	o-Xylene	< 5.00	U, D	µg/l	5.00	1.42	5	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 15.0	U, D	µg/l	15.0	15.0	5	"	"	"	"	"	X
110-82-7	Cyclohexane	< 25.0	U, D	µg/l	25.0	3.94	5	"	"	"	"	"	X
79-20-9	Methyl acetate	< 25.0	U, D	µg/l	25.0	3.24	5	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 25.0	U, D	µg/l	25.0	3.71	5	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*89*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*115*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*106*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 3		ng/l	3	0.8	1	EPA 537 modified	14-Nov-17 08:05	22-Nov-17 04:10	10670	17318001	
375-73-5	Perfluorobutanesulfonate	2		ng/l	1	0.3	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	1		ng/l	1	0.3	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 2		ng/l	2	0.4	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 1		ng/l	1	0.3	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	4		ng/l	1	0.3	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*143*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*95*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*107*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*89*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*96*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*108*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.19		ug/l	0.19	0.048	1	SW-846 8270D SIM	08-Nov-17 16:30	17-Nov-17 13:24	10670	312WAL0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*94*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*85*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*109*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ESI-2R-11317	10C3074.0011.09	Ground Water	03-Nov-17 14:58	04-Nov-17
SC41109-05				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00	U	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ESI-2R-11317	10C3074.0011.09	Ground Water	03-Nov-17 14:58	04-Nov-17
SC41109-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	14-Nov-17	14-Nov-17	GMA	1719218	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*87*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*116*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*106*			*70-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 3		ng/l	3	0.8	1	EPA 537 modified	14-Nov-17 08:05	22-Nov-17 04:30	10670	17318001	
375-73-5	Perfluorobutanesulfonate	**51**		ng/l	1	0.3	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	**6**		ng/l	1	0.3	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 2		ng/l	2	0.4	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 1		ng/l	1	0.3	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**7**		ng/l	1	0.3	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*126*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*82*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*85*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*85*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*75*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*81*			*32-134 %*			"	"	"	"	"	
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.20		ug/l	0.20	0.049	1	SW-846 8270D SIM	08-Nov-17 16:30	17-Nov-17 13:56	10670	312WAL0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*91*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*85*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*100*			*42-119 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719218 - SW846 5030 Water MS										
Blank (1719218-BLK1)					Prepared & Analyzed: 14-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00						
Acetone	< 10.0	U	µg/l	10.0						
Benzene	< 1.00	U	µg/l	1.00						
Bromodichloromethane	< 0.50	U	µg/l	0.50						
Bromoform	< 1.00	U	µg/l	1.00						
Bromomethane	< 2.00	U	µg/l	2.00						
2-Butanone (MEK)	< 2.00	U	µg/l	2.00						
Carbon disulfide	< 2.00	U	µg/l	2.00						
Carbon tetrachloride	< 1.00	U	µg/l	1.00						
Chlorobenzene	< 1.00	U	µg/l	1.00						
Chloroethane	< 2.00	U	µg/l	2.00						
Chloroform	< 1.00	U	µg/l	1.00						
Chloromethane	< 2.00	U	µg/l	2.00						
1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00						
Dibromochloromethane	< 0.50	U	µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50						
1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00						
1,1-Dichloroethane	< 1.00	U	µg/l	1.00						
1,2-Dichloroethane	< 1.00	U	µg/l	1.00						
1,1-Dichloroethene	< 1.00	U	µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
1,2-Dichloropropane	< 1.00	U	µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
Ethylbenzene	< 1.00	U	µg/l	1.00						
2-Hexanone (MBK)	< 2.00	U	µg/l	2.00						
Isopropylbenzene	< 1.00	U	µg/l	1.00						
Methyl tert-butyl ether	< 1.00	U	µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00						
Methylene chloride	< 2.00	U	µg/l	2.00						
Styrene	< 1.00	U	µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50						
Tetrachloroethene	< 1.00	U	µg/l	1.00						
Toluene	< 1.00	U	µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00						
1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00						
1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00						
Trichloroethene	< 1.00	U	µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00						
Vinyl chloride	< 1.00	U	µg/l	1.00						
m,p-Xylene	< 2.00	U	µg/l	2.00						
o-Xylene	< 1.00	U	µg/l	1.00						
Total Xylenes	< 3.00	U	µg/l	3.00						
Cyclohexane	< 5.00	U	µg/l	5.00						
Methyl acetate	< 5.00	U	µg/l	5.00						
Methylcyclohexane	< 5.00	U	µg/l	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719218 - SW846 5030 Water MS										
Blank (1719218-BLK1)						Prepared & Analyzed: 14-Nov-17				
Surrogate: 4-Bromofluorobenzene	*45.9*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: Toluene-d8	*50.1*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*58.7*		µg/l		*50.0*		*117*	*70-130*		
Surrogate: Dibromofluoromethane	*52.9*		µg/l		*50.0*		*106*	*70-130*		
LCS (1719218-BS1)						Prepared & Analyzed: 14-Nov-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**23.3**		µg/l		20.0		116	70-130		
Acetone	**22.8**		µg/l		20.0		114	70-130		
Benzene	**21.6**		µg/l		20.0		108	70-130		
Bromodichloromethane	**18.1**		µg/l		20.0		90	70-130		
Bromoform	**14.5**		µg/l		20.0		73	70-130		
Bromomethane	**20.7**		µg/l		20.0		104	70-130		
2-Butanone (MEK)	**19.6**		µg/l		20.0		98	70-130		
Carbon disulfide	**18.1**		µg/l		20.0		90	70-130		
Carbon tetrachloride	**15.0**		µg/l		20.0		75	70-130		
Chlorobenzene	**20.6**		µg/l		20.0		103	70-130		
Chloroethane	**20.6**		µg/l		20.0		103	70-130		
Chloroform	**21.8**		µg/l		20.0		109	70-130		
Chloromethane	**23.5**		µg/l		20.0		118	70-130		
1,2-Dibromo-3-chloropropane	**15.5**		µg/l		20.0		77	70-130		
Dibromochloromethane	**17.7**		µg/l		20.0		88	70-130		
1,2-Dibromoethane (EDB)	**20.7**		µg/l		20.0		103	70-130		
1,2-Dichlorobenzene	**20.2**		µg/l		20.0		101	70-130		
1,3-Dichlorobenzene	**22.1**		µg/l		20.0		110	70-130		
1,4-Dichlorobenzene	**21.0**		µg/l		20.0		105	70-130		
Dichlorodifluoromethane (Freon12)	**23.9**		µg/l		20.0		119	70-130		
1,1-Dichloroethane	**21.7**		µg/l		20.0		109	70-130		
1,2-Dichloroethane	**22.0**		µg/l		20.0		110	70-130		
1,1-Dichloroethene	**21.5**		µg/l		20.0		107	70-130		
cis-1,2-Dichloroethene	**21.7**		µg/l		20.0		109	70-130		
trans-1,2-Dichloroethene	**19.8**		µg/l		20.0		99	70-130		
1,2-Dichloropropane	**20.0**		µg/l		20.0		100	70-130		
cis-1,3-Dichloropropene	**17.0**		µg/l		20.0		85	70-130		
trans-1,3-Dichloropropene	**16.9**		µg/l		20.0		84	70-130		
Ethylbenzene	**20.0**		µg/l		20.0		100	70-130		
2-Hexanone (MBK)	**17.8**		µg/l		20.0		89	70-130		
Isopropylbenzene	**20.8**		µg/l		20.0		104	70-130		
Methyl tert-butyl ether	**19.1**		µg/l		20.0		95	70-130		
4-Methyl-2-pentanone (MIBK)	**18.5**		µg/l		20.0		93	70-130		
Methylene chloride	**22.5**		µg/l		20.0		113	70-130		
Styrene	**18.7**		µg/l		20.0		94	70-130		
1,1,2,2-Tetrachloroethane	**21.6**		µg/l		20.0		108	70-130		
Tetrachloroethene	**20.2**		µg/l		20.0		101	70-130		
Toluene	**21.5**		µg/l		20.0		107	70-130		
1,2,4-Trichlorobenzene	**16.5**		µg/l		20.0		82	70-130		
1,1,1-Trichloroethane	**18.6**		µg/l		20.0		93	70-130		
1,1,2-Trichloroethane	**22.3**		µg/l		20.0		112	70-130		
Trichloroethene	**20.4**		µg/l		20.0		102	70-130		
Trichlorofluoromethane (Freon 11)	**25.1**		µg/l		20.0		125	70-130		
Vinyl chloride	**22.8**		µg/l		20.0		114	70-130		
m,p-Xylene	**19.8**		µg/l		20.0		99	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719218 - SW846 5030 Water MS										
LCS (1719218-BS1)					Prepared & Analyzed: 14-Nov-17					
o-Xylene	**21.2**		µg/l		20.0		106	70-130		
Cyclohexane	**19.7**		µg/l		20.0		99	70-130		
Methyl acetate	**23.6**		µg/l		20.0		118	70-130		
Methylcyclohexane	**19.1**		µg/l		20.0		95	70-130		
Surrogate: 4-Bromofluorobenzene	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*50.2*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.3*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*50.6*		µg/l		*50.0*		*101*	*70-130*		
LCS Dup (1719218-BSD1)					Prepared & Analyzed: 14-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**22.1**		µg/l		20.0		110	70-130	5	20
Acetone	**21.4**		µg/l		20.0		107	70-130	6	20
Benzene	**20.9**		µg/l		20.0		104	70-130	3	20
Bromodichloromethane	**18.5**		µg/l		20.0		93	70-130	2	20
Bromoform	**14.5**		µg/l		20.0		72	70-130	0.3	20
Bromomethane	**21.2**		µg/l		20.0		106	70-130	2	20
2-Butanone (MEK)	**18.2**		µg/l		20.0		91	70-130	8	20
Carbon disulfide	**17.5**		µg/l		20.0		88	70-130	3	20
Carbon tetrachloride	**14.9**		µg/l		20.0		75	70-130	0.5	20
Chlorobenzene	**19.9**		µg/l		20.0		100	70-130	3	20
Chloroethane	**19.4**		µg/l		20.0		97	70-130	5	20
Chloroform	**21.5**		µg/l		20.0		107	70-130	2	20
Chloromethane	**23.6**		µg/l		20.0		118	70-130	0.4	20
1,2-Dibromo-3-chloropropane	**15.8**		µg/l		20.0		79	70-130	2	20
Dibromochloromethane	**17.8**		µg/l		20.0		89	70-130	0.3	20
1,2-Dibromoethane (EDB)	**21.3**		µg/l		20.0		106	70-130	3	20
1,2-Dichlorobenzene	**19.6**		µg/l		20.0		98	70-130	3	20
1,3-Dichlorobenzene	**20.7**		µg/l		20.0		104	70-130	6	20
1,4-Dichlorobenzene	**20.0**		µg/l		20.0		100	70-130	5	20
Dichlorodifluoromethane (Freon12)	**22.9**		µg/l		20.0		114	70-130	4	20
1,1-Dichloroethane	**20.1**		µg/l		20.0		101	70-130	8	20
1,2-Dichloroethane	**21.7**		µg/l		20.0		108	70-130	2	20
1,1-Dichloroethene	**21.2**		µg/l		20.0		106	70-130	1	20
cis-1,2-Dichloroethene	**20.3**		µg/l		20.0		101	70-130	7	20
trans-1,2-Dichloroethene	**20.4**		µg/l		20.0		102	70-130	3	20
1,2-Dichloropropane	**20.3**		µg/l		20.0		102	70-130	1	20
cis-1,3-Dichloropropene	**16.6**		µg/l		20.0		83	70-130	2	20
trans-1,3-Dichloropropene	**16.8**		µg/l		20.0		84	70-130	0.5	20
Ethylbenzene	**18.9**		µg/l		20.0		95	70-130	6	20
2-Hexanone (MBK)	**17.6**		µg/l		20.0		88	70-130	1	20
Isopropylbenzene	**19.7**		µg/l		20.0		99	70-130	5	20
Methyl tert-butyl ether	**18.7**		µg/l		20.0		94	70-130	2	20
4-Methyl-2-pentanone (MIBK)	**18.2**		µg/l		20.0		91	70-130	2	20
Methylene chloride	**22.2**		µg/l		20.0		111	70-130	1	20
Styrene	**17.2**		µg/l		20.0		86	70-130	8	20
1,1,2,2-Tetrachloroethane	**21.1**		µg/l		20.0		105	70-130	2	20
Tetrachloroethene	**19.4**		µg/l		20.0		97	70-130	4	20
Toluene	**20.8**		µg/l		20.0		104	70-130	3	20
1,2,4-Trichlorobenzene	**16.6**		µg/l		20.0		83	70-130	0.7	20
1,1,1-Trichloroethane	**17.8**		µg/l		20.0		89	70-130	4	20
1,1,2-Trichloroethane	**22.2**		µg/l		20.0		111	70-130	0.5	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719218 - SW846 5030 Water MS										
LCS Dup (1719218-BSD1)					Prepared & Analyzed: 14-Nov-17					
Trichloroethene	**20.1**		µg/l		20.0		101	70-130	1	20
Trichlorofluoromethane (Freon 11)	**23.4**		µg/l		20.0		117	70-130	7	20
Vinyl chloride	**21.4**		µg/l		20.0		107	70-130	6	20
m,p-Xylene	**18.4**		µg/l		20.0		92	70-130	8	20
o-Xylene	**20.0**		µg/l		20.0		100	70-130	6	20
Cyclohexane	**18.6**		µg/l		20.0		93	70-130	6	30
Methyl acetate	**23.0**		µg/l		20.0		115	70-130	2	30
Methylcyclohexane	**18.4**		µg/l		20.0		92	70-130	3	30
Surrogate: 4-Bromofluorobenzene	*51.3*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.3*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.2*		µg/l		*50.0*		*106*	*70-130*		
Surrogate: Dibromofluoromethane	*50.1*		µg/l		*50.0*		*100*	*70-130*		
Matrix Spike (1719218-MS1)			**Source: SC41109-04**		Prepared & Analyzed: 14-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**22.6**	D	µg/l		20.0	0.00	113	70-130		
Acetone	**22.3**	D	µg/l		20.0	0.00	112	70-130		
Benzene	**21.4**	D	µg/l		20.0	0.00	107	70-130		
Bromodichloromethane	**19.0**	D	µg/l		20.0	0.00	95	70-130		
Bromoform	**14.1**	D	µg/l		20.0	0.00	70	70-130		
Bromomethane	**20.5**	D	µg/l		20.0	0.00	102	70-130		
2-Butanone (MEK)	**18.3**	D	µg/l		20.0	0.00	92	70-130		
Carbon disulfide	**17.2**	D	µg/l		20.0	0.00	86	70-130		
Carbon tetrachloride	**14.6**	D	µg/l		20.0	0.00	73	70-130		
Chlorobenzene	**20.2**	D	µg/l		20.0	0.00	101	70-130		
Chloroethane	**19.3**	D	µg/l		20.0	0.00	97	70-130		
Chloroform	**22.0**	D	µg/l		20.0	0.00	110	70-130		
Chloromethane	**23.1**	D	µg/l		20.0	0.00	115	70-130		
1,2-Dibromo-3-chloropropane	**14.9**	D	µg/l		20.0	0.00	74	70-130		
Dibromochloromethane	**16.9**	D	µg/l		20.0	0.00	84	70-130		
1,2-Dibromoethane (EDB)	**21.2**	D	µg/l		20.0	0.00	106	70-130		
1,2-Dichlorobenzene	**18.0**	D	µg/l		20.0	0.00	90	70-130		
1,3-Dichlorobenzene	**21.0**	D	µg/l		20.0	0.00	105	70-130		
1,4-Dichlorobenzene	**19.7**	D	µg/l		20.0	0.00	98	70-130		
Dichlorodifluoromethane (Freon12)	**22.0**	D	µg/l		20.0	0.00	110	70-130		
1,1-Dichloroethane	**21.1**	D	µg/l		20.0	0.00	105	70-130		
1,2-Dichloroethane	**22.1**	D	µg/l		20.0	0.00	110	70-130		
1,1-Dichloroethene	**20.9**	D	µg/l		20.0	0.00	105	70-130		
cis-1,2-Dichloroethene	**21.3**	D	µg/l		20.0	0.00	107	70-130		
trans-1,2-Dichloroethene	**19.4**	D	µg/l		20.0	0.00	97	70-130		
1,2-Dichloropropane	**20.8**	D	µg/l		20.0	0.00	104	70-130		
cis-1,3-Dichloropropene	**16.1**	D	µg/l		20.0	0.00	80	70-130		
trans-1,3-Dichloropropene	**16.1**	D	µg/l		20.0	0.00	80	70-130		
Ethylbenzene	**18.8**	D	µg/l		20.0	0.00	94	70-130		
2-Hexanone (MBK)	**16.9**	D	µg/l		20.0	0.00	84	70-130		
Isopropylbenzene	**19.4**	D	µg/l		20.0	0.00	97	70-130		
Methyl tert-butyl ether	**18.8**	D	µg/l		20.0	0.00	94	70-130		
4-Methyl-2-pentanone (MIBK)	**17.6**	D	µg/l		20.0	0.00	88	70-130		
Methylene chloride	**22.5**	D	µg/l		20.0	0.00	113	70-130		
Styrene	**17.7**	D	µg/l		20.0	0.00	88	70-130		
1,1,2,2-Tetrachloroethane	**21.0**	D	µg/l		20.0	0.00	105	70-130		
Tetrachloroethene	**54.4**	D	µg/l		20.0	34.8	98	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719218 - SW846 5030 Water MS										
Matrix Spike (1719218-MS1)			**Source: SC41109-04**		Prepared & Analyzed: 14-Nov-17					
Toluene	**21.3**	D	µg/l		20.0	0.00	106	70-130		
1,2,4-Trichlorobenzene	**14.9**	D	µg/l		20.0	0.00	74	70-130		
1,1,1-Trichloroethane	**17.9**	D	µg/l		20.0	0.00	90	70-130		
1,1,2-Trichloroethane	**21.8**	D	µg/l		20.0	0.00	109	70-130		
Trichloroethene	**21.5**	D	µg/l		20.0	1.18	102	70-130		
Trichlorofluoromethane (Freon 11)	**24.5**	D	µg/l		20.0	0.00	123	70-130		
Vinyl chloride	**21.1**	D	µg/l		20.0	0.00	106	70-130		
m,p-Xylene	**18.7**	D	µg/l		20.0	0.00	93	70-130		
o-Xylene	**20.1**	D	µg/l		20.0	0.00	100	70-130		
Cyclohexane	**18.7**	D	µg/l		20.0	0.00	93	70-130		
Methyl acetate	**25.0**	D	µg/l		20.0	0.00	125	70-130		
Methylcyclohexane	**18.0**	D	µg/l		20.0	0.00	90	70-130		
Surrogate: 4-Bromofluorobenzene	*51.1*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*54.4*		µg/l		*50.0*		*109*	*70-130*		
Surrogate: Dibromofluoromethane	*51.7*		µg/l		*50.0*		*103*	*70-130*		
Matrix Spike Dup (1719218-MSD1)			**Source: SC41109-04**		Prepared & Analyzed: 14-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**22.3**	D	µg/l		20.0	0.00	112	70-130	1	20
Acetone	**22.4**	D	µg/l		20.0	0.00	112	70-130	0.4	20
Benzene	**20.5**	D	µg/l		20.0	0.00	103	70-130	4	20
Bromodichloromethane	**17.9**	D	µg/l		20.0	0.00	90	70-130	6	20
Bromoform	**14.7**	D	µg/l		20.0	0.00	74	70-130	4	20
Bromomethane	**21.0**	D	µg/l		20.0	0.00	105	70-130	2	20
2-Butanone (MEK)	**18.5**	D	µg/l		20.0	0.00	92	70-130	0.7	20
Carbon disulfide	**16.6**	D	µg/l		20.0	0.00	83	70-130	4	20
Carbon tetrachloride	**14.9**	D	µg/l		20.0	0.00	74	70-130	2	20
Chlorobenzene	**19.9**	D	µg/l		20.0	0.00	100	70-130	1	20
Chloroethane	**18.9**	D	µg/l		20.0	0.00	95	70-130	2	20
Chloroform	**21.5**	D	µg/l		20.0	0.00	108	70-130	2	20
Chloromethane	**22.6**	D	µg/l		20.0	0.00	113	70-130	2	20
1,2-Dibromo-3-chloropropane	**15.1**	D	µg/l		20.0	0.00	76	70-130	2	20
Dibromochloromethane	**17.1**	D	µg/l		20.0	0.00	86	70-130	1	20
1,2-Dibromoethane (EDB)	**21.2**	D	µg/l		20.0	0.00	106	70-130	0.1	20
1,2-Dichlorobenzene	**18.5**	D	µg/l		20.0	0.00	93	70-130	3	20
1,3-Dichlorobenzene	**20.2**	D	µg/l		20.0	0.00	101	70-130	4	20
1,4-Dichlorobenzene	**20.0**	D	µg/l		20.0	0.00	100	70-130	2	20
Dichlorodifluoromethane (Freon12)	**21.4**	D	µg/l		20.0	0.00	107	70-130	3	20
1,1-Dichloroethane	**20.6**	D	µg/l		20.0	0.00	103	70-130	2	20
1,2-Dichloroethane	**21.8**	D	µg/l		20.0	0.00	109	70-130	2	20
1,1-Dichloroethene	**20.4**	D	µg/l		20.0	0.00	102	70-130	3	20
cis-1,2-Dichloroethene	**20.9**	D	µg/l		20.0	0.00	105	70-130	2	20
trans-1,2-Dichloroethene	**19.7**	D	µg/l		20.0	0.00	99	70-130	1	20
1,2-Dichloropropane	**19.9**	D	µg/l		20.0	0.00	99	70-130	4	20
cis-1,3-Dichloropropene	**16.1**	D	µg/l		20.0	0.00	81	70-130	0.4	20
trans-1,3-Dichloropropene	**16.1**	D	µg/l		20.0	0.00	80	70-130	0.2	20
Ethylbenzene	**18.6**	D	µg/l		20.0	0.00	93	70-130	1	20
2-Hexanone (MBK)	**17.4**	D	µg/l		20.0	0.00	87	70-130	3	20
Isopropylbenzene	**19.1**	D	µg/l		20.0	0.00	95	70-130	2	20
Methyl tert-butyl ether	**19.0**	D	µg/l		20.0	0.00	95	70-130	0.7	20
4-Methyl-2-pentanone (MIBK)	**16.6**	D	µg/l		20.0	0.00	83	70-130	6	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719218 - SW846 5030 Water MS										
Matrix Spike Dup (1719218-MSD1)			**Source: SC41109-04**		Prepared & Analyzed: 14-Nov-17					
Methylene chloride	**21.9**	D	µg/l		20.0	0.00	109	70-130	3	20
Styrene	**17.5**	D	µg/l		20.0	0.00	87	70-130	1	20
1,1,2,2-Tetrachloroethane	**21.1**	D	µg/l		20.0	0.00	106	70-130	0.5	20
Tetrachloroethene	**53.0**	D	µg/l		20.0	34.8	91	70-130	3	20
Toluene	**20.4**	D	µg/l		20.0	0.00	102	70-130	4	20
1,2,4-Trichlorobenzene	**16.4**	D	µg/l		20.0	0.00	82	70-130	10	20
1,1,1-Trichloroethane	**17.9**	D	µg/l		20.0	0.00	89	70-130	0.3	20
1,1,2-Trichloroethane	**22.4**	D	µg/l		20.0	0.00	112	70-130	3	20
Trichloroethene	**21.3**	D	µg/l		20.0	1.18	100	70-130	1	20
Trichlorofluoromethane (Freon 11)	**23.7**	D	µg/l		20.0	0.00	119	70-130	3	20
Vinyl chloride	**19.3**	D	µg/l		20.0	0.00	97	70-130	9	20
m,p-Xylene	**18.5**	D	µg/l		20.0	0.00	92	70-130	1	20
o-Xylene	**19.5**	D	µg/l		20.0	0.00	98	70-130	3	20
Cyclohexane	**18.0**	D	µg/l		20.0	0.00	90	70-130	4	30
Methyl acetate	**24.9**	D	µg/l		20.0	0.00	124	70-130	0.3	30
Methylcyclohexane	**17.3**	D	µg/l		20.0	0.00	86	70-130	4	30
Surrogate: 4-Bromofluorobenzene	*51.8*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*51.9*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*54.6*		µg/l		*50.0*		*109*	*70-130*		
Surrogate: Dibromofluoromethane	*59.1*		µg/l		*50.0*		*118*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17318001 - METHOD										
Blank (BLK3180B)						Prepared: 14-Nov-17 Analyzed: 22-Nov-17				
Perfluorobutanesulfonate	< 1		ng/l	1				-		
Perfluorooctanoic acid	< 1		ng/l	1				-		
Perfluoro-octanesulfonate	< 3		ng/l	3				-		
Perfluorononanoic acid	< 1		ng/l	1				-		
Perfluorohexanesulfonate	< 2		ng/l	2				-		
Perfluoroheptanoic acid	< 1		ng/l	1				-		
Surrogate: 13C8-PFOS	*15*		ng/l		*19*		*79*	*43-115*		
Surrogate: 13C8-PFOA	*19*		ng/l		*20*		*94*	*43-112*		
Surrogate: 13C3-PFHxS	*18*		ng/l		*19*		*94*	*34-126*		
Surrogate: 13C3-PFBS	*19*		ng/l		*19*		*104*	*26-148*		
Surrogate: 13C9-PFNA	*16*		ng/l		*20*		*78*	*32-134*		
Surrogate: 13C4-PFHpA	*18*		ng/l		*20*		*89*	*35-126*		
LCS (LCS3181Q)						Prepared: 14-Nov-17 Analyzed: 22-Nov-17				
Perfluorooctanoic acid	**7**		ng/l	1	5		121	70-130		
Perfluoro-octanesulfonate	**5**		ng/l	3	5		90	70-130		
Perfluorononanoic acid	**6**		ng/l	1	5		104	70-130		
Perfluorohexanesulfonate	**5**		ng/l	2	5		94	70-130		
Perfluoroheptanoic acid	**6**		ng/l	1	5		102	70-130		
Perfluorobutanesulfonate	**5**		ng/l	1	5		96	70-130		
Surrogate: 13C3-PFHxS	*17*		ng/l		*19*		*90*	*34-126*		
Surrogate: 13C9-PFNA	*19*		ng/l		*20*		*94*	*32-134*		
Surrogate: 13C8-PFOS	*18*		ng/l		*19*		*94*	*43-115*		
Surrogate: 13C4-PFHpA	*18*		ng/l		*20*		*90*	*35-126*		
Surrogate: 13C3-PFBS	*21*		ng/l		*19*		*113*	*26-148*		
Surrogate: 13C8-PFOA	*19*		ng/l		*20*		*95*	*43-112*		
LCSD (LCS3181Y)						Prepared: 14-Nov-17 Analyzed: 22-Nov-17				
Perfluorooctanoic acid	**6**		ng/l	1	5		106	70-130	13	30
Perfluorononanoic acid	**6**		ng/l	1	5		109	70-130	4	30
Perfluoro-octanesulfonate	**5**		ng/l	3	5		102	70-130	13	30
Perfluorohexanesulfonate	**5**		ng/l	2	5		105	70-130	11	30
Perfluoroheptanoic acid	**5**		ng/l	1	5		96	70-130	6	30
Perfluorobutanesulfonate	**5**		ng/l	1	5		101	70-130	5	30
Surrogate: 13C3-PFBS	*18*		ng/l		*19*		*96*	*26-148*		
Surrogate: 13C9-PFNA	*16*		ng/l		*20*		*82*	*32-134*		
Surrogate: 13C8-PFOS	*13*		ng/l		*19*		*68*	*43-115*		
Surrogate: 13C8-PFOA	*18*		ng/l		*20*		*89*	*43-112*		
Surrogate: 13C4-PFHpA	*18*		ng/l		*20*		*88*	*35-126*		
Surrogate: 13C3-PFHxS	*17*		ng/l		*19*		*90*	*34-126*		
SW-846 8270D SIM										
Batch 17312WAL026 - SW-846 3510C										
LCS (P2WLLCSQ)						Prepared: 08-Nov-17 Analyzed: 16-Nov-17				
1,4-Dioxane	**0.47**		ug/l	0.20	1.0		47	28-103		
Surrogate: 1-Methylnaphthalene-d10	*0.94*		ug/l		*1.0*		*94*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.91*		ug/l		*1.0*		*91*	*39-121*		
Surrogate: Fluoranthene-d10	*0.98*		ug/l		*1.0*		*98*	*42-119*		
LCSD (P2WLLCSY)						Prepared: 08-Nov-17 Analyzed: 16-Nov-17				
1,4-Dioxane	**0.48**		ug/l	0.20	1.0		48	28-103	1	30
Surrogate: 1-Methylnaphthalene-d10	*0.92*		ug/l		*1.0*		*92*	*29-123*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW-846 8270D SIM										
Batch 17312WAL026 - SW-846 3510C										
LCSD (P2WLLCSY)						Prepared: 08-Nov-17 Analyzed: 16-Nov-17				
Surrogate: Benzo(a)pyrene-d12	*0.87*		ug/l		*1.0*		*87*	*39-121*		
Surrogate: Fluoranthene-d10	*0.97*		ug/l		*1.0*		*97*	*42-119*		
Blank (PLKWL31B)						Prepared: 08-Nov-17 Analyzed: 16-Nov-17				
1,4-Dioxane	< 0.20		ug/l	0.20				-		
Surrogate: Fluoranthene-d10	*0.91*		ug/l		*1.0*		*91*	*42-119*		
Surrogate: 1-Methylnaphthalene-d10	*0.84*		ug/l		*1.0*		*84*	*29-123*		
Surrogate: Benzo(a)pyrene-d12	*0.84*		ug/l		*1.0*		*84*	*39-121*		

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
J	Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
U	Analyte included in the analysis, but not detected at or above the MDL.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC 41109 e

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CHAIN OF CUSTODY RECORD

Page 1 of ____

Special Handling:

☐ Standard TAT - 7 to 10 business days

☐ Rush TAT - Date Needed: As Per Contract

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: Mike Steffan
368 Pleasant View Dr.
Lancaster NY 14086

Telephone #: (716) 684-8060
Project Mgr: Mike Steffan

Invoice To: Mike Steffan
Ecology + Environment Inc.
368 Pleasant View Dr.
Lancaster NY 14086

P.O No.: ____ Quote #: ____

Project No: 106 30.74.0011.09
Site Name: Mr C's
Location: East Aurora State: NY
Sampler(s): Lawrence Rood

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= None 12= ____

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= ____ X2= ____ X3= ____

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: VOCs	1,4 Dioxane	PFAS	Check if chlorinated
41109-01	MPI-55-11317	11/3/17	0858	G	GW	3	2		2	X	X	X	☐
-02	MPI-55-113170	11/3/17	0858	G	GW	3	2		2	X	X	X	☐
-03	MW-8-11317	11/3/17	1050	G	GW	3	2		2	X	X	X	☐
-04	PZ-3B-11317	11/3/17	1245	G	GW	3	2		2	X	X	X	☐
-05	ESI-2R-11317	11/3/17	1458	G	GW	3	2		2	X	X	X	☐
													☐
													☐
													☐
													☐
													☐

List Preservative Code below: 2 | 11 | 11

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: As Per Contract
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp °C
[signature]	Fedex	11/3/17	1800	Observed 4.4
Fedex	[signature]	11/4/17	1029	Correction Factor 0
				Corrected 4.4
				IR ID # 2

☐ EDD format: As per Contract
☐ E-mail to: MSTEFFAN@ENE.com

Condition upon receipt: Custody Seals: ☑ Present ☑ Intact ☐ Broken
☐ Ambient ☑ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

ORIGIN ID:BUFA (716) 684-8060
JAMES MAYS
ECOLOGY & ENVIROMENTAL INC
368 PLEASANTVIEW DR

LANCASTER, NY 14086
UNITED STATES US

SHIP DATE: 03NOV17
ACTWGT: 63.20 LB
CAD: 006993854/SSFE1822
DIMS: 23x13x14 IN

BILL THIRD PARTY

Part # 156297-877/1040
5491/3/F877/1040
5/18

TO **EUROFINS/SPECTRUM ANALYTICAL**
SPECTRUM ANALYTICAL/SAMPLE CUSTODY
11 ALMGREN DR

AGAWAM MA 01001

(413) 789-9018 REF:
INV:
PO: DEPT:

FedEx Express

J172117091301uv

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 **7883 2535 7246**

XO EHTA

01001
MA-US **BDL**

Batch Summary

1719218

Volatile Organic Compounds

1719218-BLK1
1719218-BS1
1719218-BSD1
1719218-MS1
1719218-MSD1
SC41109-01 (MPI-55-11317)
SC41109-02 (MPI-55-11317Q)
SC41109-03 (MW-8-11317)
SC41109-04 (PZ-3B-11317)
SC41109-05 (ESI-2R-11317)

17312WAL026

Subcontracted Analyses

P2WLLCSQ
P2WLLCSY
PLKWL31B
SC41109-01 (MPI-55-11317)
SC41109-02 (MPI-55-11317Q)
SC41109-03 (MW-8-11317)
SC41109-04 (PZ-3B-11317)
SC41109-05 (ESI-2R-11317)

17318001

Subcontracted Analyses

BLK3180B
LCS3181Q
LCS3181Y
SC41109-01 (MPI-55-11317)
SC41109-02 (MPI-55-11317Q)
SC41109-03 (MW-8-11317)
SC41109-04 (PZ-3B-11317)
SC41109-05 (ESI-2R-11317)

S709964

Volatile Organic Compounds

S709964-CAL1
S709964-CAL2
S709964-CAL3
S709964-CAL4
S709964-CAL5
S709964-CAL6
S709964-CAL7
S709964-CAL8
S709964-CAL9
S709964-CALA
S709964-CALB
S709964-ICV1
S709964-LCV1
S709964-TUN1

S710042

Volatile Organic Compounds

S710042-CCV1
S710042-TUN1

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☑ Final Report
☐ Revised Report

Report Date:
30-Nov-17 18:22

Laboratory Report
SC41008

Ecology and Environment, Inc.
368 Pleasant View Drive
Lancaster, NY 14086
Attn: Mike Steffan

Project: Mr. C's Groundwaters
Project #: 10C3074.0011.39

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director

Dawn E Wojcik

Eurofins Spectrum Analytical holds primary NELAC certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 21 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC41008

Project: Mr. C's Groundwaters

Project Number: 10C3074.0011.39

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC41008-01	MPI-71-R11117	Ground Water	01-Nov-17 12:10	02-Nov-17 10:30
SC41008-02	ESI-3-R11117	Ground Water	01-Nov-17 13:38	02-Nov-17 10:30

CASE NARRATIVE:

Data has been reported to the RDL. This report includes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the detection limit are reported as "<" (less than) the detection limit in this report.

The samples were received 4.4 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 8260C

Calibration:

1710027

Analyte quantified by quadratic equation type calibration.

1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,3-Dichlorobenzene
Bromoform
cis-1,3-Dichloropropene
Ethylbenzene
m,p-Xylene
o-Xylene
Styrene
trans-1,3-Dichloropropene

This affected the following samples:

1719163-BLK1
1719163-BS1
1719163-BSD1
ESI-3-R11117
MPI-71-R11117
S709132-ICV1
S710015-CCV1

Laboratory Control Samples:

1719163 BS/BSD

Trichlorofluoromethane (Freon 11) percent recoveries (122/137) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

ESI-3-R11117
MPI-71-R11117

Samples:

S710015-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

Methyl acetate (23.2%)
Trichlorofluoromethane (Freon 11) (22.0%)

SW846 8260C

Samples:

S710015-CCV1

This affected the following samples:

1719163-BLK1
1719163-BS1
1719163-BSD1
ESI-3-R11117
MPI-71-R11117

S710091-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,2-Dibromo-3-chloropropane (-24.9%)
Bromoform (-27.9%)
Carbon tetrachloride (-24.9%)
Trichlorofluoromethane (Freon 11) (23.7%)

This affected the following samples:

1719281-BLK1
1719281-BS1
1719281-BSD1

SC41008-02RE1 *ESI-3-R11117*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Sample Acceptance Check Form

Client:	Ecology and Environment, Inc.
Project:	Mr. C's Groundwaters / 10C3074.0011.39
Work Order:	SC41008
Sample(s) received on:	11/2/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☑	☐	☐
Were custody seals intact?	☑	☐	☐
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC41008-01 **Client ID:** MPI-71-R11117

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Methyl tert-butyl ether	0.42	J	1.00	µg/l	SW846 8260C

Lab ID: SC41008-02 **Client ID:** ESI-3-R11117

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Perfluorobutanesulfonate	2		1	ng/l	EPA 537 modified
Perfluoroheptanoic acid	3		1	ng/l	EPA 537 modified
Perfluorononanoic acid	1		1	ng/l	EPA 537 modified
Perfluoro-octanesulfonate	4		3	ng/l	EPA 537 modified
Perfluorooctanoic acid	17		1	ng/l	EPA 537 modified
1,1,1-Trichloroethane	1.21		1.00	µg/l	SW846 8260C
1,1-Dichloroethane	0.89	J	1.00	µg/l	SW846 8260C
Methyl tert-butyl ether	0.58	J	1.00	µg/l	SW846 8260C
Tetrachloroethene	128	E	1.00	µg/l	SW846 8260C

Lab ID: SC41008-02RE1 **Client ID:** ESI-3-R11117

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Tetrachloroethene	100	D	5.00	µg/l	SW846 8260C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-71-R11117	10C3074.0011.39	Ground Water	01-Nov-17 12:10	02-Nov-17
SC41008-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	13-Nov-17	14-Nov-17	GMA	1719163	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00	U	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	**0.42**	J	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00	U	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MPI-71-R11117	10C3074.0011.39	Ground Water	01-Nov-17 12:10	02-Nov-17
SC41008-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	13-Nov-17	14-Nov-17	GMA	1719163	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*105*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*104*			*70-130 %*			"	"	"	"	"	
Subcontracted analyses													
Subcontracted analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	< 4		ng/l	4	1	1	EPA 537 modified	14-Nov-17 08:05	22-Nov-17 02:27	10670	17318001	
375-73-5	Perfluorobutanesulfonate	< 1		ng/l	1	0.4	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	< 1		ng/l	1	0.4	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 2		ng/l	2	0.5	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	< 1		ng/l	1	0.4	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	< 1		ng/l	1	0.4	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*87*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*71*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*69*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*79*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*78*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*87*			*32-134 %*			"	"	"	"	"	
Subcontracted analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.19		ug/l	0.19	0.048	1	SW-846 8270D SIM	08-Nov-17 16:30	17-Nov-17 10:41	10670	312WAL0	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*94*			*29-123 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*58*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*101*			*42-119 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ESI-3-R11117	10C3074.0011.39	Ground Water	01-Nov-17 13:38	02-Nov-17
SC41008-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00	0.53	1	SW846 8260C	13-Nov-17	14-Nov-17	GMA	1719163	X
67-64-1	Acetone	< 10.0	U	µg/l	10.0	0.80	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50	U	µg/l	0.50	0.42	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00	U	µg/l	1.00	0.42	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00	U	µg/l	2.00	0.90	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 2.00	U	µg/l	2.00	1.07	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00	U	µg/l	2.00	0.41	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00	U	µg/l	1.00	0.44	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00	U	µg/l	1.00	0.25	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00	U	µg/l	2.00	0.59	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00	U	µg/l	2.00	0.37	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00	0.86	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50	U	µg/l	0.50	0.32	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50	0.20	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.31	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00	0.27	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00	0.58	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	**0.89**	J	µg/l	1.00	0.32	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00	U	µg/l	1.00	0.69	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00	U	µg/l	1.00	0.29	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50	0.35	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 2.00	U	µg/l	2.00	0.53	1	"	"	"	"	"	X
98-82-8	Isopropylbenzene	< 1.00	U	µg/l	1.00	0.36	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	**0.58**	J	µg/l	1.00	0.24	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00	0.52	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00	U	µg/l	2.00	0.66	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00	U	µg/l	1.00	0.40	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50	0.33	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**128**	E	µg/l	1.00	0.57	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00	U	µg/l	1.00	0.30	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00	0.38	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	**1.21**		µg/l	1.00	0.51	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00	0.33	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00	U	µg/l	1.00	0.50	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ESI-3-R11117	10C3074.0011.39	Ground Water	01-Nov-17 13:38	02-Nov-17
SC41008-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00	0.49	1	SW846 8260C	13-Nov-17	14-Nov-17	GMA	1719163	X
75-01-4	Vinyl chloride	< 1.00	U	µg/l	1.00	0.47	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00	U	µg/l	2.00	0.38	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00	U	µg/l	1.00	0.28	1	"	"	"	"	"	X
1330-20-7	Total Xylenes	< 3.00	U	µg/l	3.00	3.00	1	"	"	"	"	"	X
110-82-7	Cyclohexane	< 5.00	U	µg/l	5.00	0.79	1	"	"	"	"	"	X
79-20-9	Methyl acetate	< 5.00	U	µg/l	5.00	0.65	1	"	"	"	"	"	X
108-87-2	Methylcyclohexane	< 5.00	U	µg/l	5.00	0.74	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*105*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*105*			*70-130 %*			"	"	"	"	"	
Re-analysis of Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS			GS1										
127-18-4	Tetrachloroethene	**100**	D	µg/l	5.00	2.85	5	SW846 8260C	15-Nov-17	15-Nov-17	GMA	1719281	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*90*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*113*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*70-130 %*			"	"	"	"	"	
Subcontracted analyses													
Subcontracted analyses Prepared by method METHOD													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
1763-23-1	Perfluoro-octanesulfonate	**4**		ng/l	3	0.8	1	EPA 537 modified	14-Nov-17 08:05	22-Nov-17 02:48	10670	17318001	
375-73-5	Perfluorobutanesulfonate	**2**		ng/l	1	0.3	1	"	"	"	"	"	
375-85-9	Perfluoroheptanoic acid	**3**		ng/l	1	0.3	1	"	"	"	"	"	
355-46-4	Perfluorohexanesulfonate	< 2		ng/l	2	0.4	1	"	"	"	"	"	
375-95-1	Perfluorononanoic acid	**1**		ng/l	1	0.3	1	"	"	"	"	"	
335-67-1	Perfluorooctanoic acid	**17**		ng/l	1	0.3	1	"	"	"	"	"	
Surrogate recoveries:													
375-73-5L	*13C3-PFBS*	*114*			*26-148 %*			"	"	"	"	"	
355-46-4L	*13C3-PFHxS*	*70*			*34-126 %*			"	"	"	"	"	
375-85-9L	*13C4-PFHpA*	*80*			*35-126 %*			"	"	"	"	"	
335-67-1L	*13C8-PFOA*	*77*			*43-112 %*			"	"	"	"	"	
1763-23-1L	*13C8-PFOS*	*86*			*43-115 %*			"	"	"	"	"	
375-95-1L	*13C9-PFNA*	*84*			*32-134 %*			"	"	"	"	"	
Subcontracted analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
123-91-1	1,4-Dioxane	< 0.20		ug/l	0.20	0.049	1	SW-846 8270D SIM	08-Nov-17 16:30	17-Nov-17 11:13	10670	312WAL0	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ESI-3-R11117	10C3074.0011.39	Ground Water	01-Nov-17 13:38	02-Nov-17
SC41008-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Subcontracted analyses													
Subcontracted analyses													
Analysis performed by Eurofins Lancaster Laboratories Environmental - 10670													
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*91*			*29-123 %*			SW-846 8270D SIM	08-Nov-17 16:30	-Nov-17 11:	10670	312WAL0	
63466-71-7	*Benzo(a)pyrene-d12*	*87*			*39-121 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*99*			*42-119 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719163 - SW846 5030 Water MS										
Blank (1719163-BLK1)					Prepared: 13-Nov-17 Analyzed: 14-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00						
Acetone	< 10.0	U	µg/l	10.0						
Benzene	< 1.00	U	µg/l	1.00						
Bromodichloromethane	< 0.50	U	µg/l	0.50						
Bromoform	< 1.00	U	µg/l	1.00						
Bromomethane	< 2.00	U	µg/l	2.00						
2-Butanone (MEK)	< 2.00	U	µg/l	2.00						
Carbon disulfide	< 2.00	U	µg/l	2.00						
Carbon tetrachloride	< 1.00	U	µg/l	1.00						
Chlorobenzene	< 1.00	U	µg/l	1.00						
Chloroethane	< 2.00	U	µg/l	2.00						
Chloroform	< 1.00	U	µg/l	1.00						
Chloromethane	< 2.00	U	µg/l	2.00						
1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00						
Dibromochloromethane	< 0.50	U	µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50						
1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00						
1,1-Dichloroethane	< 1.00	U	µg/l	1.00						
1,2-Dichloroethane	< 1.00	U	µg/l	1.00						
1,1-Dichloroethene	< 1.00	U	µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
1,2-Dichloropropane	< 1.00	U	µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
Ethylbenzene	< 1.00	U	µg/l	1.00						
2-Hexanone (MBK)	< 2.00	U	µg/l	2.00						
Isopropylbenzene	< 1.00	U	µg/l	1.00						
Methyl tert-butyl ether	< 1.00	U	µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00						
Methylene chloride	< 2.00	U	µg/l	2.00						
Styrene	< 1.00	U	µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50						
Tetrachloroethene	< 1.00	U	µg/l	1.00						
Toluene	< 1.00	U	µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00						
1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00						
1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00						
Trichloroethene	< 1.00	U	µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00						
Vinyl chloride	< 1.00	U	µg/l	1.00						
m,p-Xylene	< 2.00	U	µg/l	2.00						
o-Xylene	< 1.00	U	µg/l	1.00						
Total Xylenes	< 3.00	U	µg/l	3.00						
Cyclohexane	< 5.00	U	µg/l	5.00						
Methyl acetate	< 5.00	U	µg/l	5.00						
Methylcyclohexane	< 5.00	U	µg/l	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719163 - SW846 5030 Water MS										
Blank (1719163-BLK1)						Prepared: 13-Nov-17 Analyzed: 14-Nov-17				
Surrogate: 4-Bromofluorobenzene	*51.3*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*50.0*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.3*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Dibromofluoromethane	*50.7*		µg/l		*50.0*		*101*	*70-130*		
LCS (1719163-BS1)						Prepared: 13-Nov-17 Analyzed: 14-Nov-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**23.7**		µg/l		20.0		119	70-130		
Acetone	**21.8**		µg/l		20.0		109	70-130		
Benzene	**20.6**		µg/l		20.0		103	70-130		
Bromodichloromethane	**20.5**		µg/l		20.0		103	70-130		
Bromoform	**22.4**		µg/l		20.0		112	70-130		
Bromomethane	**19.1**		µg/l		20.0		95	70-130		
2-Butanone (MEK)	**20.8**		µg/l		20.0		104	70-130		
Carbon disulfide	**23.1**		µg/l		20.0		115	70-130		
Carbon tetrachloride	**22.7**		µg/l		20.0		114	70-130		
Chlorobenzene	**21.5**		µg/l		20.0		107	70-130		
Chloroethane	**23.3**		µg/l		20.0		116	70-130		
Chloroform	**20.6**		µg/l		20.0		103	70-130		
Chloromethane	**17.4**		µg/l		20.0		87	70-130		
1,2-Dibromo-3-chloropropane	**18.2**		µg/l		20.0		91	70-130		
Dibromochloromethane	**22.0**		µg/l		20.0		110	70-130		
1,2-Dibromoethane (EDB)	**20.9**		µg/l		20.0		104	70-130		
1,2-Dichlorobenzene	**21.0**		µg/l		20.0		105	70-130		
1,3-Dichlorobenzene	**21.2**		µg/l		20.0		106	70-130		
1,4-Dichlorobenzene	**20.7**		µg/l		20.0		104	70-130		
Dichlorodifluoromethane (Freon12)	**20.8**		µg/l		20.0		104	70-130		
1,1-Dichloroethane	**19.8**		µg/l		20.0		99	70-130		
1,2-Dichloroethane	**20.3**		µg/l		20.0		101	70-130		
1,1-Dichloroethene	**24.0**		µg/l		20.0		120	70-130		
cis-1,2-Dichloroethene	**21.5**		µg/l		20.0		108	70-130		
trans-1,2-Dichloroethene	**20.8**		µg/l		20.0		104	70-130		
1,2-Dichloropropane	**18.2**		µg/l		20.0		91	70-130		
cis-1,3-Dichloropropene	**19.8**		µg/l		20.0		99	70-130		
trans-1,3-Dichloropropene	**20.6**		µg/l		20.0		103	70-130		
Ethylbenzene	**20.7**		µg/l		20.0		103	70-130		
2-Hexanone (MBK)	**17.3**		µg/l		20.0		86	70-130		
Isopropylbenzene	**22.1**		µg/l		20.0		110	70-130		
Methyl tert-butyl ether	**18.3**		µg/l		20.0		92	70-130		
4-Methyl-2-pentanone (MIBK)	**17.6**		µg/l		20.0		88	70-130		
Methylene chloride	**22.6**		µg/l		20.0		113	70-130		
Styrene	**20.4**		µg/l		20.0		102	70-130		
1,1,2,2-Tetrachloroethane	**20.0**		µg/l		20.0		100	70-130		
Tetrachloroethene	**21.7**		µg/l		20.0		108	70-130		
Toluene	**21.4**		µg/l		20.0		107	70-130		
1,2,4-Trichlorobenzene	**19.8**		µg/l		20.0		99	70-130		
1,1,1-Trichloroethane	**21.3**		µg/l		20.0		107	70-130		
1,1,2-Trichloroethane	**20.2**		µg/l		20.0		101	70-130		
Trichloroethene	**20.7**		µg/l		20.0		104	70-130		
Trichlorofluoromethane (Freon 11)	**24.4**		µg/l		20.0		122	70-130		
Vinyl chloride	**23.1**		µg/l		20.0		115	70-130		
m,p-Xylene	**20.6**		µg/l		20.0		103	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719163 - SW846 5030 Water MS										
LCS (1719163-BS1)					Prepared: 13-Nov-17 Analyzed: 14-Nov-17					
o-Xylene	**20.7**		µg/l		20.0		104	70-130		
Cyclohexane	**21.6**		µg/l		20.0		108	70-130		
Methyl acetate	**24.6**		µg/l		20.0		123	70-130		
Methylcyclohexane	**22.5**		µg/l		20.0		113	70-130		
Surrogate: 4-Bromofluorobenzene	*51.8*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*49.4*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.2*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*48.7*		µg/l		*50.0*		*97*	*70-130*		
LCS Dup (1719163-BSD1)					Prepared: 13-Nov-17 Analyzed: 14-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**23.5**		µg/l		20.0		117	70-130	1	20
Acetone	**24.0**		µg/l		20.0		120	70-130	9	20
Benzene	**20.6**		µg/l		20.0		103	70-130	0.2	20
Bromodichloromethane	**20.5**		µg/l		20.0		102	70-130	0.3	20
Bromoform	**22.2**		µg/l		20.0		111	70-130	0.9	20
Bromomethane	**22.8**		µg/l		20.0		114	70-130	18	20
2-Butanone (MEK)	**17.4**		µg/l		20.0		87	70-130	18	20
Carbon disulfide	**22.0**		µg/l		20.0		110	70-130	4	20
Carbon tetrachloride	**22.2**		µg/l		20.0		111	70-130	2	20
Chlorobenzene	**21.0**		µg/l		20.0		105	70-130	2	20
Chloroethane	**25.6**		µg/l		20.0		128	70-130	10	20
Chloroform	**19.9**		µg/l		20.0		100	70-130	3	20
Chloromethane	**16.3**		µg/l		20.0		82	70-130	6	20
1,2-Dibromo-3-chloropropane	**17.3**		µg/l		20.0		86	70-130	5	20
Dibromochloromethane	**21.6**		µg/l		20.0		108	70-130	2	20
1,2-Dibromoethane (EDB)	**20.6**		µg/l		20.0		103	70-130	2	20
1,2-Dichlorobenzene	**21.2**		µg/l		20.0		106	70-130	0.9	20
1,3-Dichlorobenzene	**21.0**		µg/l		20.0		105	70-130	0.8	20
1,4-Dichlorobenzene	**20.4**		µg/l		20.0		102	70-130	2	20
Dichlorodifluoromethane (Freon12)	**20.0**		µg/l		20.0		100	70-130	4	20
1,1-Dichloroethane	**19.2**		µg/l		20.0		96	70-130	3	20
1,2-Dichloroethane	**20.2**		µg/l		20.0		101	70-130	0.3	20
1,1-Dichloroethene	**24.5**		µg/l		20.0		123	70-130	2	20
cis-1,2-Dichloroethene	**20.7**		µg/l		20.0		104	70-130	4	20
trans-1,2-Dichloroethene	**20.7**		µg/l		20.0		104	70-130	0.3	20
1,2-Dichloropropane	**18.8**		µg/l		20.0		94	70-130	3	20
cis-1,3-Dichloropropene	**19.8**		µg/l		20.0		99	70-130	0.05	20
trans-1,3-Dichloropropene	**20.6**		µg/l		20.0		103	70-130	0.1	20
Ethylbenzene	**20.2**		µg/l		20.0		101	70-130	2	20
2-Hexanone (MBK)	**17.2**		µg/l		20.0		86	70-130	0.5	20
Isopropylbenzene	**21.5**		µg/l		20.0		107	70-130	3	20
Methyl tert-butyl ether	**17.8**		µg/l		20.0		89	70-130	3	20
4-Methyl-2-pentanone (MIBK)	**17.7**		µg/l		20.0		89	70-130	0.5	20
Methylene chloride	**22.5**		µg/l		20.0		112	70-130	0.7	20
Styrene	**20.4**		µg/l		20.0		102	70-130	0.2	20
1,1,2,2-Tetrachloroethane	**19.4**		µg/l		20.0		97	70-130	3	20
Tetrachloroethene	**22.1**		µg/l		20.0		111	70-130	2	20
Toluene	**20.5**		µg/l		20.0		102	70-130	4	20
1,2,4-Trichlorobenzene	**20.1**		µg/l		20.0		101	70-130	1	20
1,1,1-Trichloroethane	**20.9**		µg/l		20.0		104	70-130	2	20
1,1,2-Trichloroethane	**20.4**		µg/l		20.0		102	70-130	0.8	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719163 - SW846 5030 Water MS										
LCS Dup (1719163-BSD1)					Prepared: 13-Nov-17 Analyzed: 14-Nov-17					
Trichloroethene	**20.4**		µg/l		20.0		102	70-130	2	20
Trichlorofluoromethane (Freon 11)	**27.4**	QM9	µg/l		20.0		137	70-130	11	20
Vinyl chloride	**22.6**		µg/l		20.0		113	70-130	2	20
m,p-Xylene	**21.1**		µg/l		20.0		106	70-130	2	20
o-Xylene	**20.5**		µg/l		20.0		102	70-130	1	20
Cyclohexane	**20.8**		µg/l		20.0		104	70-130	4	30
Methyl acetate	**24.9**		µg/l		20.0		124	70-130	0.8	30
Methylcyclohexane	**22.0**		µg/l		20.0		110	70-130	3	30
Surrogate: 4-Bromofluorobenzene	*51.7*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.6*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: Dibromofluoromethane	*49.2*		µg/l		*50.0*		*98*	*70-130*		
Batch 1719281 - SW846 5030 Water MS										
Blank (1719281-BLK1)					Prepared & Analyzed: 15-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00	U	µg/l	1.00						
Acetone	< 10.0	U	µg/l	10.0						
Benzene	< 1.00	U	µg/l	1.00						
Bromodichloromethane	< 0.50	U	µg/l	0.50						
Bromoform	< 1.00	U	µg/l	1.00						
Bromomethane	< 2.00	U	µg/l	2.00						
2-Butanone (MEK)	< 2.00	U	µg/l	2.00						
Carbon disulfide	< 2.00	U	µg/l	2.00						
Carbon tetrachloride	< 1.00	U	µg/l	1.00						
Chlorobenzene	< 1.00	U	µg/l	1.00						
Chloroethane	< 2.00	U	µg/l	2.00						
Chloroform	< 1.00	U	µg/l	1.00						
Chloromethane	< 2.00	U	µg/l	2.00						
1,2-Dibromo-3-chloropropane	< 2.00	U	µg/l	2.00						
Dibromochloromethane	< 0.50	U	µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50	U	µg/l	0.50						
1,2-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,3-Dichlorobenzene	< 1.00	U	µg/l	1.00						
1,4-Dichlorobenzene	< 1.00	U	µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00	U	µg/l	2.00						
1,1-Dichloroethane	< 1.00	U	µg/l	1.00						
1,2-Dichloroethane	< 1.00	U	µg/l	1.00						
1,1-Dichloroethene	< 1.00	U	µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00	U	µg/l	1.00						
1,2-Dichloropropane	< 1.00	U	µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50	U	µg/l	0.50						
Ethylbenzene	< 1.00	U	µg/l	1.00						
2-Hexanone (MBK)	< 2.00	U	µg/l	2.00						
Isopropylbenzene	< 1.00	U	µg/l	1.00						
Methyl tert-butyl ether	< 1.00	U	µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00	U	µg/l	2.00						
Methylene chloride	< 2.00	U	µg/l	2.00						
Styrene	< 1.00	U	µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50	U	µg/l	0.50						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719281 - SW846 5030 Water MS										
Blank (1719281-BLK1)					Prepared & Analyzed: 15-Nov-17					
Tetrachloroethene	< 1.00	U	µg/l	1.00						
Toluene	< 1.00	U	µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00	U	µg/l	1.00						
1,1,1-Trichloroethane	< 1.00	U	µg/l	1.00						
1,1,2-Trichloroethane	< 1.00	U	µg/l	1.00						
Trichloroethene	< 1.00	U	µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00	U	µg/l	1.00						
Vinyl chloride	< 1.00	U	µg/l	1.00						
m,p-Xylene	< 2.00	U	µg/l	2.00						
o-Xylene	< 1.00	U	µg/l	1.00						
Total Xylenes	< 3.00	U	µg/l	3.00						
Cyclohexane	< 5.00	U	µg/l	5.00						
Methyl acetate	< 5.00	U	µg/l	5.00						
Methylcyclohexane	< 5.00	U	µg/l	5.00						
Surrogate: 4-Bromofluorobenzene	*44.3*		µg/l		*50.0*		*89*	*70-130*		
Surrogate: Toluene-d8	*49.5*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*55.4*		µg/l		*50.0*		*111*	*70-130*		
Surrogate: Dibromofluoromethane	*48.1*		µg/l		*50.0*		*96*	*70-130*		
LCS (1719281-BS1)					Prepared & Analyzed: 15-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**23.1**		µg/l		20.0		116	70-130		
Acetone	**20.2**		µg/l		20.0		101	70-130		
Benzene	**20.9**		µg/l		20.0		104	70-130		
Bromodichloromethane	**18.2**		µg/l		20.0		91	70-130		
Bromoform	**14.4**		µg/l		20.0		72	70-130		
Bromomethane	**22.0**		µg/l		20.0		110	70-130		
2-Butanone (MEK)	**18.3**		µg/l		20.0		92	70-130		
Carbon disulfide	**17.5**		µg/l		20.0		87	70-130		
Carbon tetrachloride	**15.0**		µg/l		20.0		75	70-130		
Chlorobenzene	**19.6**		µg/l		20.0		98	70-130		
Chloroethane	**18.7**		µg/l		20.0		94	70-130		
Chloroform	**21.6**		µg/l		20.0		108	70-130		
Chloromethane	**23.9**		µg/l		20.0		119	70-130		
1,2-Dibromo-3-chloropropane	**15.0**		µg/l		20.0		75	70-130		
Dibromochloromethane	**16.8**		µg/l		20.0		84	70-130		
1,2-Dibromoethane (EDB)	**20.9**		µg/l		20.0		105	70-130		
1,2-Dichlorobenzene	**19.5**		µg/l		20.0		98	70-130		
1,3-Dichlorobenzene	**20.2**		µg/l		20.0		101	70-130		
1,4-Dichlorobenzene	**20.3**		µg/l		20.0		102	70-130		
Dichlorodifluoromethane (Freon12)	**22.6**		µg/l		20.0		113	70-130		
1,1-Dichloroethane	**21.1**		µg/l		20.0		105	70-130		
1,2-Dichloroethane	**22.0**		µg/l		20.0		110	70-130		
1,1-Dichloroethene	**21.2**		µg/l		20.0		106	70-130		
cis-1,2-Dichloroethene	**21.0**		µg/l		20.0		105	70-130		
trans-1,2-Dichloroethene	**20.2**		µg/l		20.0		101	70-130		
1,2-Dichloropropane	**20.2**		µg/l		20.0		101	70-130		
cis-1,3-Dichloropropene	**16.3**		µg/l		20.0		82	70-130		
trans-1,3-Dichloropropene	**16.4**		µg/l		20.0		82	70-130		
Ethylbenzene	**19.0**		µg/l		20.0		95	70-130		
2-Hexanone (MBK)	**17.2**		µg/l		20.0		86	70-130		
Isopropylbenzene	**19.6**		µg/l		20.0		98	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719281 - SW846 5030 Water MS										
LCS (1719281-BS1)					Prepared & Analyzed: 15-Nov-17					
Methyl tert-butyl ether	**18.6**		µg/l		20.0		93	70-130		
4-Methyl-2-pentanone (MIBK)	**17.5**		µg/l		20.0		88	70-130		
Methylene chloride	**22.4**		µg/l		20.0		112	70-130		
Styrene	**17.0**		µg/l		20.0		85	70-130		
1,1,2,2-Tetrachloroethane	**20.8**		µg/l		20.0		104	70-130		
Tetrachloroethene	**19.8**		µg/l		20.0		99	70-130		
Toluene	**21.1**		µg/l		20.0		105	70-130		
1,2,4-Trichlorobenzene	**16.8**		µg/l		20.0		84	70-130		
1,1,1-Trichloroethane	**18.4**		µg/l		20.0		92	70-130		
1,1,2-Trichloroethane	**22.1**		µg/l		20.0		110	70-130		
Trichloroethene	**20.5**		µg/l		20.0		102	70-130		
Trichlorofluoromethane (Freon 11)	**24.7**		µg/l		20.0		124	70-130		
Vinyl chloride	**21.6**		µg/l		20.0		108	70-130		
m,p-Xylene	**18.9**		µg/l		20.0		94	70-130		
o-Xylene	**19.7**		µg/l		20.0		98	70-130		
Cyclohexane	**19.5**		µg/l		20.0		98	70-130		
Methyl acetate	**22.3**		µg/l		20.0		111	70-130		
Methylcyclohexane	**18.9**		µg/l		20.0		94	70-130		
Surrogate: 4-Bromofluorobenzene	*50.4*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*50.6*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.7*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*50.8*		µg/l		*50.0*		*102*	*70-130*		
LCS Dup (1719281-BSD1)					Prepared & Analyzed: 15-Nov-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**23.6**		µg/l		20.0		118	70-130	2	20
Acetone	**21.2**		µg/l		20.0		106	70-130	5	20
Benzene	**21.4**		µg/l		20.0		107	70-130	2	20
Bromodichloromethane	**18.2**		µg/l		20.0		91	70-130	0.05	20
Bromoform	**15.0**		µg/l		20.0		75	70-130	4	20
Bromomethane	**21.8**		µg/l		20.0		109	70-130	0.8	20
2-Butanone (MEK)	**18.5**		µg/l		20.0		92	70-130	0.7	20
Carbon disulfide	**18.0**		µg/l		20.0		90	70-130	3	20
Carbon tetrachloride	**15.6**		µg/l		20.0		78	70-130	4	20
Chlorobenzene	**20.6**		µg/l		20.0		103	70-130	5	20
Chloroethane	**20.0**		µg/l		20.0		100	70-130	6	20
Chloroform	**21.7**		µg/l		20.0		108	70-130	0.3	20
Chloromethane	**23.8**		µg/l		20.0		119	70-130	0.5	20
1,2-Dibromo-3-chloropropane	**16.0**		µg/l		20.0		80	70-130	6	20
Dibromochloromethane	**16.6**		µg/l		20.0		83	70-130	1	20
1,2-Dibromoethane (EDB)	**21.7**		µg/l		20.0		108	70-130	3	20
1,2-Dichlorobenzene	**19.7**		µg/l		20.0		99	70-130	1	20
1,3-Dichlorobenzene	**21.4**		µg/l		20.0		107	70-130	6	20
1,4-Dichlorobenzene	**20.9**		µg/l		20.0		105	70-130	3	20
Dichlorodifluoromethane (Freon12)	**23.4**		µg/l		20.0		117	70-130	3	20
1,1-Dichloroethane	**21.1**		µg/l		20.0		106	70-130	0.09	20
1,2-Dichloroethane	**21.6**		µg/l		20.0		108	70-130	2	20
1,1-Dichloroethene	**21.5**		µg/l		20.0		107	70-130	1	20
cis-1,2-Dichloroethene	**21.2**		µg/l		20.0		106	70-130	0.7	20
trans-1,2-Dichloroethene	**19.8**		µg/l		20.0		99	70-130	2	20
1,2-Dichloropropane	**20.6**		µg/l		20.0		103	70-130	2	20
cis-1,3-Dichloropropene	**16.6**		µg/l		20.0		83	70-130	2	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1719281 - SW846 5030 Water MS										
LCS Dup (1719281-BSD1)					Prepared & Analyzed: 15-Nov-17					
trans-1,3-Dichloropropene	**16.6**		µg/l		20.0		83	70-130	1	20
Ethylbenzene	**20.2**		µg/l		20.0		101	70-130	6	20
2-Hexanone (MBK)	**17.0**		µg/l		20.0		85	70-130	1	20
Isopropylbenzene	**20.5**		µg/l		20.0		103	70-130	4	20
Methyl tert-butyl ether	**18.7**		µg/l		20.0		93	70-130	0.5	20
4-Methyl-2-pentanone (MIBK)	**17.1**		µg/l		20.0		86	70-130	2	20
Methylene chloride	**22.4**		µg/l		20.0		112	70-130	0.04	20
Styrene	**19.6**		µg/l		20.0		98	70-130	15	20
1,1,2,2-Tetrachloroethane	**21.5**		µg/l		20.0		107	70-130	3	20
Tetrachloroethene	**20.4**		µg/l		20.0		102	70-130	3	20
Toluene	**21.4**		µg/l		20.0		107	70-130	2	20
1,2,4-Trichlorobenzene	**17.7**		µg/l		20.0		89	70-130	6	20
1,1,1-Trichloroethane	**18.6**		µg/l		20.0		93	70-130	1	20
1,1,2-Trichloroethane	**22.5**		µg/l		20.0		112	70-130	2	20
Trichloroethene	**21.0**		µg/l		20.0		105	70-130	3	20
Trichlorofluoromethane (Freon 11)	**25.0**		µg/l		20.0		125	70-130	1	20
Vinyl chloride	**22.1**		µg/l		20.0		110	70-130	2	20
m,p-Xylene	**19.4**		µg/l		20.0		97	70-130	3	20
o-Xylene	**20.9**		µg/l		20.0		105	70-130	6	20
Cyclohexane	**19.9**		µg/l		20.0		100	70-130	2	30
Methyl acetate	**21.5**		µg/l		20.0		108	70-130	3	30
Methylcyclohexane	**18.9**		µg/l		20.0		94	70-130	0	30
Surrogate: 4-Bromofluorobenzene	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*50.1*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.0*		µg/l		*50.0*		*106*	*70-130*		
Surrogate: Dibromofluoromethane	*50.9*		µg/l		*50.0*		*102*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 537 modified										
Batch 17318001 - METHOD										
Blank (BLK3180B)						Prepared: 14-Nov-17 Analyzed: 22-Nov-17				
Perfluorohexanesulfonate	< 2		ng/l	2				-		
Perfluorobutanesulfonate	< 1		ng/l	1				-		
Perfluoro-octanesulfonate	< 3		ng/l	3				-		
Perfluorononanoic acid	< 1		ng/l	1				-		
Perfluoroheptanoic acid	< 1		ng/l	1				-		
Perfluorooctanoic acid	< 1		ng/l	1				-		
Surrogate: 13C9-PFNA	*16*		ng/l		*20*		*78*	*32-134*		
Surrogate: 13C8-PFOA	*19*		ng/l		*20*		*94*	*43-112*		
Surrogate: 13C3-PFHxS	*18*		ng/l		*19*		*94*	*34-126*		
Surrogate: 13C8-PFOS	*15*		ng/l		*19*		*79*	*43-115*		
Surrogate: 13C4-PFHpA	*18*		ng/l		*20*		*89*	*35-126*		
Surrogate: 13C3-PFBS	*19*		ng/l		*19*		*104*	*26-148*		
LCS (LCS3181Q)						Prepared: 14-Nov-17 Analyzed: 22-Nov-17				
Perfluoroheptanoic acid	**6**		ng/l	1	5		102	70-130		
Perfluorooctanoic acid	**7**		ng/l	1	5		121	70-130		
Perfluoro-octanesulfonate	**5**		ng/l	3	5		90	70-130		
Perfluorohexanesulfonate	**5**		ng/l	2	5		94	70-130		
Perfluorobutanesulfonate	**5**		ng/l	1	5		96	70-130		
Perfluorononanoic acid	**6**		ng/l	1	5		104	70-130		
Surrogate: 13C8-PFOS	*18*		ng/l		*19*		*94*	*43-115*		
Surrogate: 13C3-PFHxS	*17*		ng/l		*19*		*90*	*34-126*		
Surrogate: 13C9-PFNA	*19*		ng/l		*20*		*94*	*32-134*		
Surrogate: 13C4-PFHpA	*18*		ng/l		*20*		*90*	*35-126*		
Surrogate: 13C3-PFBS	*21*		ng/l		*19*		*113*	*26-148*		
Surrogate: 13C8-PFOA	*19*		ng/l		*20*		*95*	*43-112*		
LCSD (LCS3181Y)						Prepared: 14-Nov-17 Analyzed: 22-Nov-17				
Perfluoroheptanoic acid	**5**		ng/l	1	5		96	70-130	6	30
Perfluorohexanesulfonate	**5**		ng/l	2	5		105	70-130	11	30
Perfluorononanoic acid	**6**		ng/l	1	5		109	70-130	4	30
Perfluoro-octanesulfonate	**5**		ng/l	3	5		102	70-130	13	30
Perfluorooctanoic acid	**6**		ng/l	1	5		106	70-130	13	30
Perfluorobutanesulfonate	**5**		ng/l	1	5		101	70-130	5	30
Surrogate: 13C8-PFOS	*13*		ng/l		*19*		*68*	*43-115*		
Surrogate: 13C3-PFBS	*18*		ng/l		*19*		*96*	*26-148*		
Surrogate: 13C3-PFHxS	*17*		ng/l		*19*		*90*	*34-126*		
Surrogate: 13C8-PFOA	*18*		ng/l		*20*		*89*	*43-112*		
Surrogate: 13C9-PFNA	*16*		ng/l		*20*		*82*	*32-134*		
Surrogate: 13C4-PFHpA	*18*		ng/l		*20*		*88*	*35-126*		
SW-846 8270D SIM										
Batch 17312WAL026 - SW-846 3510C										
LCS (P2WLLCSQ)						Prepared: 08-Nov-17 Analyzed: 16-Nov-17				
1,4-Dioxane	**0.47**		ug/l	0.20	1.0		47	28-103		
Surrogate: Benzo(a)pyrene-d12	*0.91*		ug/l		*1.0*		*91*	*39-121*		
Surrogate: Fluoranthene-d10	*0.98*		ug/l		*1.0*		*98*	*42-119*		
Surrogate: 1-Methylnaphthalene-d10	*0.94*		ug/l		*1.0*		*94*	*29-123*		
LCSD (P2WLLCSY)						Prepared: 08-Nov-17 Analyzed: 16-Nov-17				
1,4-Dioxane	**0.48**		ug/l	0.20	1.0		48	28-103	1	30
Surrogate: 1-Methylnaphthalene-d10	*0.92*		ug/l		*1.0*		*92*	*29-123*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW-846 8270D SIM										
Batch 17312WAL026 - SW-846 3510C										
LCSD (P2WLLCSY)						Prepared: 08-Nov-17 Analyzed: 16-Nov-17				
Surrogate: Benzo(a)pyrene-d12	*0.87*		ug/l		*1.0*		*87*	*39-121*		
Surrogate: Fluoranthene-d10	*0.97*		ug/l		*1.0*		*97*	*42-119*		
Blank (PLKWL31B)						Prepared: 08-Nov-17 Analyzed: 16-Nov-17				
1,4-Dioxane	< 0.20		ug/l	0.20				-		
Surrogate: 1-Methylnaphthalene-d10	*0.84*		ug/l		*1.0*		*84*	*29-123*		
Surrogate: Fluoranthene-d10	*0.91*		ug/l		*1.0*		*91*	*42-119*		
Surrogate: Benzo(a)pyrene-d12	*0.84*		ug/l		*1.0*		*84*	*39-121*		

Notes and Definitions

D	Data reported from a dilution
E	This flag indicates the concentration for this analyte is an estimated value due to exceeding the calibration range or interferences resulting in a biased final concentration.
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
J	Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
U	Analyte included in the analysis, but not detected at or above the MDL.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC 41008 @

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: ASP Contract

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: Mike Steffan
368 pleasantview Dr
Lancaster NY 14086

Telephone #: 716 684-8060
Project Mgr: Mike Steffan

Invoice To: Mike Steffan
368 pleasantview Dr
Lancaster NY 14086

P.O No.: _____ Quote #: _____

Project No: 10C3074.0011.39
Site Name: MrC's
Location: East Aurora State: NY
Sampler(s): Lawrence Rudd

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= NONE 12= _____

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= _____ X2= _____ X3= _____

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: List Preservative Code below: 2	11	11	Check if chlorinated
										VOC's	1-4 Dioxane	PFAS	
41008-01	MPI-7I-R 11117	11/1/17	12:10	G	GW	3	2		2	X	X	X	☐
-02	ESI-3-11117	11/1/17	13:38	G	GW	3	2		2	X	X	X	☐
-03	PZ-1D 11117	11/1/17	1708	G	GW	3	2		2	X	X	X	☐
													☐
													☐
													☐
													☐
													☐
													☐
													☐

Lawrence Rudd 11/1/17

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: As per contract
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:
Lawrence Rudd	FED EX	11/1/17	18:30
Fedex	Alex	11/2/17	1030

Temp °C
Observed: 4.4
Correction Factor: 0
Corrected: 4.4
IR ID #: 2

☐ EDD format: _____
☐ E-mail to: _____

Condition upon receipt: Custody Seals: ☑ Present ☑ Intact ☐ Broken
☐ Ambient ☑ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

ORIGIN ID:BUFA (716) 684-8060
ECOLOGY AND ENVIRONMENTAL

368 PLEASANTVIEW DR

LANCASTER, NY 14086
UNITED STATES US

SHIP DATE: 01NOV17
ACTWGT: 54.20 LB
CAD: 006993854/SSFE1822
DIMS: 24x13x13 IN

BILL THIRD PARTY

TO **SAMPLE MANAGEMENT**
SPECTRUM ANALYTICAL
11 ALMGREN DR

AGAWAM MA 01001
(413) 789-9018 REF:
INV:
PO: DEPT:

FedEx Express

TRK# 0201 **7882 9844 0176**

THU - 02 NOV 10:30A
PRIORITY OVERNIGHT

EB EHTA

01001
MA-US BDL

FedEx
TRK# 0201 7882 9844 0176

THU - 02 NOV 10:30A
PRIORITY OVERNIGHT

EB EHTA

01001
MA-US BDL

#540163 11/01 549J3/F877/104C

FROM
Name: Ecology & Environment Inc
Address: 368 pleasantview Dr
City, State ZIP code: Lancaster NY 14086
Phone Number (Must be included.): (716) 684-8060

FDXG12
L10/01

TO
Name: Sample Management (413) 789-9018
Company: Spectrum Analytical
Address (No PO Boxes): 11 Almgren Drive
City, State: Agawam MA
ZIP Code: 01001

FedEx

RT 745
ST 16

3
10:30

SC 41008 @

eurofins | Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: As per Contract

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: Mike Steffan
368 pleasantview Dr
Lancaster NY 14086

Telephone #: 716 684-8060
Project Mgr: Mike Steffan

Invoice To: Mike Steffan
368 pleasantview Dr
Lancaster NY 14086

P.O No.: _____ Quote #: _____

Project No: 10C3074.0011.39
Site Name: Mr C's
Location: East Aurora State: NY
Sampler(s): Lawrence Rudd

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= NONE 12= _____

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= _____ X2= _____ X3= _____

G= Grab C=Compsite

List Preservative Code below: 2 | 11 | 11

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: VOC's	Analysis: 1-4 Dioxane	Analysis: PFAS	Check if chlorinated	QA/QC Reporting Notes: * additional charges may appply
41008-01	MPI-7I-R 11117	11/1/17	12:10	G	GW	3	2		2	X	X	X	☐	
-02	ESI-3-11117	11/1/17	13:38	G	GW	3	2		2	X	X	X	☐	
-03	PZ-1D 11117	11/1/17	1708	G	GW	3	2		2	~~X~~	~~X~~	~~X~~	☐	cancel -03 per client req 11/2/17 e
													☐	
													☐	
													☐	
													☐	
													☐	
													☐	
													☐	

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: As per Contract
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:
Lawrence Rudd	FED EX	11/1/17	18:30
Fedex	[signature]	11/2/17	1030

Temp °C: Observed 4.4 | Correction Factor 0 | Corrected 4.4 | IR ID # 2

☐ EDD format: _____
☐ E-mail to: _____

Condition upon receipt: Custody Seals: ☑ Present ☑ Intact ☐ Broken
☐ Ambient ☑ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

1719163

Volatile Organic Compounds

1719163-BLK1
1719163-BS1
1719163-BSD1
SC41008-01 (MPI-71-R11117)
SC41008-02 (ESI-3-R11117)

1719281

Volatile Organic Compounds

1719281-BLK1
1719281-BS1
1719281-BSD1
SC41008-02RE1 (ESI-3-R11117)

17312WAL026

Subcontracted analyses

P2WLLCSQ
P2WLLCSY
PLKWL31B
SC41008-01 (MPI-71-R11117)
SC41008-02 (ESI-3-R11117)

17318001

Subcontracted analyses

BLK3180B
LCS3181Q
LCS3181Y
SC41008-01 (MPI-71-R11117)
SC41008-02 (ESI-3-R11117)

S709132

Volatile Organic Compounds

S709132-CAL1
S709132-CAL2
S709132-CAL3
S709132-CAL4
S709132-CAL5
S709132-CAL6
S709132-CAL7
S709132-CAL8
S709132-CAL9
S709132-CALA
S709132-CALB
S709132-ICV1
S709132-LCV1
S709132-LCV2
S709132-TUN1

S709964

Volatile Organic Compounds

S709964-CAL1
S709964-CAL2
S709964-CAL3
S709964-CAL4
S709964-CAL5
S709964-CAL6
S709964-CAL7
S709964-CAL8
S709964-CAL9
S709964-CALA
S709964-CALB
S709964-ICV1
S709964-LCV1
S709964-TUN1

S710015

Volatile Organic Compounds

S710015-CCV1
S710015-TUN1

S710091

Volatile Organic Compounds

S710091-CCV1
S710091-TUN1

Appendix D
Data Usability Summary Report (DUSR)

D-1 Mr. C's 2017 Long-term Groundwater Monitoring Data Usability Summary Report (DUSR)

Data Usability Summary Report	Project: Mr. C's Cleaners
Date Completed: January 26, 2018	Completed by: Eridania Marte

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness based on applicable sections of the following guidelines.

- NYSDEC Division of Environmental Remediation Guidance for Data Deliverables and the Development of Data Usability Summary Reports (in DER-10, May 2010)
- EPA Region 2 Data Validation SOPs

Specific criteria for QC limits were obtained from the master QAPP. Compliance with the project QA program is indicated in the checklist and tables below. Any major or minor concerns affecting data usability are listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Project ID	Lab Work Order	Laboratory Report
10C3074.0011.09	SC41008 SC41109 SC41167 SC41221 SC41288 SC41423 SC41424 SC41520 SC41565	Eurofins Spectrum Analytical, Inc. Eurofins Lancaster Labs Environmental LLC

Table 1 Sample Listing Summary

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	ID Corrections
SC41008	WG	ESI-3-R11117	SC41008-02	11/1/2017		
SC41008	WG	MPI-71-R11117	SC41008-01	11/1/2017		MPI-7I-R11117
SC41109	WG	ESI-2R-11317	SC41109-05	11/3/2017		
SC41109	WG	MPI-55-11317	SC41109-01	11/3/2017		MPI-5S-11317
SC41109	WG	MPI-55-11317Q	SC41109-02	11/3/2017		MPI-5S-11317Q
SC41109	WG	MW-8-11317	SC41109-03	11/3/2017		
SC41109	WG	PZ-3B-11317	SC41109-04	11/3/2017	MS/MSD	
SC41167	WG	MPI-13BR-11617	SC41167-05	11/6/2017		
SC41167	WG	MPI-8SR-11617	SC41167-04	11/6/2017	MS/MSD	
SC41167	WG	MPI-9SR-11617	SC41167-03	11/6/2017		
SC41167	WG	PZ-1D-11617	SC41167-01	11/6/2017		
SC41167	WQ	TB-11617	SC41167-02	11/6/2017		
SC41221	WG	MPI-14BR 11717	SC41221-05	11/7/2017		
SC41221	WG	MPI-2S 11717	SC41221-02	11/7/2017		MPI-2SR 11717
SC41221	WG	MW-11 11717	SC41221-03	11/7/2017		
SC41221	WG	MW-7 11717	SC41221-04	11/7/2017		
SC41221	WQ	TB-11717	SC41221-01	11/7/2017		
SC41288	WG	MPI-6S-11817	SC41288-03	11/8/2017		
SC41288	WG	PW-6-11817	SC41288-04	11/8/2017	MS/MSD	
SC41288	WG	PW-6-11817Q	SC41288-05	11/8/2017		
SC41288	WG	PW-7-11817	SC41288-06	11/8/2017	MS/MSD	
SC41288	WG	PW-8-11817	SC41288-08	11/8/2017		
SC41288	WG	PZ-6A-11817	SC41288-02	11/8/2017		
SC41288	WG	PZ-7D-11817	SC41288-07	11/8/2017		
SC41288	WG	TB-11817	SC41288-01	11/8/2017		
SC41423	WG	EE-2-11917	SC41423-02	11/9/2017	MS/MSD	
SC41423	WG	MPI-4I-11917	SC41423-04	11/9/2017		

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	ID Corrections
SC41423	WG	MPI-4S-11917	SC41423-05	11/9/2017		
SC41423	WG	PZ-8C-11917	SC41423-03	11/9/2017		
SC41423	WQ	TB-11917	SC41423-01	11/9/2017		
SC41424	WG	PW-2-111017	SC41424-06	11/10/2017		
SC41424	WG	PW-3-111017	SC41424-03	11/10/2017		
SC41424	WG	PW-4-111017	SC41424-05	11/10/2017		
SC41424	WG	PW-5-111017	SC41424-04	11/10/2017		
SC41424	WG	RW-1-111017	SC41424-02	11/10/2017		
SC41424	WQ	TB-111017	SC41424-01	11/10/2017		
SC41520	WG	EE-3 111317	SC41520-03	11/13/2017		
SC41520	WG	ESI-5R 111417	SC41520-06	11/14/2017		
SC41520	WG	ESI-6 111417	SC41520-05	11/14/2017	MS/MSD	
SC41520	WG	MPI-15B 111417	SC41520-07	11/14/2017		
SC41520	WG	MPI-1S 111317	SC41520-04	11/13/2017		
SC41520	WG	MPI-3S 111317	SC41520-02	11/13/2017		
SC41520	WQ	TB-111317	SC41520-01	11/13/2017		
SC41565	WG	PZ-5B 111517	SC41565-02	11/15/2017		
SC41565	WH	RB 111517	SC41565-03	11/15/2017		
SC41565	WQ	TB-111517	SC41565-01	11/15/2017		

Table 1A Sample Test Summary

Work Orders	Matrix	Test Method	Number of Samples	Sample Type
SC41008	WG	SW8260C	2	N
SC41109	WG	SW8260C	5	N/FD
SC41167	WG	SW8260C	4	N
SC41167	WQ	SW8260C	1	TB
SC41221	WG	SW8260C	4	N
SC41221	WQ	SW8260C	1	TB
SC41288	WG	SW8260C	7	N/FD
SC41288	WQ	SW8260C	1	TB
SC41423	WQ	SW8260C	1	TB
SC41424	WG	SW8260C	5	N
SC41424	WQ	SW8260C	1	TB
SC41520	WG	SW8260C	6	N
SC41520	WQ	SW8260C	1	TB
SC41565	WG	SW8260C	1	N
SC41565	WQ	SW8260C	1	TB
SC41565	WH	SW8260C	1	RB
SC41008	WG	SW8270D	5	N
SC41109	WG	SW8270D	5	N/FD
SC41167	WG	SW8270D	4	N
SC41221	WG	SW8270D	4	N
SC41288	WG	SW8270D	7	N/FD
SC41423	WG	SW8270D	4	N
SC41424	WG	SW8270D	5	N
SC41520	WG	SW8270D	6	N
SC41565	WG	SW8270D	1	N
SC41565	WH	SW8270D	1	RB
SC41008	WG	E537	2	N

Work Orders	Matrix	Test Method	Number of Samples	Sample Type
SC41109	WG	E537	5	N/FD
SC41167	WG	E537	2	N
SC41221	WG	E537	4	N
SC41288	WG	E537	7	N/FD
SC41423	WG	E537	4	N
SC41424	WG	E537	5	N
SC41520	WG	E537	6	N
SC41565	WG	E537	1	N
SC41565	WH	E537	1	RB

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	No. Sample PZ-1DR11117 analysis indicated on COC was cancelled per ENE request.
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes.
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs Equipment Blank - 1/ set of samples per day?	Yes. 2 field duplicate per 36 samples. 0 MS/MSD per 36 samples. 1 equipment blank per 36 samples. 7 trip blank - one per VOC cooler. Coolers were not accompanied by trip blanks during sample collection on 11/1/2017 associated with SDG SC41008 and 11/3/2017 associated with SDG SC41109.
Case narrative present and complete?	Yes.
Any holding time violations (See table below)?	No.

The following tables are presented at the end of this DUSR and provide summaries of results outside QC criteria:

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- Isotope Dilution Recovery outside Control Limits (Table 3A)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Reanalysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organic/ Semi-volatile Compounds by GC/MS – Method 8260C/Method 8270D-SIM	
Description	**Notes and Qualifiers**
Any compounds present in method, trip, or, field blanks (see Table 2)?	Yes.
For samples, if results are < 5 times the blank or < 10 times the blank for common laboratory contaminants, then "U" flag data. Qualification also applies to TICs.	8260C: Chloromethane was detected in MB 1719435-BLK1 and 1719492-BLK1. The associated sample results were non-detect or 10X greater than the blank detection. No qualification was made. Carbon disulfide was detected in trip blank TB-11817. The sample result for MPI-6S-11817 was U qualified and the MDL was elevated to the sample result. 8270D: 1,4-Dioxane was detected in MB SBLKWI318. The samples were re-extracted outside of the method required holding time and MB SBLKWN326 displayed no detection for 1,4-dioxane. Similar results were obtain; therefore, the initial analysis was reported.
Are surrogates for method blanks and LCS within limits?	Yes.
Are surrogates for samples and MS/MSD within limits? (See Table 3). If not, were all samples reanalyzed for VOCs? Matrix effects should be established.	Yes.
Is Laboratory QC frequency at least one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes.
Is MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then "J" flag positive data in original sample due to matrix.	No. 8260C: Bromomethane was recovered above the acceptance criteria in the MS for sample MPI-8SR-11617, the RPD between the MS and MSD was also outside of the acceptance criteria. The sample result was non-detect. No qualification was made. Tetrachloroethene was recovered below the acceptance criteria in the MS and MSD for sample MPI-8SR-11617. The sample results were J qualified as estimated. Methyl acetate was recovered below the acceptance criteria in the MSD for sample MPI-8SR-11617. The sample result was non-detect. No qualification was made. Acetone, chloroethane, and methyl acetate were recovered above the acceptance limit in the MS and MSD for sample PW-6-11817. The sample results were non-detect. No qualification was made. Chloromethane and trichlorofluoromethane were recovered above the acceptance limit in the MS for sample PW-6-11817. The sample results were non-detect. No qualification was made. 1,1-Dichloroethene was recovered above the acceptance criteria in the MS for sample PW-6-11817, the RPD between the MS and MSD was also outside of the acceptance criteria. The sample results were non-detect. No qualification was made.

Volatile Organic/ Semi-volatile Compounds by GC/MS – Method 8260C/Method 8270D-SIM	
Description	**Notes and Qualifiers**
	cis-1,2-Dichloroethene was recovered above the acceptance criteria in the MS for sample PW-7-11817, the RPD between the MS and MSD was also outside of the acceptance criteria. The sample result was J qualified as estimated. The RPD between the MS and MSD for chloroform was outside of the acceptance limit. The individual recoveries were within the acceptance criteria. No qualification was made. Bromomethane was recovered below the acceptance limit in the MS and MSD for sample EE-2-11917. The sample result was non-detect. No qualification was made. Carbon disulfide was recovered below the acceptance criteria in the MS for sample EE-2-11917. The RPD precision was also outside of the acceptance criteria. The sample result was non-detect. No qualification was made. Tetrachloroethene was recovered below the acceptance criteria in the MS for sample EE-2-11917. The sample result was J qualified as estimated. Methyl acetate was recovered above the acceptance criteria in the MSD for sample EE-2-11917. The sample result was non-detect. No qualification was made. Carbon disulfide, chloromethane, and dichlorodifluoromethane were recovered below the acceptance limit in the MS and MSD for sample ESI-6 111417. The sample result was non-detect. No qualification was made. Methyl acetate was recovered below the acceptance limit in the MS for sample ESI-6 111417. The sample result was non-detect. No qualification was made. 1,1,2-Trichlorotrifluoroethane, chloroethane, methylene chloride, and vinyl chloride were recovered below the acceptance criteria in the MSD for sample ESI-6 111417. The sample result was non-detect. No qualification was made.
Is LCS within QC criteria (see Table 5)? If out, and the recovery is high with no positive values, then no data qualification is required.	No. 8260C: Trichlorofluoromethane was recovered above the acceptance criteria in LCS 1719163-BSD1 associated with samples ESI-3-R11117 and MPI-7I-R11117. The associated sample results were non-detect. No qualification was made. Bromomethane was recovered above the acceptance criteria in the LCS and LCSD (1719217-BS1/BSD1) associated with samples MPI-13BR-11617, MPI-8SR-11617, MPI-9SR-11617, and PZ-1D-11617. The associated sample

Volatile Organic/ Semi-volatile Compounds by GC/MS – Method 8260C/Method 8270D-SIM	
Description	**Notes and Qualifiers**
	results were non-detect. No qualification was made. The RPD between the LCS and LCSD (1719217-BS1/BSD1) was outside of the acceptance criteria for methylene chloride. The individual recoveries were within the acceptance criteria. No qualification of the data was made. 1,1-Dichloroethene and trichlorofluoromethane were recovered above the acceptance criteria in LCS 1719294-BS1 associated with samples MPI-6S-11817, PW-6-11817, PW-6-11817Q, PW-7-11817, PW-8-11817, PZ-6A-11817, and PZ-7D-11817. The associated sample results were non-detect. No qualification was made. Chloroethane, chloromethane, and trichlorofluoromethane were recovered above the acceptance criteria in LCSD 1719294-BSD1 associated with samples MPI-6S-11817, PW-6-11817, PW-6-11817Q, PW-7-11817, PW-8-11817, PZ-6A-11817, and PZ-7D-11817. The associated sample results were non-detect. No qualification was made. The RPD between the LCS and LCSD (1719294-BS1/BSD1) was outside of the acceptance criteria for 1,1,2-trichlorotrifluoroethane , bromomethane, carbon disulfide, chloroethane, chloromethane, methylene chloride, and methyl acetate. The individual recoveries were within the acceptance criteria. No qualification of the data was made. The RPD between the LCS and LCSD (1719490-BS1/BSD1) was outside of the acceptance criteria for methylene chloride. The individual recoveries were within the acceptance criteria. No qualification of the data was made. The RPD between the LCS and LCSD (1719532-BS1/BSD1) was outside of the acceptance limit for bromoform, isopropylbenzene, methylene chloride, and m,p-xylene. The individual recoveries were within the acceptance criteria. No qualification of the data was made.
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes.
Is initial calibration for target compounds <20 %RSD or curve fit? Is ICV 80-120%? Is LCV 70-130%?	Yes.
Does each target compound have a minimum response factor of 0.05 for the lowest calibration standard and for the average RF? Qualifications do not apply to ketones, alcohols and dioxanes due to poor purging efficiency.	No. 8260C: Bromomethane, chloroethane, and tetrachloroethane exhibited RF less than 0.5 in initial calibration 1710027. The sample results associated with SDGs SC41008 and SC41288 with no detections were UJ qualified as estimated non-detect and with positive detections were J qualified as estimated.

Volatile Organic/ Semi-volatile Compounds by GC/MS – Method 8260C/Method 8270D-SIM	
Description	**Notes and Qualifiers**
	Bromomethane exhibited RF less than 0.5 in initial calibration 1711018. The sample results associated with SDGs SC41109, and SC41221 were non-detect. The sample results were UJ qualified as estimated non-detect. Bromomethane and tetrachloroethane exhibited RF less than 0.5 in initial calibration 1711037. The sample results associated with SDGs SC41424 and SC41565 were UJ qualified as estimated non-detect for bromomethane and J qualified as estimated for tetrachloroethene. Tetrachloroethane exhibited RF less than 0.5 in initial calibration 1711046. The sample results for ESI-6 111417 and MPI-1S 111317 associated with SDG SC41520 were J qualified as estimated.
Is %D in the continuing calibration for target compounds less than method specifications?	8260C: The CCV S710015-CCV1 was recovered above the acceptance criteria for methyl acetate (23.2%) and trichlorofluoromethane (22%). The associated samples results for ESI-3-R11117 and MPI-7I-R11117 were non-detect. The sample results were UJ qualified as estimated non-detect. The CCV S710042-CCV1 was recovered outside of the acceptance criteria for 1,2-dibromo-3-chloropropane (-22.6%), bromoform (-27.4%), carbon tetrachloride (-24.9%), and trichlorofluoromethane (25.3%). The sample results associated with SDGs SC41109 and SC41221 were non-detect. The sample results were UJ qualified as estimated non-detect. The CCV S710044-CCV1 was recovered outside of the acceptance criteria for methylene chloride (-22.1%) and bromomethane (58.0%). The associated sample results for MPI-13BR-11617, MPI-8SR-11617, MPI-9SR-11617, and PZ-1D-11617 were non-detect. The sample results were UJ qualified as estimated non-detect. The CCV S710094-CCV1 was recovered outside of the acceptance criteria for acetone (29.3%), 1,1,2-trichlorotrifluoroethane (21.6%), 1,1-dichloroethene (40.7%), chloroethane (20.4%), chloromethane (25.0%), and trichlorofluoromethane (31.5%). The associated sample results for MPI-6S-11817, PW-6-11817, PW-6-11817Q, PW-7-11817, PW-8-11817, PZ-6A-11817, and PZ-7D-11817 were non-detect with an exception of samples PZ-7D-11817 and MPI-6S-11817 for acetone. The sample results were UJ qualified as estimated non-detect and J qualified as estimated for acetone. The CCV S710185-CCV1 was recovered outside of the acceptance criteria for carbon disulfide (30.9%) and carbon tetrachloride (21.5%). The associated sample results for EE-2-11917, MPI-4I-11917, MPI-4S-11917, and PZ-8C-11917 were non-detect. The

Volatile Organic/ Semi-volatile Compounds by GC/MS – Method 8260C/Method 8270D-SIM	
Description	**Notes and Qualifiers**
	sample results were UJ qualified as estimated non-detect.
Were any samples reanalyzed or diluted (see Table 6)? For any sample reanalysis or dilutions, is only one reportable result flagged?	Yes. 8260C: SC41008: Sample ESI-3-R11117 was diluted to bring tetrachloroethylene within calibration range. The re-extracted sample result was reported out. SC41109: Sample PZ-3B-11317 was diluted to bring target analytes within calibration range. Elevated reporting limits provided. SC41221: Sample MW-7 11717 was diluted to bring target analytes within calibration range. Elevated reporting limits provided. SC41288: Samples PW-8-11817, PZ-7D-11817, PZ-6A-11817, PW-6-11817, PW-6-11817Q, and PW-7-11817 were diluted to bring target analytes within calibration range. Elevated reporting limits were provided. Samples PW-8-11817, PZ-7D-11817, and PW-7-11817 were further diluted to bring cis-1,2-dichloroethene within calibration range. The re-extracted sample results were reported out. SC41423: Samples MPI-4I-11917 and EE-2-11917 were diluted to bring target analytes within the calibration range. Elevated reporting limits were provided. Sample MPI-4I-11917 was further diluted to bring vinyl chloride within calibration range. The re-extracted sample result was reported out. SC41424: Samples PW-4-111017 and PW-5-111017 were diluted to bring target analytes within the calibration range. Elevated reporting limits were provided. SC41520: Sample ESI-6 111417 was diluted to bring target analytes within the calibration range. Elevated reporting limits were provided. SC41565: Sample PZ-5B 111517 was diluted to bring target analytes within the calibration range. Elevated reporting limits were provided.
Do field duplicate results show good precision for all compounds (see Table 7)?	No. 8260C: The precision between the field duplicate pair associated with sample MPI-5S-11317 was not calculated for acetone due to field duplicate result being non-detect. The sample result for original sample was less than the PQL. No qualification was made.

Perfluorinated Compounds by LC/MS/MS – Method E537	
Description	**Notes and Qualifiers**
Any compounds present in method, trip, or, field blanks (see Table 2)?	Yes.

Perfluorinated Compounds by LC/MS/MS – Method E537	
Description	**Notes and Qualifiers**
For samples, if results are ≤ RL or ≤ 10% of the measured concentration of that analyte in the associated samples, whichever is higher.	Perfluorooctanoic acid was detected in MB BLK320005B. The associated samples MPI-9SR-11617, PZ-1D-11617, PZ-8C-11917, PZ-6A-11817, MPI-6S-11817 and MPI-2SR 11717 were less than 10X the blank detection. The sample results were U qualified as non-detect. The PQL was elevated to the sample results. Perfluorononanoic acid was detected in MB BLK324008B. There were no positive detections; therefore, no qualification was made. Perfluorohexanesulfonate was detected in MB BLK324008B. The associated sample MPI-4S-11917 was less than 10X the blank detection. The sample results were U qualified as non-detect. The PQL was elevated to the sample results. Perfluoroheptanoic acid was detected in MB BLK324008B. The sample results for PW-4-111017, PW-5-111017, ESI-5R 111417, MPI-4S-11917, PZ-5B 111517 and MPI-1S 111317 were less than 10X the blank detection. The sample results were U qualified as non-detect. The PQL was elevated to the sample results. Perfluorobutanesulfonate was detected in MB BLK324008B. The sample results for PW-5-111017, MPI-1S 111317, MPI-4S-11917, PZ-5B 111517 and ESI-5R 111417 were less than 10X the blank detection. The sample results were U qualified as non-detect. The PQL was elevated to the sample results. Perfluorooctanoic acid was detected in MB BLK324008B. The sample results for RW-1-111017, PW-2-111017, PW-5-111017, EE-3 111317, ESI-5R 111417, MPI-4S-11917, PZ-5B 111517and MPI-1S 111317 were less than 10X the blank detection. The sample results were U qualified as non-detect. The PQL was elevated to the sample results.
Are surrogates for method blanks and LCS within limits?	Yes.
Are surrogates for samples and MS/MSD within limits? (See Table 3).	No. SC41288: Surrogates 13C3-PFBS, 13C3-PFHXS, 13C4-PFHPA, 13C8-PFOA, 13C8-PFOS, and 13C9-PFNA were recovered above the acceptance criteria for sample PW-8-11817. The sample was re-extracted outside of the holding time with acceptable recoveries for surrogates; however, comparable results were not observed. The sample results are reported from the initial analysis and were UJ qualified as estimated non-detect. SC41423: Surrogates 13C3-PFBS, 13C3-PFHXS, 13C4-PFHPA, 13C8-PFOA, 13C8-PFOS, and 13C9-PFNA were recovered above the acceptance criteria for sample MPI-4I-11917. The sample was re-extracted outside of the holding time with acceptable recoveries for surrogates; however, comparable results were not observed. The sample results are reported from the initial analysis and were UJ qualified as estimated non-detect.

Perfluorinated Compounds by LC/MS/MS – Method E537	
Description	**Notes and Qualifiers**
	SC41167: Surrogate 13C3-PFBS was recovered above the acceptance criteria for sample MPI-8SR-11817 due to the matrix of the sample. The sample result was J qualified as estimated.
Is Laboratory QC frequency at least one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes.
Is MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then "J" flag positive data in original sample due to matrix.	No. The RPD between the MS and MSD exhibited poor precision for perfluorooctanoic acid and perfluorononanoic acid for sample ESI-6-111417. The individual recoveries were within the acceptance criteria. No qualification was made.
Is LCS within QC criteria (see Table 5)? If out, and the recovery is high with no positive values, then no data qualification is required.	No. The LCS LCS320005Q was recovered above the acceptance criteria for perfluorononanoic acid. The sample results associated with SDGs SC41109, SC41221, SC41288, and SC41423 were non-detect; therefore, no qualification was made. The sample result for MPI-8SR-11617 was J qualified as estimated. The LCS LCS324008Q associated with SDG SC41423, SC41424, SC41520, and SC41565 was recovered above the acceptance criteria for perfluorooctanoic acid. The associated sample results were non-detect, therefore, no qualification was made. The sample result for PW-4-111017 was J qualified as estimated.
Do internal standards areas and retention time meet criteria? Is the internal standard peak area within -50% to +50% of the ICAL injection standard average?	No. SC41167: The internal standard peak area was outside of the acceptance criteria for sample MPI-8SR-11617 for 13C3-PFBA with a -54%D from the ICAL standard average. The sample was re-injected to confirm exceedance and the first sample injection internal standard peak area was reported. The sample result for perfluorobutanesulfonate was J qualified as estimated. SC41288: The internal standard peak area was outside of the acceptance criteria for sample PW-6-11817Q for 13C2-PFOA with a 54.8%D from the ICAL standard average. The sample was re-injected and the first sample injection internal standard peak area was reported. The sample result for perfluorooctanoic acid was UJ qualified as estimated non-detect. The internal standard peak area was outside of the acceptance criteria for sample PZ-7D-11817 for 13C3-PFBA with a 59.2%D from the ICAL standard average. The sample was re-injected and the first sample injection internal standard peak area was reported. The sample result for perfluorobutanesulfonate was UJ qualified as estimated non-detect.
Is initial calibration for compounds by isotope dilution <30 %RSD or curve fit; and compounds quantitated by isotope dilution analytes (IDA) <50% RSD? Is the initial calibration verification within or equal to 70-130% for all natives quantitated by isotope dilution or 60-140% for natives quantitated by IDA.	Yes.
Is continuing calibration for compounds by isotope dilution equal to or within 60-140% for all natives	Yes.

Perfluorinated Compounds by LC/MS/MS – Method E537	
Description	**Notes and Qualifiers**
quantitated by isotope dilution or 50-150% for natives quantitated by IDA.	
Were any samples reanalyzed or diluted (see Table 6)? For any sample reanalysis or dilutions, is only one reportable result flagged?	No.
Do field duplicate results show good precision for all compounds (see Table 7)?	No. The precision between field duplicate pair associated with sample MPI-5S-11317 was not calculated for perfluorobutanesulfonate due to not being detected in FD sample result. The sample result was at the PQL detection. No qualification of the data was made.

Summary of Findings

- 8260C: Carbon disulfide was detected in trip blank TB-11817. The sample result for MPI-6S-11817 was U qualified and the MDL was elevated to the sample result.
- 8260C: Tetrachloroethene was recovered below the acceptance criteria in the MS and MSD for sample MPI-8SR-11617. The sample results were J qualified as estimated.
- 8260C: cis-1,2-Dichloroethene was recovered above the acceptance criteria in the MS for sample PW-7-11817. The sample result was J qualified as estimated.
- 8260C: Tetrachloroethene was recovered below the acceptance criteria in the MS for sample EE-2-11917. The sample result was J qualified as estimated.
- 8260C: Bromomethane and chloroethane in ICAL 1710027 and 1711037 exhibited RF less than 0.5. The associated sample results were UJ qualified as estimated non-detect.
- 8260C: Tetrachloroethane in ICAL 1710027, 1711037, and 1711046 exhibited RF less than 0.5. The associated sample results with positive detections were J qualified as estimated.
- 8260C: The CCV S710015 for methyl acetate and trichlorofluoromethane, the CCV S710042 for 1,2-dibromo-3-chloropropane, bromoform, carbon tetrachloride, and trichlorofluoromethane, the CCV S710044 for methylene chloride and bromomethane, the CCV S710094 for 1,1,2-trichlorotrifluoroethane, 1,1-dichloroethene, chloroethane, chloromethane, and trichlorofluoromethane, and the CCV S710185 for carbon disulfide and carbon tetrachloride were recovered outside of the acceptance criteria. The associated sample results were non-detect and were UJ qualified as estimated non-detect.
- 8260C: The CCV S710094 for acetone was recovered outside of the acceptance criteria. The associated sample results with positive detections were J qualified as estimated.
- 8260C: Samples PZ-3B-11317, MW-7 11717, PW-8-11817, PZ-7D-11817, PZ-6A-11817, PW-6-11817, PW-6-11817Q, PW-7-11817, MPI-4I-11917, EE-2-11917, PW-4-111017, PW-5-111017, ESI-6 111417, PZ-5B 111517 were diluted to bring target analytes within calibration range. Data usability issues were observed due to elevated reporting limits. The MDL exceeded the NYSDEC screening criteria for various VOC compounds.

- E537: Perfluorooctanoic acid was detected in MB BLK320005B. The associated samples result in which were less than 10X the blank detection were U qualified as non-detect. The PQL was elevated to the sample results.
- E537: Perfluorohexanesulfonate, perfluoroheptanoic acid, perfluorobutanesulfonate, perfluorooctanoic acid, and perfluorononanoic acid were detected in MB BLK324008B. The associated samples result in which were less than 10X the blank detection were U qualified as non-detect. The PQL was elevated to the sample results.
- E537: Surrogates 13C3-PFBS, 13C3-PFHXS, 13C4-PFHPA, 13C8-PFOA, 13C8-PFOS, and 13C9-PFNA associated with SDG SC41288 and SC41423 were recovered above the acceptance criteria. The associated samples were re-extracted outside of the holding time with acceptable recoveries for surrogates; however, comparable results were not observed. The sample results reported are from the initial analysis and were UJ qualified as estimated non-detect.
- E537: The LCS LCS320005Q was recovered above the acceptance criteria for perfluorononanoic acid. The sample result for MPI-8SR-11617 was J qualified as estimated.
- E537: The LCS LCS324008Q associated with SDG SC41423, SC41424, SC41520, and SC41565 was recovered above the acceptance criteria for perfluorooctanoic acid. The sample result for PW-4-111017 was J qualified as estimated.
- E537: The internal standard peak area was outside of the acceptance criteria for sample MPI-8SR-11617 for 13C3-PFBA. The sample result for perfluorobutanesulfonate was J qualified as estimated.
- E537: The internal standard peak area was outside of the acceptance criteria for sample PW-6-11817Q for 13C2-PFOA. The sample result for perfluorooctanoic acid was UJ qualified as estimated non-detect.
- E537: The internal standard peak area was outside of the acceptance criteria for sample PZ-7D-11817 for 13C3-PFBA. The sample result for perfluorobutanesulfonate was UJ qualified as estimated non-detect.

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Sample Type	Analyte	Result	Qualifier	Units	MDL	PQL
8260C	1719435-BLK1	MB	Chloromethane	0.38	J	ug/l	0.37	2
8260C	TB-11817	TB	Carbon Disulfide	1.35	BJ	ug/l	0.41	2
8260C	1719492-BLK1	MB	Chloromethane	0.39	BJ	ug/l	0.37	2
8270D	SBLKWI318	MB	1,4-Dioxane	0.088	J	ug/l	0.050	0.20
E537	BLK320005B	MB	Perfluorooctanoic acid	0.8	J	ng/l	0.3	1
E537	BLK324008B	MB	Perfluorooctanoic acid	0.7	J	ng/l	0.3	1
E537	BLK324008B	MB	Perfluorononanoic acid	0.4	J	ng/l	0.3	1
E537	BLK324008B	MB	Perfluoroheptanoic acid	0.7	J	ng/l	0.3	1
E537	BLK324008B	MB	Perfluorobutanesulfonate	0.6	J	ng/l	0.3	1
E537	BLK324008B	MB	Perfluorohexanesulfonate	0.5	J	ng/l	0.4	2

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qualifier	PQL	Affected Samples	Sample Flag
8260C	1719492-BLK1	MB	Chloromethane	0.39	20.5	J	100	PW-5-111017	None
E537	BLK320005B	MB	Perfluorooctanoic acid	0.8	13	B	0.9	MPI-8SR-11617	None
E537	BLK320005B	MB	Perfluorooctanoic acid	0.8	2	B	2	MPI-9SR-11617	U Flag
E537	BLK320005B	MB	Perfluorooctanoic acid	0.8	3	B	0.9	PZ-1D-11617	U Flag
E537	BLK320005B	MB	Perfluorooctanoic acid	0.8	1	B	0.9	MPI-2SR 11717	U Flag
E537	BLK320005B	MB	Perfluorooctanoic acid	0.8	17	B	1	MW-11 11717	None
E537	BLK320005B	MB	Perfluorooctanoic acid	0.8	12	B	1	MW-7 11717	None
E537	BLK320005B	MB	Perfluorooctanoic acid	0.8	1	Ja, B	1	PZ-6A-11817	U Flag
E537	BLK320005B	MB	Perfluorooctanoic acid	0.8	2	B	1	MPI-6S-11817	U Flag
E537	BLK320005B	MB	Perfluorooctanoic acid	0.8	2	B	2	PZ-8C-11917	U Flag
E537	BLK324008B	MB	Perfluorooctanoic acid	0.7	4	B	0.9	MPI-4S-11917	U Flag
E537	BLK324008B	MB	Perfluoroheptanoic acid	0.7	2	B	0.9	MPI-4S-11917	U Flag
E537	BLK324008B	MB	Perfluorobutanesulfonate	0.6	5	B	0.9	MPI-4S-11917	U Flag
E537	BLK324008B	MB	Perfluorohexanesulfonate	0.5	2	Ja, B	2	MPI-4S-11917	U Flag
E537	BLK324008B	MB	Perfluoroheptanoic acid	0.7	2	B	2	PW-4-111017	U Flag
E537	BLK324008B	MB	Perfluorobutanesulfonate	0.6	2	B	2	PW-5-111017	U Flag
E537	BLK324008B	MB	Perfluoroheptanoic acid	0.7	2	B	2	PW-5-111017	U Flag
E537	BLK324008B	MB	Perfluorooctanoic acid	0.7	2	B	2	RW-1-111017	U Flag

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qualifier	PQL	Affected Samples	Sample Flag
E537	BLK324008B	MB	Perfluorooctanoic acid	0.7	3	B	2	PW-2-111017	U Flag
E537	BLK324008B	MB	Perfluorooctanoic acid	0.7	4	B	2	PW-5-111017	U Flag
E537	BLK324008B	MB	Perfluorooctanoic acid	0.7	8	B	2	PW-4-111017	None
E537	BLK324008B	MB	Perfluoroheptanoic acid	0.7	0.9	B	0.9	ESI-5R 111417	U Flag
E537	BLK324008B	MB	Perfluoroheptanoic acid	0.7	1	B	0.9	MPI-1S 111317	U Flag
E537	BLK324008B	MB	Perfluorobutanesulfonate	0.6	3	B	0.9	ESI-5R 111417	U Flag
E537	BLK324008B	MB	Perfluorooctanoic acid	0.7	4	B	2	EE-3 111317	U Flag
E537	BLK324008B	MB	Perfluorooctanoic acid	0.7	4	B	0.9	ESI-5R 111417	U Flag
E537	BLK324008B	MB	Perfluorobutanesulfonate	0.6	4	B	0.9	MPI-1S 111317	U Flag
E537	BLK324008B	MB	Perfluorooctanoic acid	0.7	6	B	0.9	MPI-1S 111317	U Flag
E537	BLK324008B	MB	Perfluoroheptanoic acid	0.7	1	None	0.9	PZ-5B 111517	U Flag
E537	BLK324008B	MB	Perfluorooctanoic acid	0.7	2	None	0.9	PZ-5B 111517	U Flag
E537	BLK324008B	MB	Perfluorobutanesulfonate	0.6	2	None	0.9	PZ-5B 111517	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination

Method	Field Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qualifier	PQL	Affected Samples	Sample Flag
8260C	TB-118917	WQ	Carbon Disulfide	1.35	0.79	BJ	2	MPI-6S-11817	U Flag

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec. %	Low Limit	High Limit	Dilution Factor	Sample Qualifier
E537	PW-8-11817	N	13C3-PFBS	171	26	148	1	UJ Flag
E537	PW-8-11817	N	13C3-PFHXS	140	34	126	1	UJ Flag
E537	PW-8-11817	N	13C4-PFHPA	162	35	126	1	UJ Flag
E537	PW-8-11817	N	13C8-PFOA	148	43	112	1	UJ Flag
E537	PW-8-11817	N	13C8-PFOS	151	43	115	1	UJ Flag
E537	PW-8-11817	N	13C9-PFNA	148	32	134	1	UJ Flag
E537	MPI-4I-11917	N	13C3-PFBS	242	26	148	1	UJ Flag
E537	MPI-4I-11917	N	13C3-PFHXS	176	34	126	1	UJ Flag
E537	MPI-4I-11917	N	13C4-PFHPA	200	35	126	1	UJ Flag
E537	MPI-4I-11917	N	13C8-PFOA	200	43	112	1	UJ Flag
E537	MPI-4I-11917	N	13C8-PFOS	189	43	115	1	UJ Flag

Method	Sample ID	Sample Type	Analyte	Rec. %	Low Limit	High Limit	Dilution Factor	Sample Qualifier
E537	MPI-4I-11917	N	13C9-PFNA	213	32	134	1	UJ Flag
E537	MPI-8SR-11817	N	13C3-PFBS	148.5	26	148	1	J Flag

Table 3A – List of Samples with Isotope Dilution Recovery outside Control Limits
None.

Table 4 – List of MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	MS % Rec.	Low Limit	High Limit	Sample Qualifier
8260C	MPI-8SR-11617	MS	Bromomethane	ND	20	146	70	130	None – High & ND
8260C	MPI-8SR-11617	MS	Tetrachloroethene	76.6	20	57	70	130	J Flag
8260C	MPI-8SR-11617	MSD	Tetrachloroethene	76.6	20	47	70	130	J Flag
8260C	MPI-8SR-11617	MSD	Methyl acetate	ND	20	69	70	130	None – Low & ND
8260C	PW-6-11817	MS	Acetone	ND	20	154	70	130	None – High & ND
8260C	PW-6-11817	MSD	Acetone	ND	20	140	70	130	None – High & ND
8260C	PW-6-11817	MS	Chloroethane	ND	20	144	70	130	None – High & ND
8260C	PW-6-11817	MSD	Chloroethane	ND	20	144	70	130	None – High & ND
8260C	PW-6-11817	MS	Chloromethane	ND	20	133	70	130	None – High & ND
8260C	PW-6-11817	MS	1,1-Dichloroethene	ND	20	190	70	130	None – High & ND
8260C	PW-6-11817	MS	Trichlorofluoromethane	ND	20	136	70	130	None – High & ND
8260C	PW-6-11817	MS	Methyl acetate	ND	20	134	70	130	None – High & ND
8260C	PW-6-11817	MSD	Methyl acetate	ND	20	135	70	130	None – High & ND
8260C	PW-7-11817	MS	cis-1,2-Dichloroethene	27.2	20	179	70	130	J Flag
8260C	EE-2-11917	MS	Bromomethane	ND	20	50	70	130	None – Low & ND
8260C	EE-2-11917	MSD	Bromomethane	ND	20	61	70	130	None – Low & ND
8260C	EE-2-11917	MS	Carbon disulfide	ND	20	62	70	130	None – Low & ND
8260C	EE-2-11917	MS	Tetrachloroethene	64	20	65	70	130	J Flag
8260C	EE-2-11917	MSD	Methyl acetate	ND	20	131	70	130	None – High & ND
8260C	ESI-6 111417	MS	Carbon disulfide	ND	20	47	70	130	None – Low & ND
8260C	ESI-6 111417	MSD	Carbon disulfide	ND	20	45	70	130	None – Low & ND
8260C	ESI-6 111417	MS	Chloromethane	ND	20	56	70	130	None – Low & ND
8260C	ESI-6 111417	MSD	Chloromethane	ND	20	56	70	130	None – Low & ND
8260C	ESI-6 111417	MS	Dichlorodifluoromethane	ND	20	58	70	130	None – Low & ND
8260C	ESI-6 111417	MSD	Dichlorodifluoromethane	ND	20	57	70	130	None – Low & ND
8260C	ESI-6 111417	MS	Methyl acetate	ND	20	68	70	130	None – Low & ND
8260C	ESI-6 111417	MSD	1,1,2-Trichlorotrifluoroethane	ND	20	68	70	130	None – Low & ND
8260C	ESI-6 111417	MSD	Chloroethane	ND	20	68	70	130	None – Low & ND
8260C	ESI-6 111417	MSD	Methylene chloride	ND	20	65	70	130	None – Low & ND
8260C	ESI-6 111417	MSD	Vinyl chloride	ND	20	66	70	130	None – Low & ND

Method	Sample ID	Analyte	RPD	RPD Limit	Sample Qualifier
8260C	MPI-8SR-11617	Bromomethane	25	20	None
8260C	PW-6-11817	1,1-Dichloroethene	38	20	None
8260C	PW-7-11817	Chloroform	22	20	None
8260C	PW-7-11817	cis-1,2-Dichloroethene	52	20	J Flag
8260C	EE-2-11917	Carbon disulfide	24	20	None
E537	ESI-6 111417	Perfluorooctanoic acid	33	30	None
E537	ESI-6 111417	Perfluorononanoic acid	35	30	None

Table 5 - List of LCS Recoveries outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Sample Qualifier
8260C	1719163-BSD1	LCSD	Trichlorofluoromethane	137	70	130	None – High & ND
8260C	1719217-BS1	LCS	Bromomethane	157	70	130	None – High & ND
8260C	1719217-BSD1	LCSD	Bromomethane	158	70	130	None – High & ND
8260C	1719294-BS1	LCS	1,1-Dichloroethene	141	70	130	None – High & ND
8260C	1719294-BS1	LCS	Trichlorofluoromethane	132	70	130	None – High & ND
8260C	1719294-BS1	LCSD	Chloroethane	165	70	130	None – High & ND
8260C	1719294-BS1	LCSD	Chloromethane	156	70	130	None – High & ND
8260C	1719294-BS1	LCSD	Trichlorofluoromethane	145	70	130	None – High & ND
E537	LCS320005Q	LCS	Perfluorononanoic acid	132	70	130	None – High & ND, J Flag
E537	LCS324008Q	LCS	Perfluorooctanoic acid	141	70	130	None – High & ND, J Flag

Method	Sample ID	Analyte	RPD	RPD Limit	Sample Qualifier
8260C	1719217-BS1/BSD1	Methylene Chloride	22	20	None
8260C	1719294-BS1/BSD1	1,1,2-Trichlorotrifluoroethane (Freon	29	20	None
8260C	1719294-BS1/BSD1	Bromomethane	30	20	None
8260C	1719294-BS1/BSD1	Carbon disulfide	31	20	None
8260C	1719294-BS1/BSD1	Chloroethane	31	20	None
8260C	1719294-BS1/BSD1	Chloromethane	22	20	None
8260C	1719294-BS1/BSD1	Methylene chloride	27	20	None
8260C	1719294-BS1/BSD1	Methyl acetate	47	20	None
8260C	1719490-BS1/BSD1	Methylene Chloride	26	20	None
8260C	1719532-BS1/BSD1	Bromoform	22	20	None
8260C	1719532-BS1/BSD1	Isopropylbenzene	21	20	None
8260C	1719532-BS1/BSD1	Methylene chloride	22	20	None
8260C	1719532-BS1/BSD1	m,p-Xylene	22	20	None

Data Usability Summary Report	Project: Mr. C's Cleaners
Date Completed: January 26, 2018	Completed by: Eridania Marte

Table 6 –Samples that were Re-analyzed

Lab ID	Sample ID	Method	Sample Type	Action
SC41008-02	ESI-3-R11117	8260C	N	Diluted at 5X to bring tetrachloroethylene within calibration range.
SC41109-04	PZ-3B-11317	8260C	N	Diluted at 5X to bring target analytes within calibration range.
SC41221-04	MW-7 11717	8260C	N	Diluted at 20X to bring target analytes within calibration range.
SC41288-08	PW-8-11817	8260C	N	Diluted at 5X to bring target analytes within calibration range. Further diluted at 20X to bring cis-1,2-dichloroethene within calibration range.
SC41288-07	PZ-7D-11817	8260C	N	Diluted at 5X to bring target analytes within calibration range. Further diluted at 20X to bring cis-1,2-dichloroethene within calibration range.
SC41288-02	PZ-6A-11817	8260C	N	Diluted at 20X to bring target analytes within calibration range.
SC41288-04	PW-6-11817	8260C	N	Diluted at 50X to bring target analytes within calibration range.
SC41288-05	PW-6-11817Q	8260C	N	Diluted at 50X to bring target analytes within calibration range.
SC41288-06	PW-7-11817	8260C	N	Diluted at 50X to bring target analytes within calibration range. Further diluted at 200X to bring cis-1,2-dichloroethene within calibration range.
SC41423-04	MPI-4I-11917	8260C	N	Diluted at 5X to bring target analytes within calibration range. Further diluted at 10X to bring vinyl chloride within calibration range.
SC41423-02	EE-2-11917	8260C	N	Diluted at 10X to bring target analytes within calibration range.
SC41424-05	PW-4-111017	8260C	N	Diluted at 50X to bring target analytes within calibration range.
SC41424-04	PW-5-111017	8260C	N	Diluted at 50X to bring target analytes within calibration range.
SC41520-05	ESI-6 111417	8260C	N	Diluted at 10X to bring target analytes within calibration range.
SC41565-02	PZ-5B 111517	8260C	N	Diluted at 50X to bring target analytes within calibration range.

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Matrix	PQL	MPI-5S-11317	MPI-5S-11317Q	RPD	RPD Rating	Sample Qual
SW8260C	Acetone	ug/l	WG	10	5.1	--	NC	None	None
SW8260C	cis-1,2-Dichloroethylene	ug/l	WG	1	4.38	4.24	3.2%	Good	None
SW8260C	Tetrachloroethylene(PCE)	ug/l	WG	1	30.4	30.2	0.7%	Good	None
SW8260C	Trans-1,2-Dichloroethene	ug/l	WG	1	1.35	1.55	13.8%	Good	None
SW8260C	Trichloroethylene (TCE)	ug/l	WG	1	4.21	4.38	4.0%	Good	None
E537	Perfluorobutanesulfonate	ng/L	WG	2	2	--	NC	None	None
E537	Perfluorooctanoic acid	ng/l	WG	2	5	4	22.2%	Good	None

Method	Analyte	Unit	Matrix	PQL	PW-6-11817	PW-6-11817Q	RPD	RPD Rating	Sample Qual

SW8260C	Cis-1,2-Dichloroethylene	ug/l	WG	50	228	212	7.3%	Good	None
SW8260C	Tetrachloroethylene(PCE)	ug/l	WG	50	1610	1850	13.9%	Good	None
SW8260C	Trichloroethylene (TCE)	ug/l	WG	50	147	166	12.1%	Good	None

Acronym List and Table Key:

COC = chain of custody
DUSR = data usability summary report
FD = field duplicate sample
GC/MS = gas chromatography / mass spectrometry
ICAL = initial calibration
LC/MS/MS = liquid chromatography/tandem-mass spectrometry
LCS = laboratory control sample
LCSD = laboratory control sample duplicate
MB = method blank
MS = matrix spike
MSD = matrix spike duplicate
N = normal field sample
NC = not calculated
ND = not detected
NYSDEC = New York State Department of Environmental Conservation
PCE = tetrachloroethylene
PQL = practical quantitation limit
QA = quality assurance
QAPP = quality assurance project plan
QC = quality control
RB = rinsate blank sample
RF = response factor
RPD = relative percent difference
SDG = sample delivery group
TB = Trip blank sample
TCE = trichloroethylene
VOC = volatile organic compound