



Former Lockheed Martin French Road Facility
Utica, New York
Solvent Dock Site
(NYSDEC Site ID #633036A)

Data Summary and Observations Annual 2020 Groundwater Monitoring

General Notes

- In the fall of 2019, the Former Northern Perimeter Ditch (FNPD) excavation activities were completed. Following completion of the excavation activities, monitoring wells MW-17 and MW-18 and piezometers A2-PZ-1, A2-PZ-2, A2-PZ-3, and A2-PZ-4 were re-installed. The monitoring well network is shown on Figure D-1. An annual groundwater monitoring event was performed in July 2020 that enlisted standard monitoring locations, procedures, and analytical parameters. The event was postponed until July 2020 due to site access issues resulting from COVID-19. The A2-PZ-1 sampling for the July 2020 sampling event also included Per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane.
- Annual groundwater gauging and sampling was performed from July 7, 2020 to July 9, 2020. Of the 61 wells subject to water level gauging, fourteen wells were sampled and analyzed for Volatile Organic Compounds (VOCs), and one of the piezometers (PZ-8) was reported as dry. In addition, A2-PZ-1 was also sampled for PFAS and 1,4 dioxane. The attached Tables 4-1 and 4-2 summarize gauging data and VOC analytical results, respectively. Note that analytical data qualifiers have been included in Table 4-2 according to results of the attached Data Usability Summary Report (DUSR). Based on the results of data validation and as summarized in the attached DUSR, the analytical data are usable.
- On July 8, 2020, prior to purging and field parameter measurement, extra 40 milliliter (mL) sample vials of well water were collected from PZ-5 and PZ-6, in case the wells did not recharge after purging. The water levels were checked on July 9, 2020 at PZ-5 and PZ-6, and there was insufficient recharge to collect additional samples. The before purge sample results for PZ-5 and PZ-6 have been used in this summary.
- At the request of the New York State Department of Environmental Conservation (NYSDEC), select wells were sampled and analyzed for PFAS and 1,4-dioxane in June 2018 except for A2-PZ-1 which was abandoned in October 2017 in preparation for the FNPD excavation activities. As discussed above, A2-PZ-1 was re-installed after the FNPD excavation activities and sampled for PFAS and 1,4 dioxane in July 2020. The attached Table 4-5 summarizes the gauging and analytical results. Since this is the first time that these parameters have been analyzed in A2-PZ-1, there are no historical data to compare recent results to.

Contaminant of Concern (COC) Observations

- Chlorinated volatile organic compounds (CVOCs) are the predominant contaminants of concern (COCs). Certain CVOCs continue to be detected in some wells at concentrations greater than NYSDEC Technical Operational Guidance Series (TOGS) 1.1.1: *Ambient Water Quality Standards and Guidance Values* (SGVs). If a monitoring well sampling location has met the SGVs for four consecutive sampling rounds, the removal of the monitoring well from the groundwater sampling program will be requested from the NYSDEC. The ranges of detected COC levels were generally similar to those observed in previous sampling events. Analytical results are summarized on Table 4-2 and depicted graphically for the July 2020 sampling event on Figure D-3A.

- The predominant constituents detected at concentrations greater than the SGVs continue to be PCE, TCE, cis-1,2-DCE, and VC.
- A Mann-Kendall trend analysis was performed using data from the July 2020 sampling event and the eight previous rounds of sampling (see Table 4-4 and Figures 4-3a through 4-3n). Please note that MW-18, A2-PZ-1 and A2-PZ-2 were not included in the Mann-Kendall trend analysis as they were recently re-installed and sampled and do not have enough previous sampling rounds for comparison to show a trend. Per Table 4-4, there are no statistically-significant increasing trends. Statistically-significant decreasing trends were identified for PCE at PZ-6 and MW-3 (Objective 1 locations); cis-1,2-DCE at PZ-5 (Objective 1 location); TCE at PZ-5 (Objective 1 location); 1,1-DCA at MW-10 (Objective 3 location); and VC at MW-4 (Objective 3 location).
- Statistical analysis of July 2020 volatile organic compound data identified no sudden increases or historical maxima (Table 4-4).

Objective 1 Wells

- No SGV exceedances were observed in PZ-13R.
- Piezometers A2-PZ-1 and A2-PZ-2 have SGV exceedances of PCE, TCE, cis-1,2-DCE, VC 1,1-DCA, and Freon 113. The results for these wells are overall significantly lower than the VOC levels observed throughout the previous sampling years; these piezometers were last sampled in January 2017. This is likely attributable to the FNPD excavation activities completed in the fall of 2019.
- MW-18 has SGV exceedances of PCE, TCE, cis-1,2-DCE, 1,1-DCA, and Freon 113. The results for this well are consistent with the VOC levels observed throughout the previous sampling years; this monitoring well was last sampled in January 2017.
- MW-1, PZ-5, PZ-6, have consistently exhibited SGV exceedances of PCE, TCE, and cis-1,2-DCE; the concentrations reported for this annual sampling event are generally consistent with results of the previous sampling events for these wells. During this sampling event, PZ-6 PCE and TCE concentrations were below their respective SGVs.
- MW-3 continues to exhibit exceedances of cis-1,2-DCE; the PCE and TCE concentrations are below their respective SGVs; the VC concentration has been fluctuating above and below its SGV since 2013, but exceeded its SGV during this sampling event.
- MW-20 continues to exhibit fluctuating VC concentrations above and below the SGV, consistent with results collected since 2012, but exceeded its SGV during this sampling event.
- PZ-8 was not analyzed for VOCs due to insufficient groundwater recovery during sampling.
- A1-PZ-2 was not sampled as it was removed from the sampling list as approved by the NYSDEC.

Objective 2 Wells

- Monitoring well MW-21 was the only Objective 2 well sampled for VOCs in July 2020. The concentration of VC in MW-21 during this sampling period (2.5 micrograms per liter [µg/L]) is slightly above the SGV of 2.0 µg/L.

Objective 3 Wells

- Two of the three Objective 3 wells sampled exhibited SGV exceedances for cis-1,2-DCE and VC (MW-2 and MW-10).
- The exceedance concentrations in MW-2 and MW-10 are similar to concentrations reported for these locations during previous annual sampling events.

- Monitoring well MW-4 exhibited an exceedance of VC.

Objective 4 Wells

- No Objective 4 wells were sampled in the July 2020 event.

PFAS and 1,4-Dioxane Observations in A2-PZ-1

- Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) were detected at concentrations of 2.14 and 9.32 nanograms per liter (ng/L), respectively. These detections are less than the NYSDEC screening value of 10 ng/L.
- The other PFAS compounds detected were below the 100 ng/L NYSDEC screening level.
- 1,4-Dioxane was detected at a concentration of 1.5 µg/L which is slightly above the proposed NYSDEC screening level of 1.0 µg/L.

Geochemical Observations

Geochemical analyses during the July 2020 sampling event included pH, conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP). Field parameters were collected at the monitoring wells by bailing and measurement at the surface. Downhole DO and ORP were measured at all locations where there was sufficient recharge. PZ-8 did not have sufficient volume to collect field parameters. The attached Table 4-3 summarizes the measured field parameters for all wells sampled during the July 2020 sampling event. The following observations are made relative to these data:

- Measured pH levels in groundwater site-wide ranged from 6.86 to 7.85 SU; indicating conditions are generally neutral.
- DO values ranged from 0.20 to 3.18 milligrams per liter (mg/L); this range of values is consistent with previous sampling events and is within the historical range observed for each of the sampled wells. These data indicate that groundwater varies from oxygen rich to oxygen deprived depending on location.
- ORP values ranged from -82 to -25 millivolts (mV); ORP was negative in all fourteen wells sampled for ORP. The ORP values are within the range observed for each of these wells sampled for ORP in September 2019.

Groundwater Elevation Measurements

Groundwater elevations in monitoring wells that were measured in the Solvent Dock Area were relatively consistent with historical measurements at the site (Table 4-1). In general, the groundwater elevations indicate a slightly lower water table when compared to the September 2019 event. Most of the groundwater elevations are within the historical ranges observed. The following two locations were reported as dry: MW-13S and PZ-21. MW-13S was dry in September 2019 and PZ-21 has been dry since April 2015. Two additional locations exhibited new historic minima: MW-2 and A2-PZ-3.

As shown on the attached groundwater contour plan (Figure D-2A) groundwater flow direction is indicated to be to the east to southeast but highly variable on the site. The groundwater capture by the Groundwater Collection and Treatment System is apparent near MH-1, MH-2 and MH-3 drains. The low groundwater level in PZ-27 is similar to previous sampling events thus indicating that MH-1 is providing groundwater capture. Note that bedrock well and injection well water levels are not used in the development of the contour plan.

FIGURES

Figure 4-3a: Well A2-PZ-1 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York

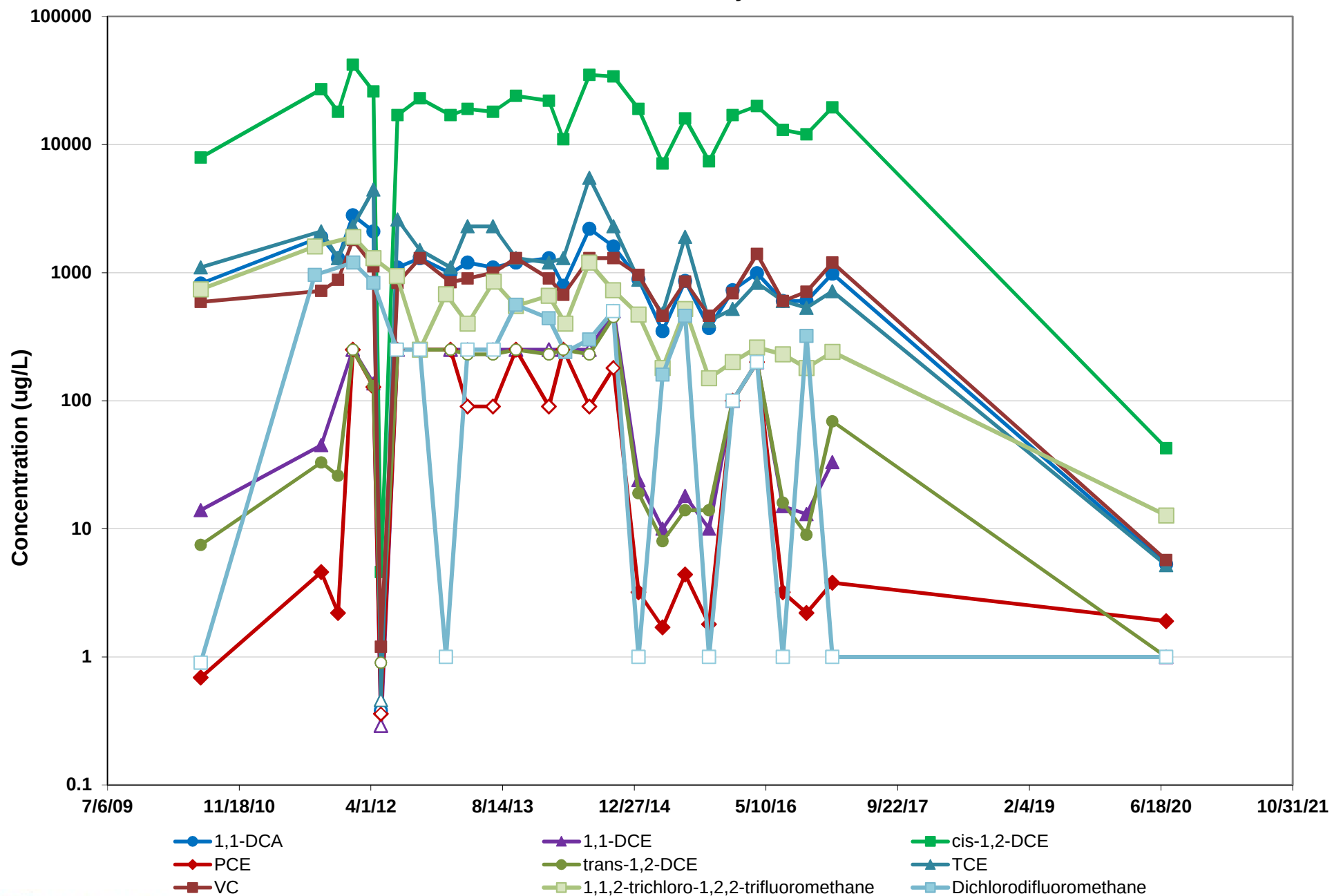


Figure 4-3b: Well A2-PZ-2 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York

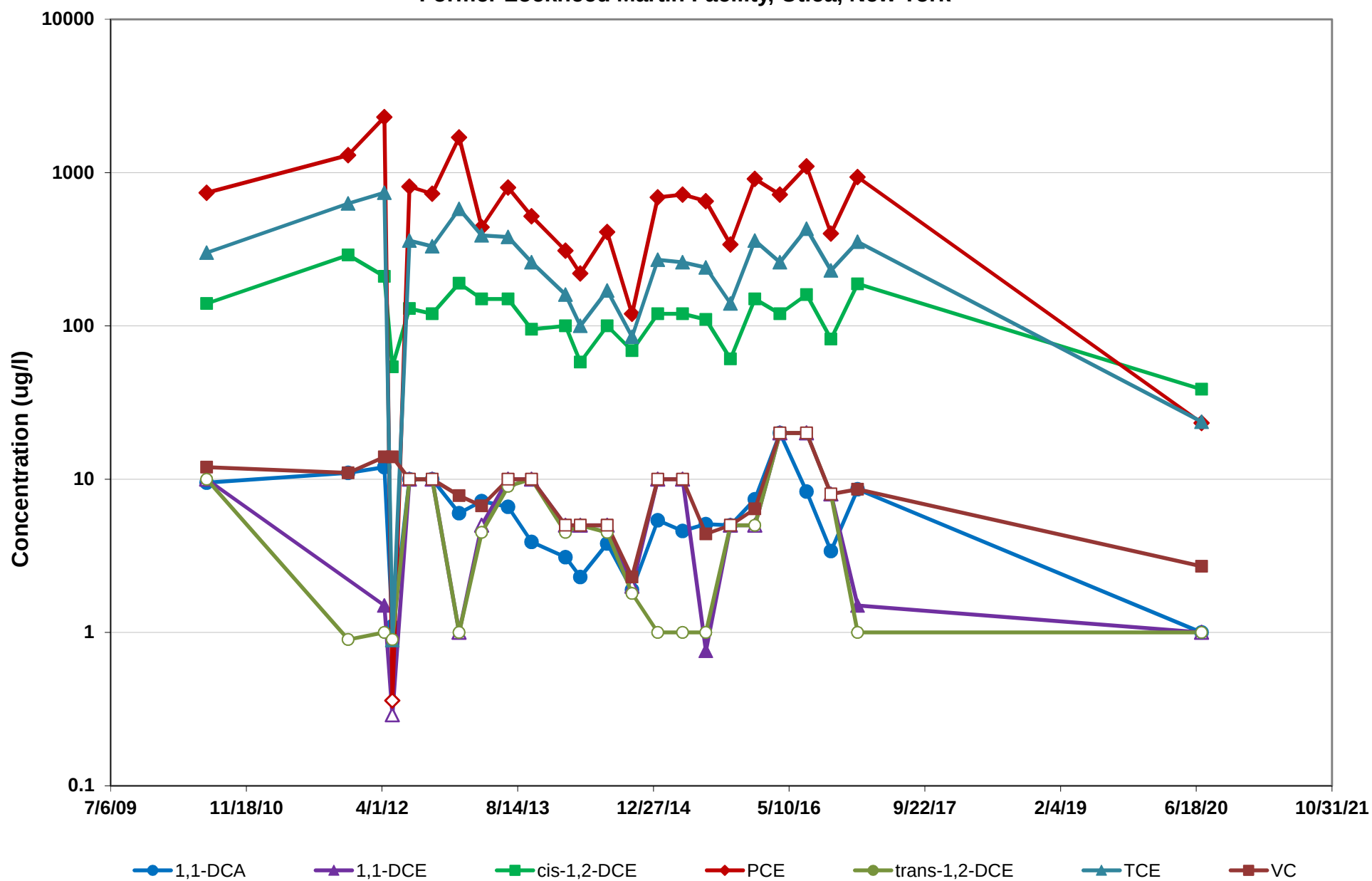


Figure 4-3c: Well MW-1 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York

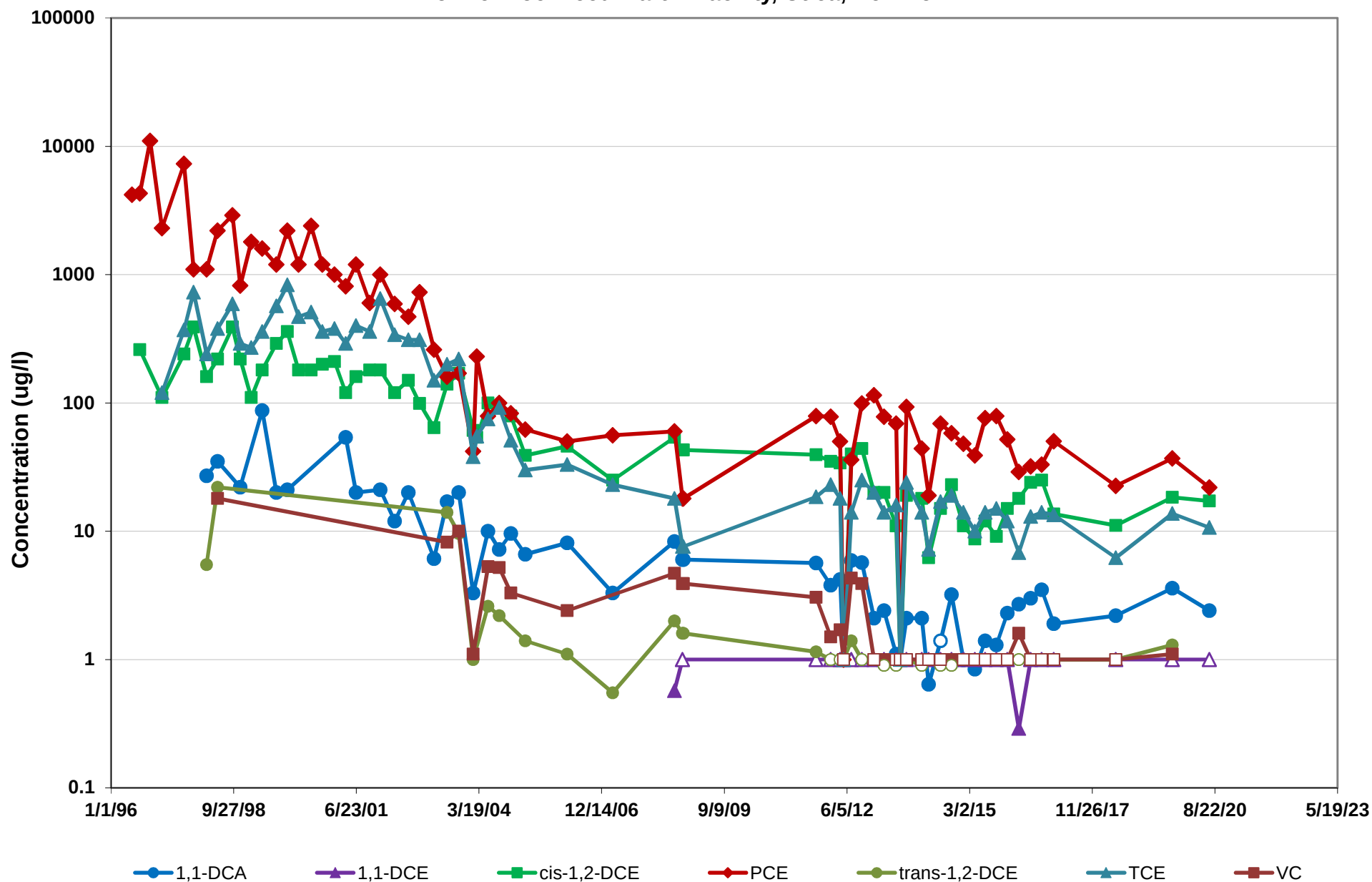


Figure 4-3d: Well MW-3 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York

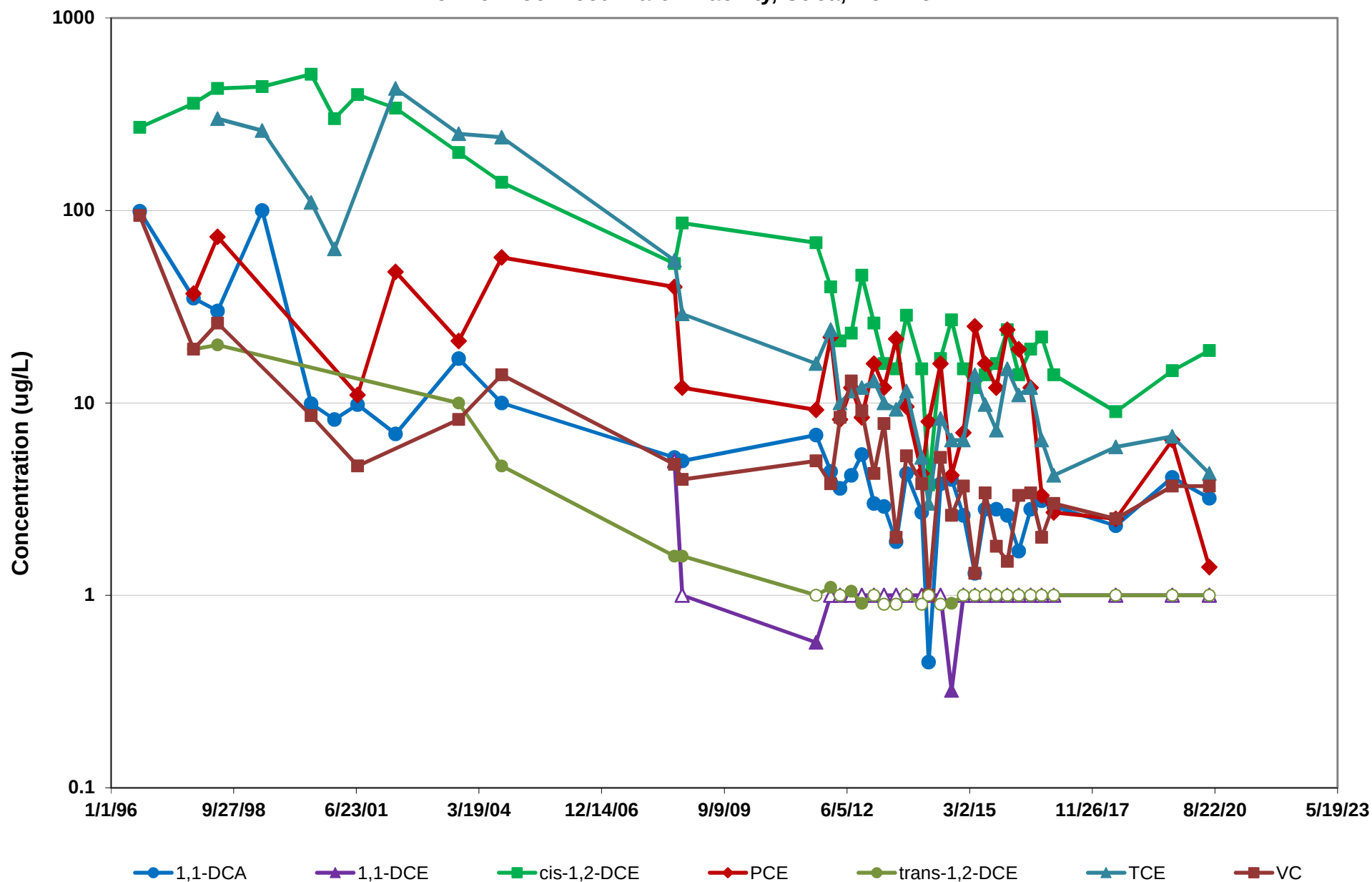


Figure 4-3e: Well MW-18 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York

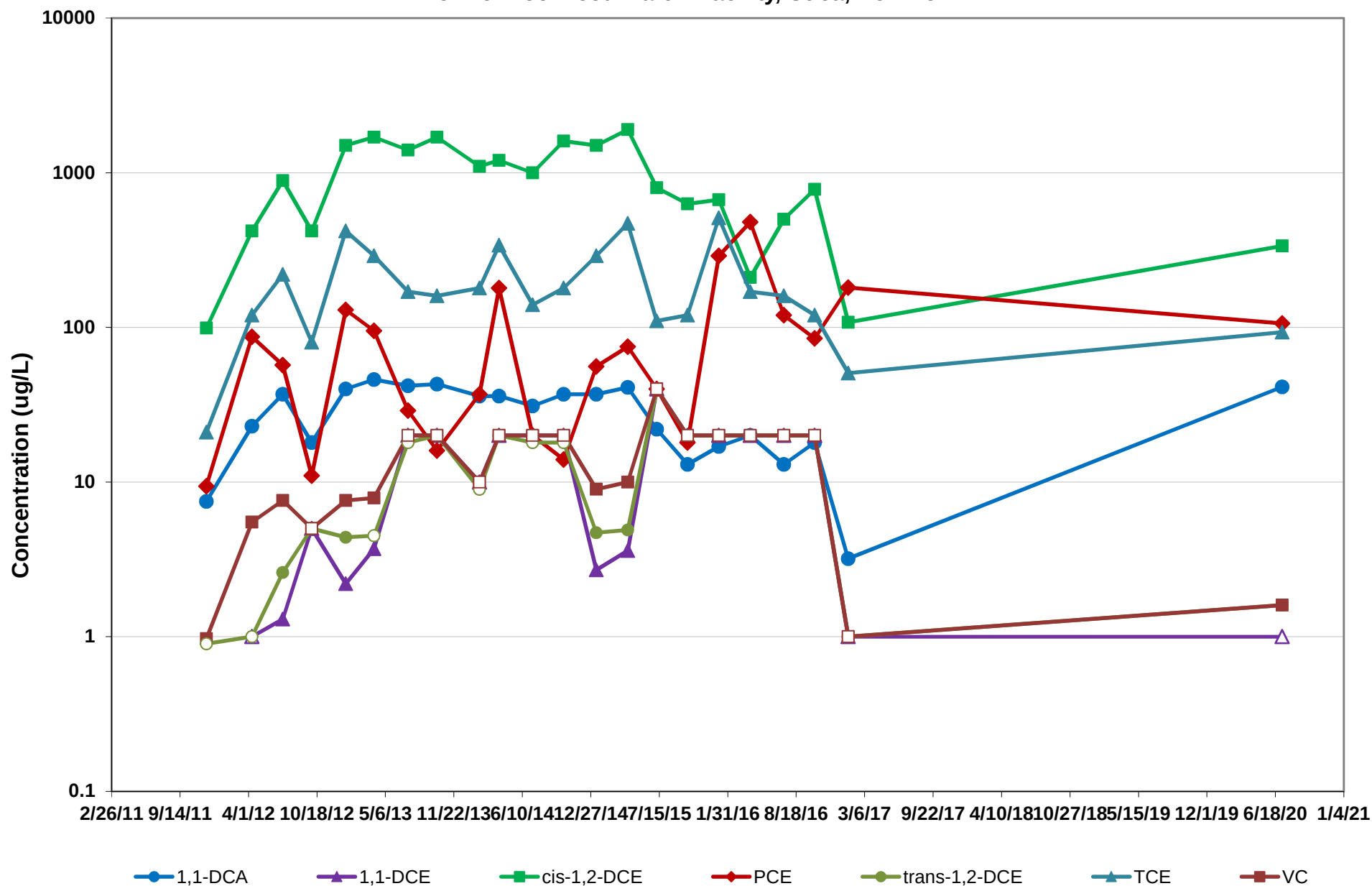


Figure 4-3f: Well MW-20 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York

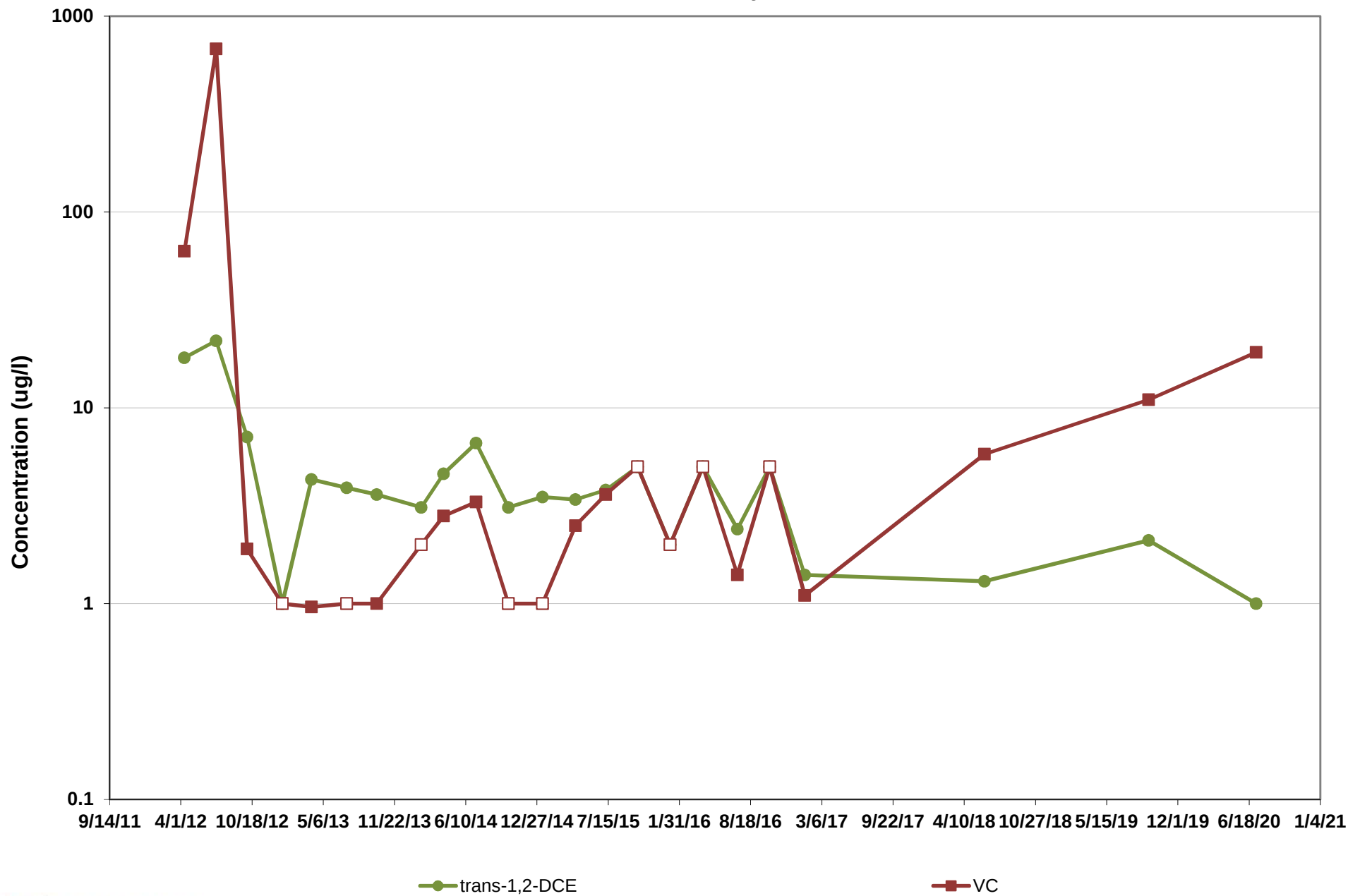


Figure 4-3g: Well PZ-5 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York

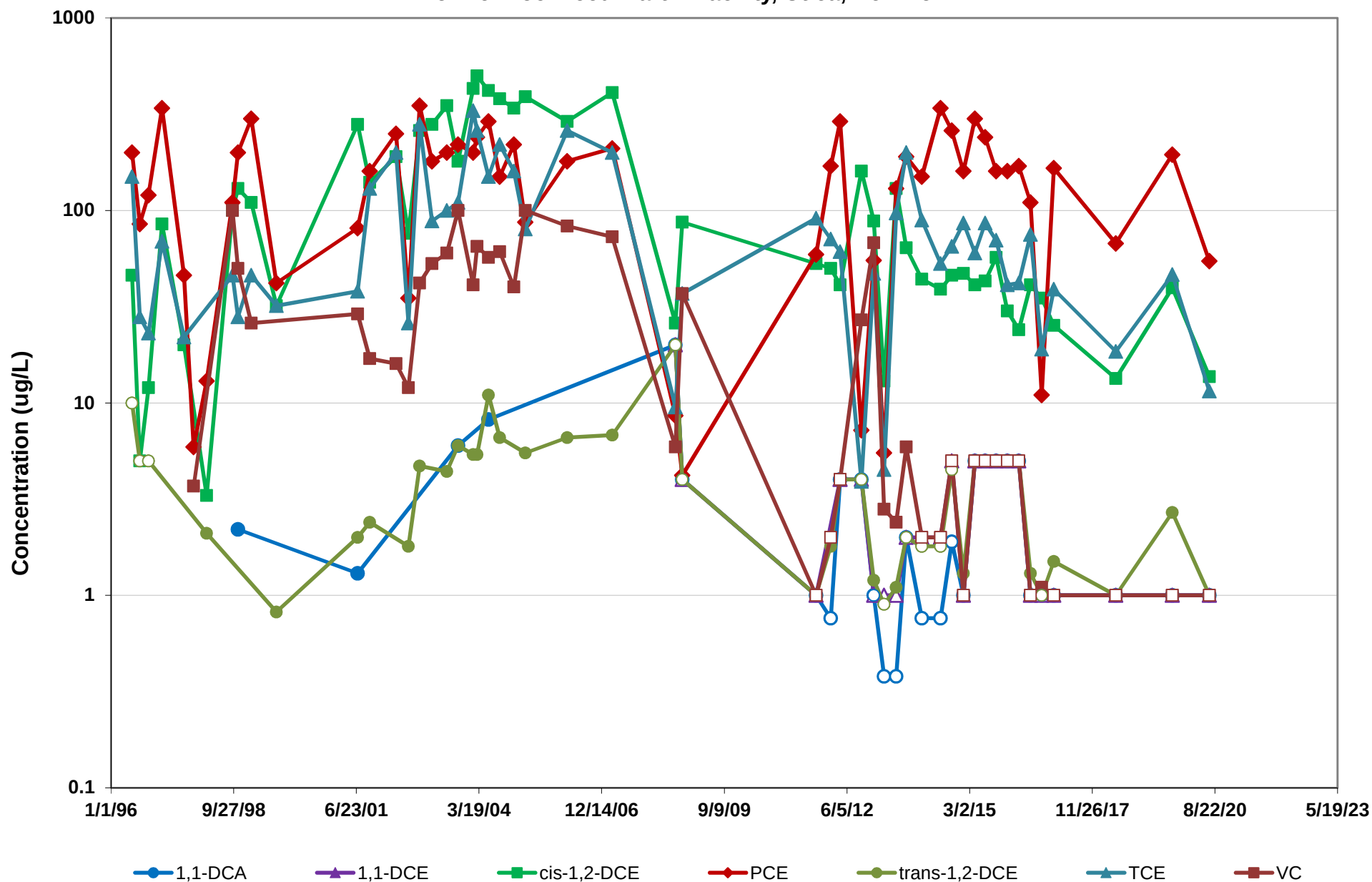


Figure 4-3h: Well PZ-6 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York

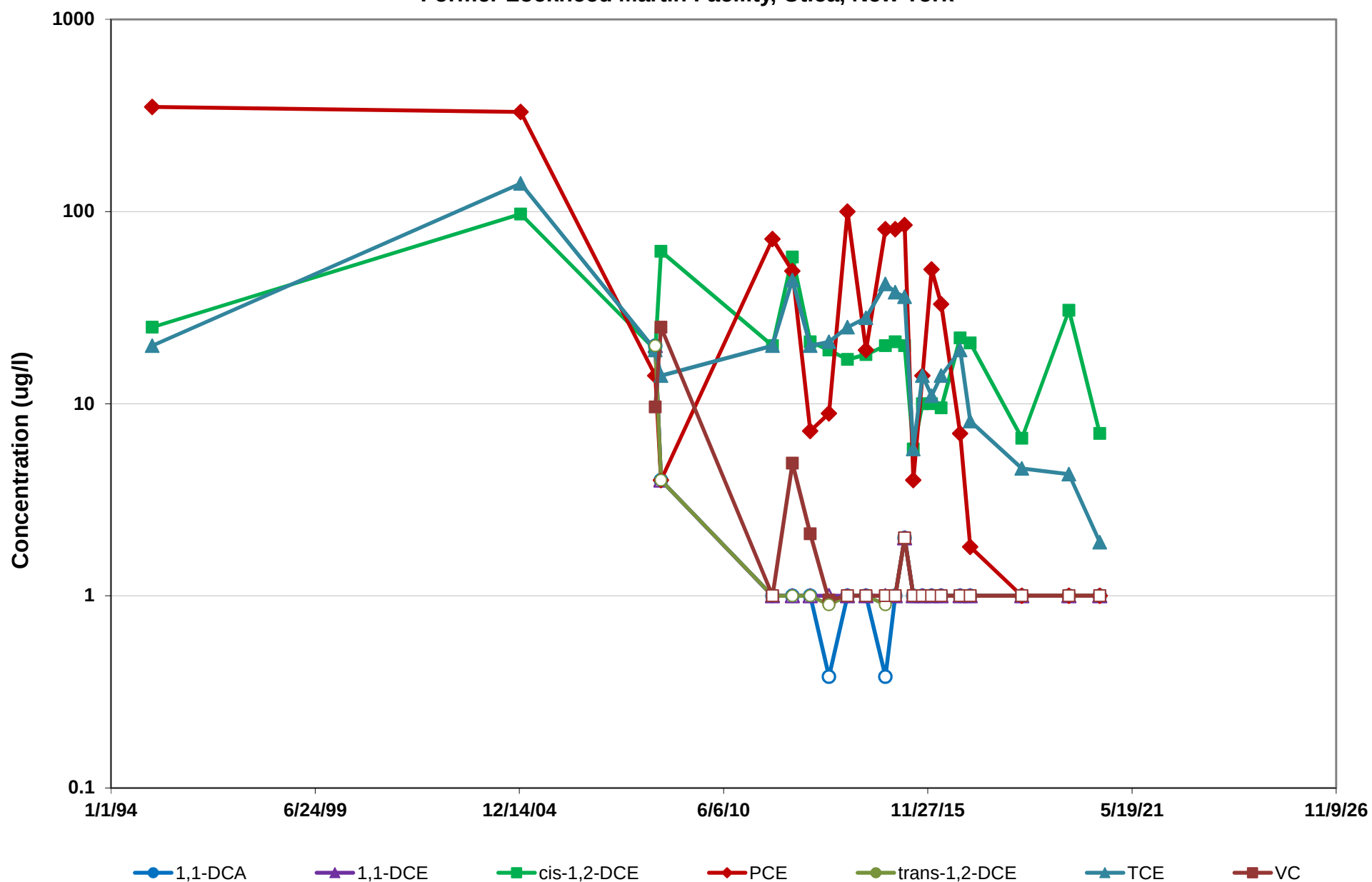
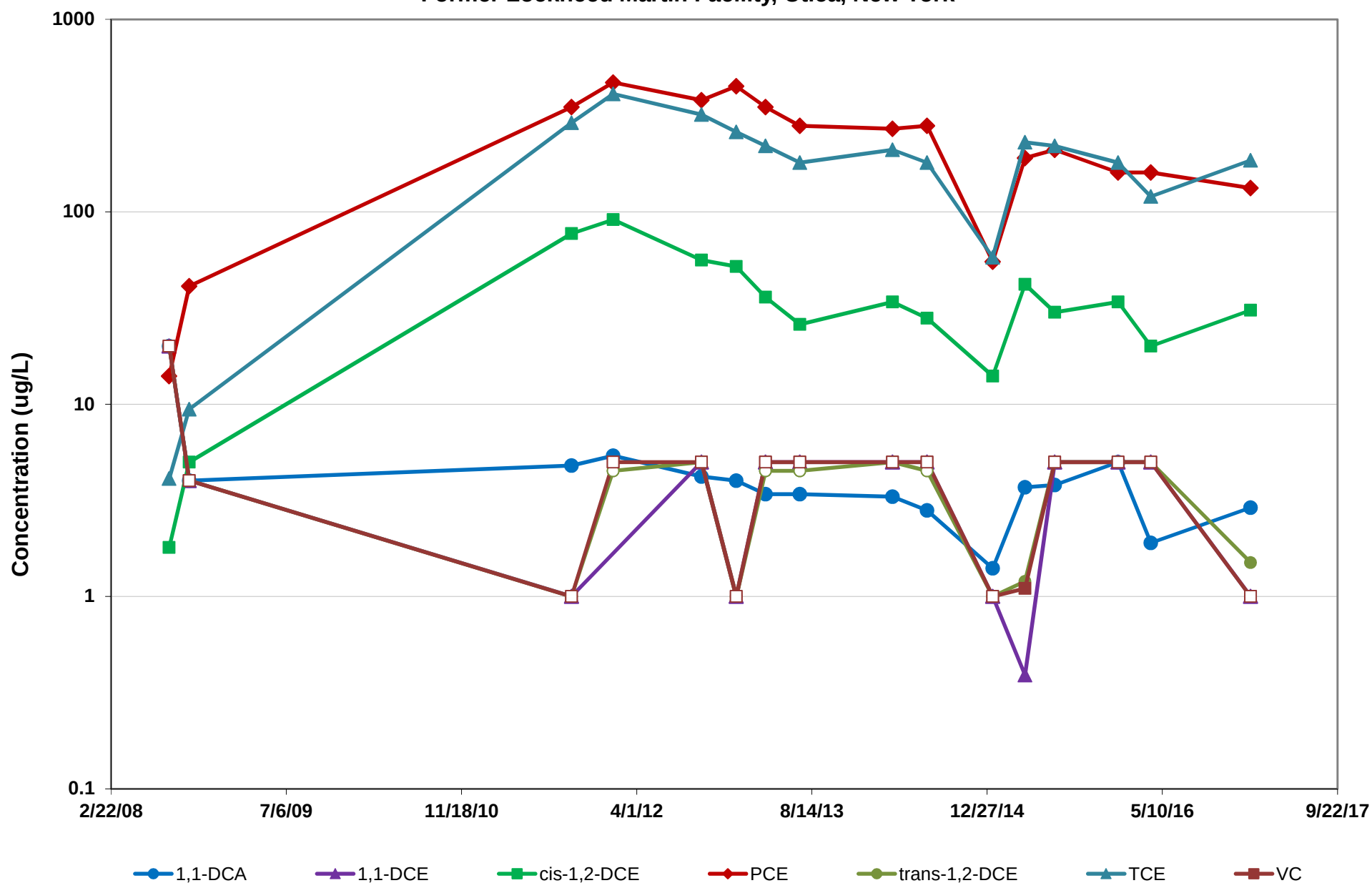


Figure 4-3i: Well PZ-8 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



Non-detect sample results are represented with open symbols.

Figure 4-3j: Well PZ-11R Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York

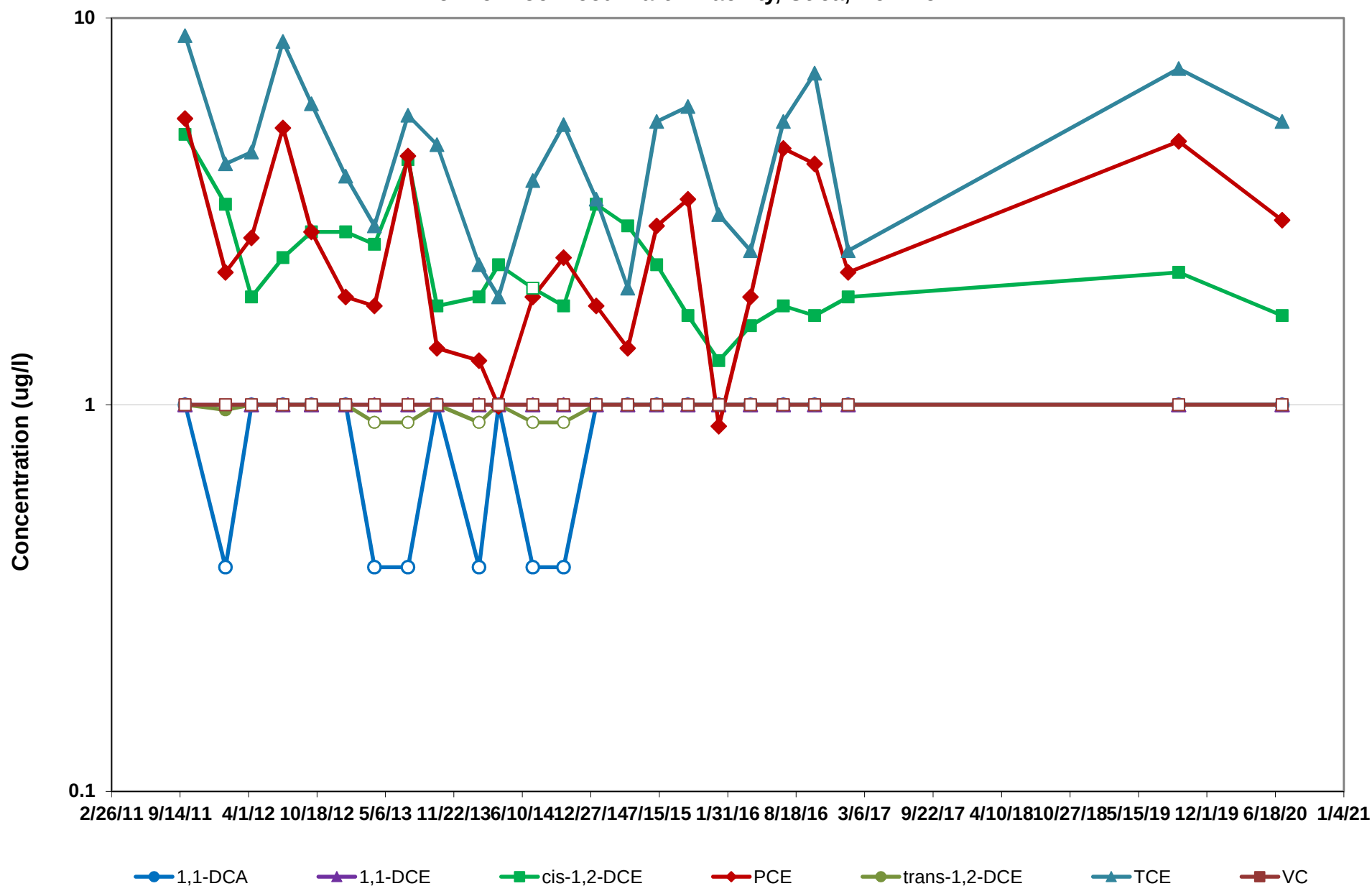


**Figure 4-3k: Well MW-21 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York**

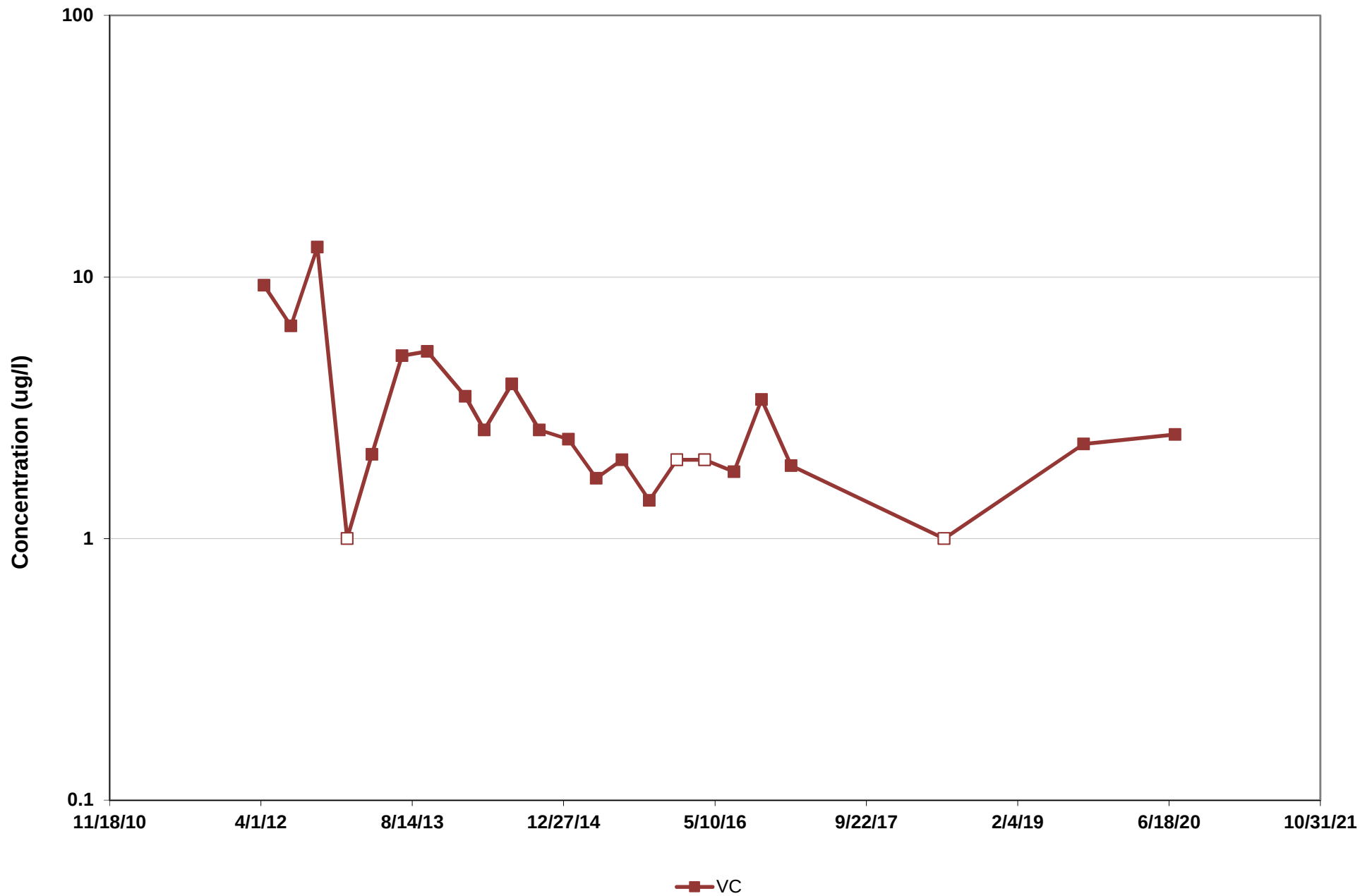


Figure 4-3I: Well MW-2 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York

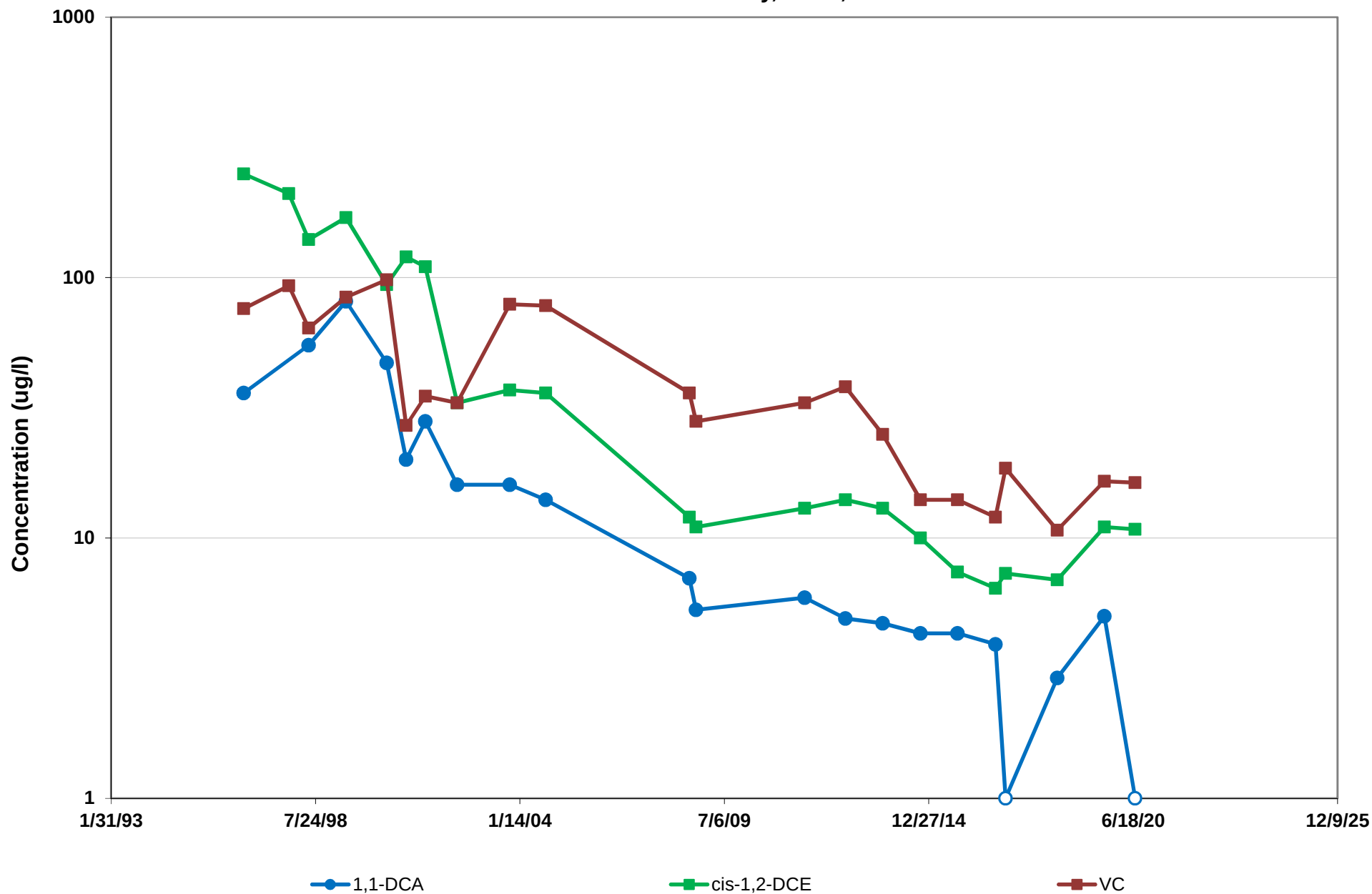


Figure 4-3m: Well MW-4 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York

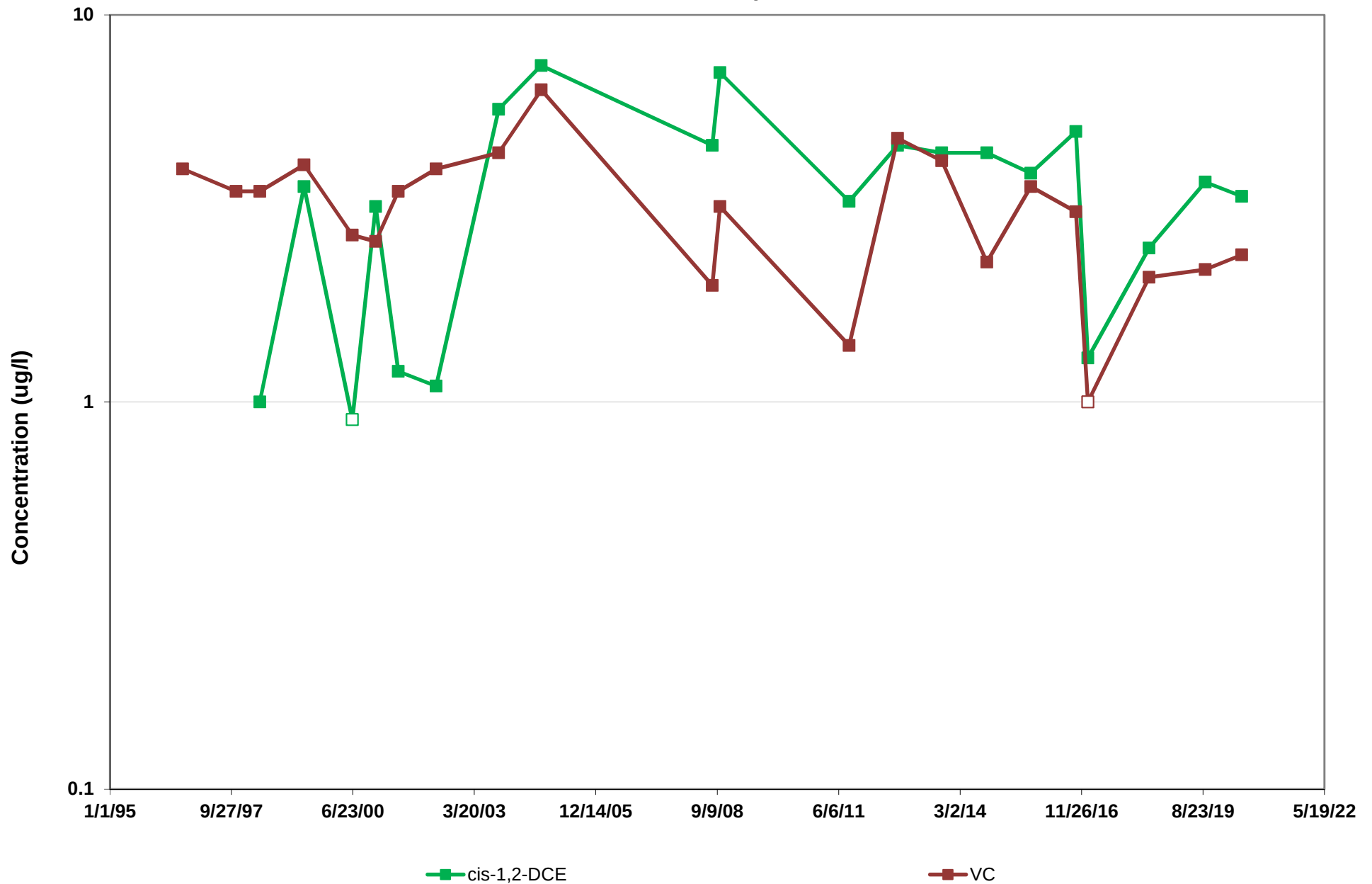
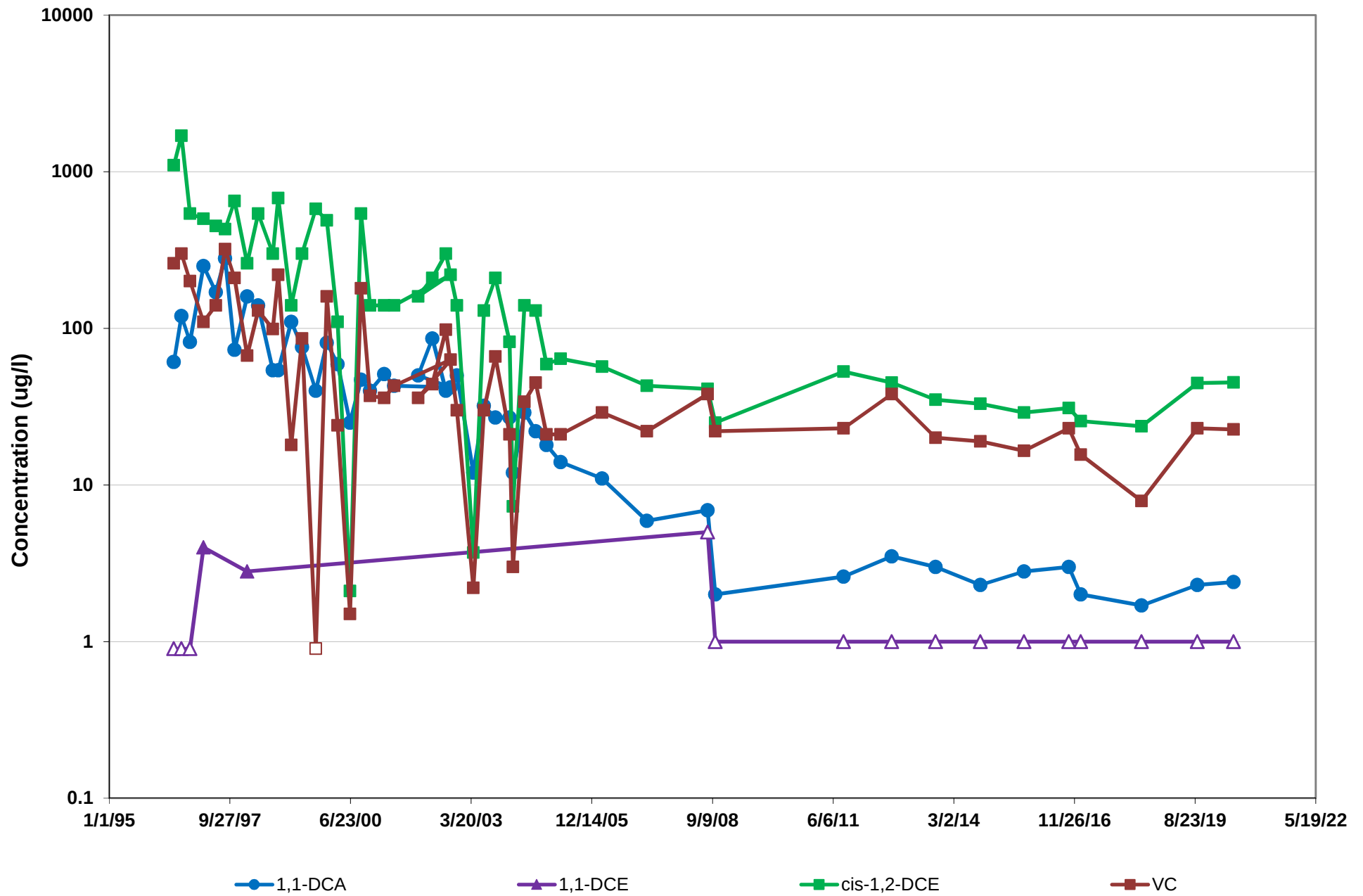
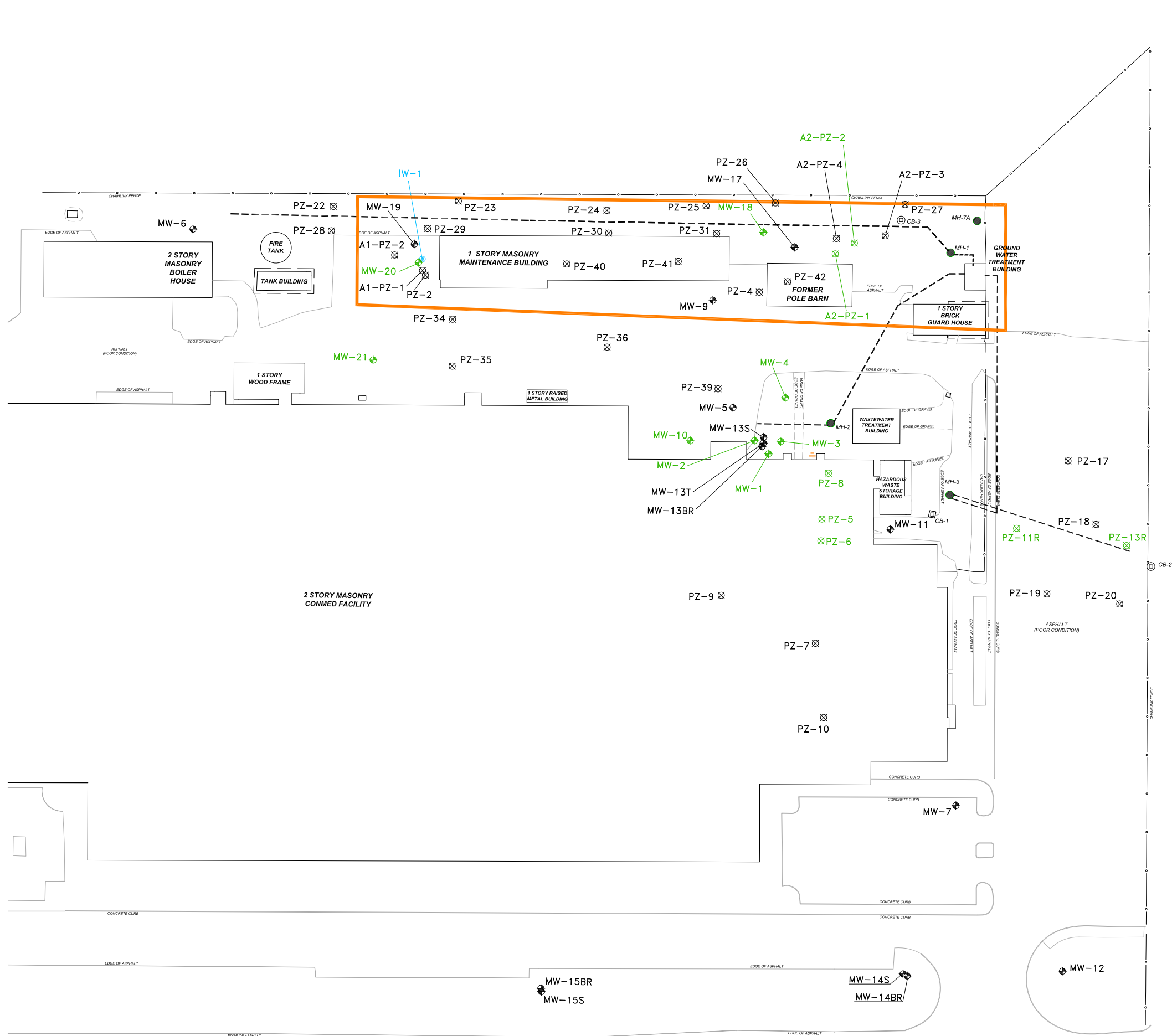


Figure 4-3n: Well MW-10 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



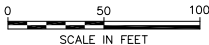


LEGEND:

- FORMER NORTHERN PERIMETER DITCH (FNPD)
- IW-1 INJECTION WELL LOCATION
- MW-10 MONITORING WELL LOCATION
- PZ-9 PIEZOMETER LOCATION
- ANNUAL SAMPLING LOCATION
- GROUNDWATER COLLECTION TRENCH AND PIPING
- FENCE LINE
- MH-2 GROUNDWATER COLLECTION MANHOLE LOCATION
- CB-2 CATCH BASIN WITH INLET GRATE LOCATION

NOTES:

1. BASE PLAN ADAPTED FROM DRAWING ENTITLED 2013 ANNUAL GROUNDWATER MONITORING REPORT, JANUARY 2013 GROUNDWATER CONTOURS? PREPARED BY ACRCADIS.
2. THIS DRAWING IS REFERENCED HORIZONTALLY TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND PROJECTED ON THE NEW YORK STATE PLAN COORDINATE SYSTEM (CENTRAL ZONE).
3. THE REFERENCED HORIZONTAL CONTROL STATION IS A GPS CONTINUOUSLY OPERATING REFERENCE STATION (CORS) DESIGNATED AS "ROME CORS ARP" (NYRM). NYRM IS A SPECIAL HORIZONTAL AND VERTICAL CONTROL STATION ESTABLISHED BY NATIONAL GEODETIC SURVEY IN JULY 1997.
4. IN THE FALL OF 2019, THE FORMER NORTHERN PERIMETER DITCH (FNPD) EXCAVATION ACTIVITIES WERE COMPLETED. FOLLOWING COMPLETION OF THE EXCAVATION ACTIVITIES, MONITORING WELLS MW-17 AND MW-18, AND PIEZOMETERS A2-PZ-1, A2-PZ-2, A2-PZ-3, AND A2-PZ-4 WERE RE-INSTALLED.

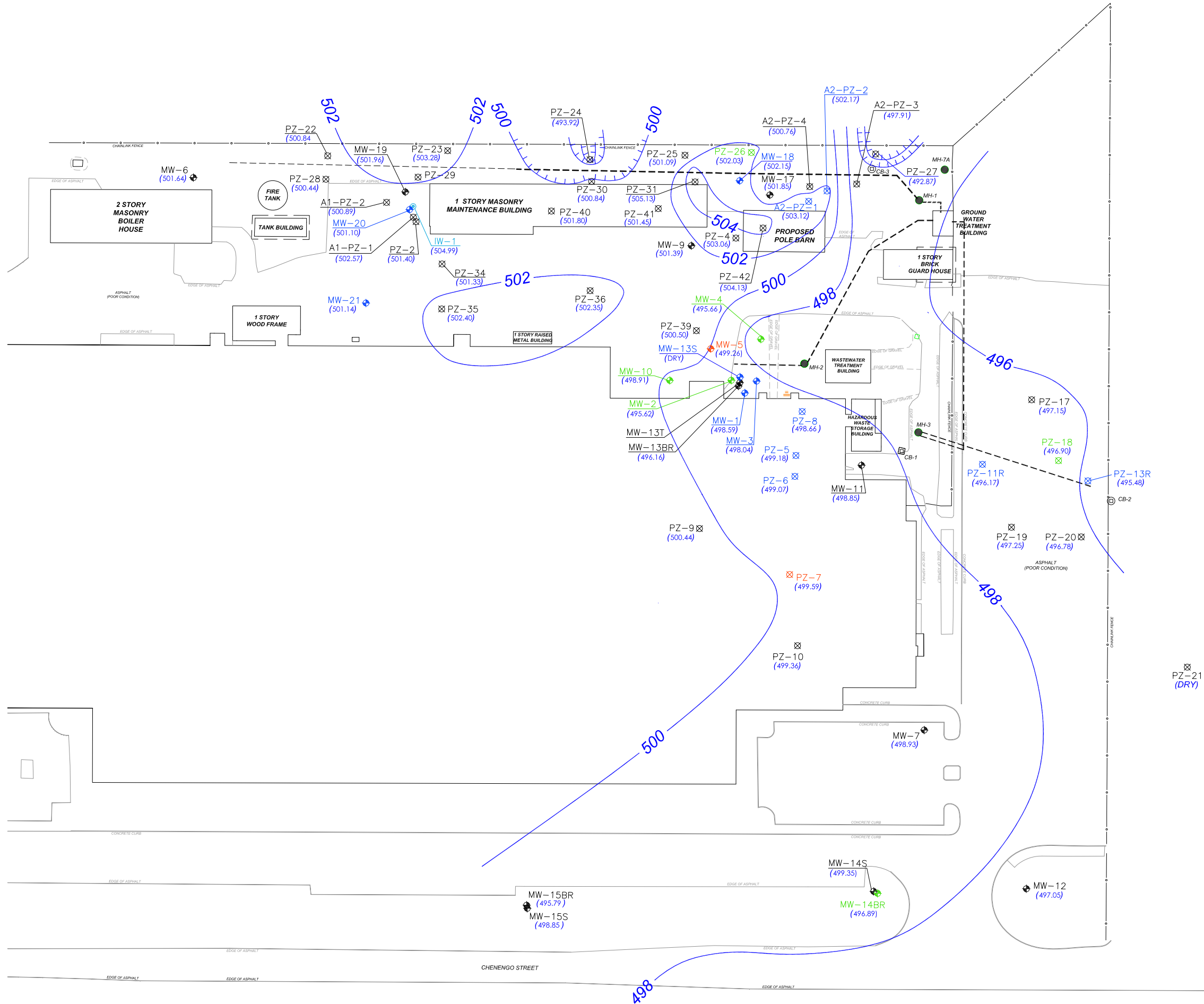


2020 ANNUAL SITE MANAGEMENT REPORT
APPENDIX D: Groundwater Monitoring Report
FORMER LOCKHEED MARTIN, FRENCH ROAD FACILITY

ANNUAL 2020 GROUNDWATER MONITORING



CHECKED	MRN	FIGURE: D-1
DRAFTED	CMP	
PROJECT	117-0507677	
DATE	09/29/20	



LEGEND:

- IW-1 ● INJECTION WELL LOCATION
- MW-10 ● MONITORING WELL LOCATION
- PZ-9 ⊗ PIEZOMETER LOCATION
- QUARTERLY SAMPLING LOCATION
- SEMI-ANNUAL SAMPLING LOCATION
- ANNUAL SAMPLING LOCATION
- (496.88) QUARTERLY GROUNDWATER ELEVATION POINT (AMSL)
- GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER COLLECTION TRENCH AND PIPING
- FENCE LINE
- MH-2 ● GROUNDWATER COLLECTION MANHOLE LOCATION
- CB-2 ⊗ CATCH BASIN WITH INLET GRATE LOCATION

NOTES:

1. BASE PLAN ADAPTED FROM DRAWING ENTITLED "2013 ANNUAL GROUNDWATER MONITORING REPORT, JANUARY 2013 GROUNDWATER CONTOURS" PREPARED BY ACRCADIS.
2. THIS DRAWING IS REFERENCED HORIZONTALLY TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND PROJECTED ON THE NEW YORK STATE PLAN COORDINATE SYSTEM (CENTRAL ZONE).
3. THE REFERENCED HORIZONTAL CONTROL STATION IS A GPS CONTINUOUSLY OPERATING REFERENCE STATION (CORS) DESIGNATED AS "ROME CORS ARP" (NYRM). NYRM IS A SPECIAL HORIZONTAL AND VERTICAL CONTROL STATION ESTABLISHED BY NATIONAL GEODETIC SURVEY IN JULY 1997.
4. CONTOURS DEVELOPED USING WATER LEVEL DATA FROM JULY 8-9, 2020.
5. MW-13S AND PZ-21 WERE GAUGED BUT WERE DRY.
6. IN THE FALL OF 2019, THE FORMER NORTHERN PERIMETER DITCH (FNPD) EXCAVATION ACTIVITIES WERE COMPLETED. FOLLOWING COMPLETION OF THE EXCAVATION ACTIVITIES, MONITORING WELLS MW-17 AND MW-18, AND PIEZOMETERS A2-PZ-1, A2-PZ-2, A2-PZ-3, AND A2-PZ-4 WERE RE-INSTALLED.

2020 ANNUAL SITE MANAGEMENT REPORT
APPENDIX D: Groundwater Monitoring Report
FORMER LOCKHEED MARTIN, FRENCH ROAD FACILITY
UTICA, NEW YORK

GROUNDWATER CONTOURS
JULY 2020



TETRA TECH

CHECKED	MRN	FIGURE: D-2A
DRAFTED	CMP	
PROJECT	117-0507677	
DATE	10/27/20	

MW-20	
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
cis-1,2-Dichloroethene	2.7
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	19.2 J
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	2.4
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

MW-21	
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
cis-1,2-Dichloroethene	1.0 U
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	2.5 J
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	2.4
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

MW-10	
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
cis-1,2-Dichloroethene	45.2
trans-1,2-Dichloroethene	4.1
Vinyl chloride	22.6
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	2.4
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 UJ
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

Compound	NYSDEC TOGS Guidance Value
Tetrachloroethene	5
Trichloroethene	5
cis-1,2 Dichloroethene	5
trans-1,2-Dichloroethene	5
Vinyl Chloride	2
1,1,1-Trichloroethane	5
1,1-Dichloroethane	5
1,2-Dichloroethane	0.6
1,1-Dichloroethane	5
1,1,2-Trichloroethane	1
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	5
Dichloro-difluoromethane (Freon 12)	5
Ethylbenzene	5
Toluene	5
Xylenes, total	5
Acetone	50
Methylene Chloride	5

MW-18	
Tetrachloroethene	106
Trichloroethene	93.0
cis-1,2-Dichloroethene	336
trans-1,2-Dichloroethene	1.6
Vinyl chloride	1.7
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	41.3
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	7.3
Dichlorodifluoromethane (Freon 12)	1.0 UJ
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

A2-PZ-1	
Tetrachloroethene	1.9
Trichloroethene	5.2
cis-1,2-Dichloroethene	42.6
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	5.7
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	5.3
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	12.7
Dichlorodifluoromethane (Freon 12)	1.0 UJ
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

A2-PZ-2	
Tetrachloroethene	23.3
Trichloroethene	23.7
cis-1,2-Dichloroethene	38.6
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	2.7
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

MW-4	
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
cis-1,2-Dichloroethene	3.4
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	2.4
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

MW-3	
Tetrachloroethene	1.4
Trichloroethene	4.3
cis-1,2-Dichloroethene	18.7
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	3.7
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	3.2
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

PZ-13R	
Tetrachloroethene	1.0 U
Trichloroethene	3.3
cis-1,2-Dichloroethene	1.8
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	1.0 U
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 UJ
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

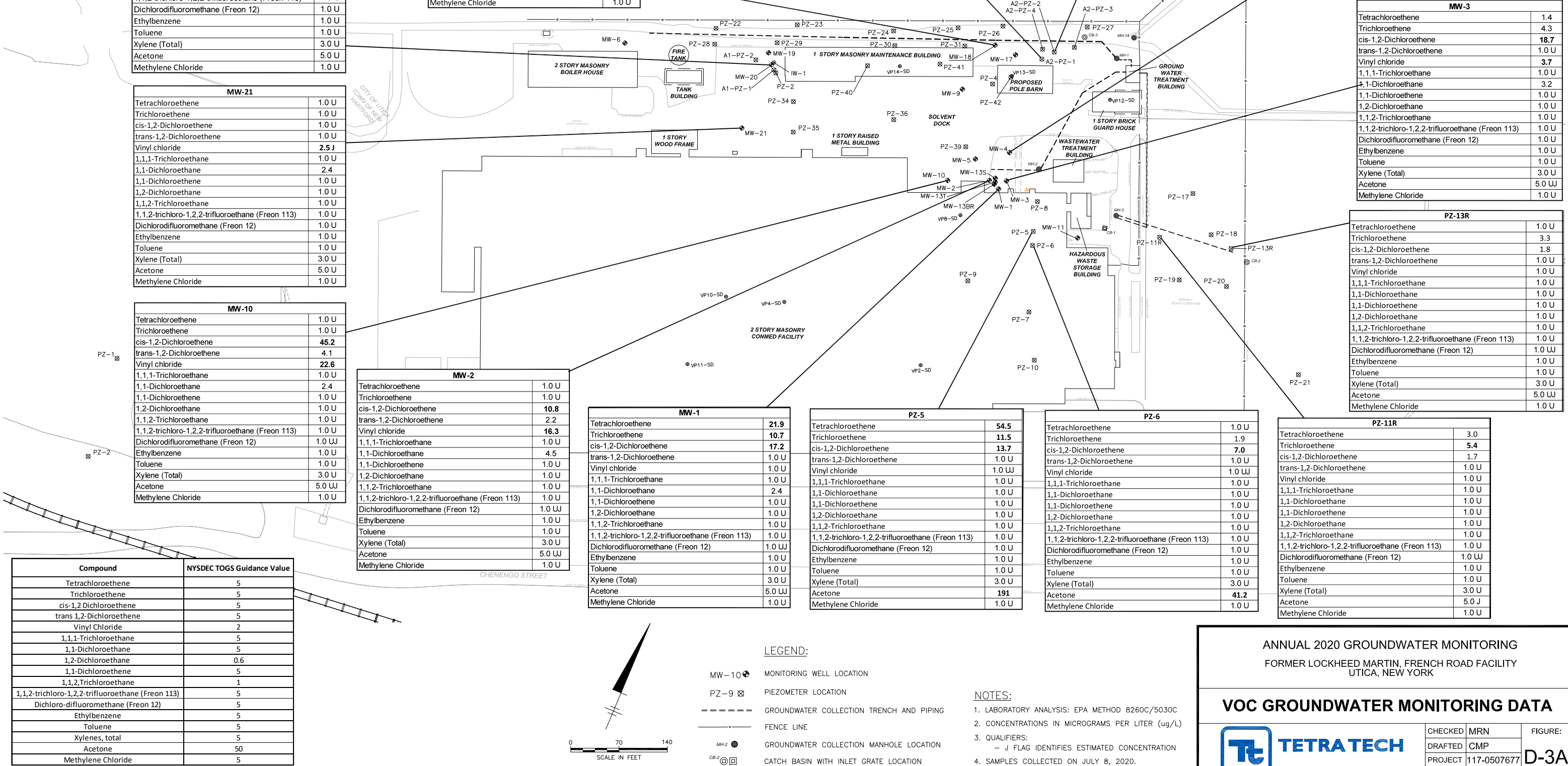
PZ-11R	
Tetrachloroethene	3.0
Trichloroethene	5.4
cis-1,2-Dichloroethene	1.7
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	1.0 U
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 UJ
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 J
Methylene Chloride	1.0 U

PZ-6	
Tetrachloroethene	1.0 U
Trichloroethene	1.9
cis-1,2-Dichloroethene	7.0
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	1.0 UJ
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	41.2
Methylene Chloride	1.0 U

PZ-5	
Tetrachloroethene	54.5
Trichloroethene	11.5
cis-1,2-Dichloroethene	13.7
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	1.0 UJ
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	191
Methylene Chloride	1.0 U

MW-1	
Tetrachloroethene	21.9
Trichloroethene	10.7
cis-1,2-Dichloroethene	17.2
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	1.0 U
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	2.4
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 UJ
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

MW-2	
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
cis-1,2-Dichloroethene	10.8
trans-1,2-Dichloroethene	2.2
Vinyl chloride	16.3
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	4.5
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 UJ
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U



LEGEND:

- MW-10 MONITORING WELL LOCATION
- PZ-9 PIEZOMETER LOCATION
- GROUNDWATER COLLECTION TRENCH AND PIPING
- FENCE LINE
- MH-2 GROUNDWATER COLLECTION MANHOLE LOCATION
- CB-2 CATCH BASIN WITH INLET GRATE LOCATION

NOTES:

- LABORATORY ANALYSIS: EPA METHOD 8260C/5030C
- CONCENTRATIONS IN MICROGRAMS PER LITER (ug/L)
- QUALIFIERS:
 - J FLAG IDENTIFIES ESTIMATED CONCENTRATION
- SAMPLES COLLECTED ON JULY 8, 2020.

ANNUAL 2020 GROUNDWATER MONITORING
FORMER LOCKHEED MARTIN, FRENCH ROAD FACILITY
UTICA, NEW YORK

VOC GROUNDWATER MONITORING DATA

	CHECKED	MRN	FIGURE: D-3A
	DRAFTED	CMP	
	PROJECT	117-0507677	
	DATE	10/15/20	

TABLES

Table 4-1
Groundwater Elevation Measurements
Groundwater Summary Report
Former Lockheed Martin French Road Facility
Ulrica, New York

	Well ID	Top of Casing Elevation (ft)	Ground Water Elevation (ft)											
			Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	507.27	500.45	500.85	499.41	498.93	499.32	499.52	499.06	498.32	499.50	499.22	498.67	498.59
	MW-3	509.45	499.57	499.85	498.87	498.55	498.78	498.88	497.56	497.91	498.79	498.60	498.17	498.04
	MW-18**	505.16	502.29	502.12	501.89	501.88	502.19	502.00	501.62	501.43	502.22	—	—	502.15
	MW-20	503.40	501.86	502.01	501.28	501.00	501.35	501.40	501.06	500.49	501.27	501.46	500.98	501.10
	PZ-5*	508.20	498.70	498.46	498.73	498.98	499.98	499.31	498.60	498.89	499.27	499.08	498.55	499.18
	PZ-6*	508.28	499.12	499.01	499.13	499.07	499.99	499.11	499.03	499.05	499.06	499.13	498.18	499.07
	PZ-8	508.23	499.60	499.68	499.10	498.86	499.21	498.81	498.70	498.53	498.92	498.42	498.58	498.66
	PZ-11R	504.88	496.83	496.90	496.39	496.32	496.50	496.52	496.24	496.13	496.62	496.17	496.18	496.17
	PZ-13R	503.98	495.98	495.96	495.81	495.83	495.89	496.00	495.85	495.82	495.98	495.88	495.82	495.48
	A1-PZ-2	503.00	—	501.73	501.40	500.77	501.15	501.56	500.89	500.62	501.33	501.49	501.32	500.89
	A2-PZ-1**	504.37	—	505.83	504.88	504.40	504.87	505.06	504.78	504.70	505.50	—	—	503.12
	A2-PZ-2**	504.79	503.59	503.45	503.39	503.32	503.28	503.09	503.16	503.03	503.73	—	—	502.17
Objective 2	MW-5	504.33	500.78	501.77	500.02	499.49	500.03	500.44	499.46	500.10	500.38	499.97	499.22	499.26
	MW-13S	505.81	500.21	500.68	499.37	498.93	499.30	499.52	499.06	DRY	497.92	499.24	DRY	DRY
	MW-14BR	507.95	447.55	453.44	459.39	464.31	447.89	452.18	458.24	462.85	494.10	495.75	497.30	496.89
	MW-21	503.66	501.41	501.73	501.48	501.09	499.64	500.74	501.15	500.96	501.11	501.62	500.91	501.14
	PZ-18	504.85	497.27	497.22	496.99	496.94	497.15	497.16	496.94	496.86	497.17	496.99	496.95	496.90
	PZ-26	510.95	502.23	502.14	501.98	501.68	501.93	501.70	501.66	501.46	502.23	504.79	501.87	502.03
Objective 3	MW-2	504.60	500.43	501.05	499.50	498.95	499.39	499.67	499.15	498.38	499.58	499.36	498.73	495.62
	MW-4	504.73	497.11	497.02	495.91	495.28	496.08	496.58	495.61	495.13	497.18	496.56	495.82	495.66
	PZ-7*	508.26	499.44	499.49	499.50	499.48	499.57	499.38	499.38	499.45	502.45	499.47	499.45	499.32
	MW-10	504.48	501.33	501.86	499.98	499.34	500.02	500.25	499.56	498.71	500.08	499.72	499.08	498.91
Others	IW-1	506.80	505.25	505.73	504.96	505.03	505.19	505.41	504.86	504.48	—	504.75	504.99	504.99
	MW-6	508.06	502.27	502.22	502.00	501.62	502.00	502.06	501.77	501.24	502.00	502.09	501.86	501.64
	MW-7	506.94	—	498.80	498.96	499.08	498.49	498.41	498.86	498.94	498.56	499.08	498.97	498.93
	MW-9	504.84	501.73	502.09	501.21	500.93	502.04	502.15	501.40	500.59	502.19	501.61	501.34	501.39
	MW-11	507.03	499.31	498.70	499.06	499.09	499.18	498.61	498.91	499.03	498.79	498.96	499.18	498.95
	MW-12	508.30	496.67	497.92	496.64	496.27	496.83	496.92	496.23	495.97	497.51	496.76	496.77	497.05
	MW-13BR	506.12	495.73	495.28	494.69	495.52	495.20	496.17	495.40	496.17	496.78	490.52	496.49	496.16
	MW-14S	507.85	498.05	500.13	499.04	498.12	499.32	499.47	498.08	497.27	499.99	493.27	499.19	499.35
	MW-15S	507.26	—	499.35	498.99	498.92	499.30	499.08	498.78	498.74	499.20	498.91	498.96	498.85
	MW-15BR	507.24	—	488.47	488.88	489.39	489.84	490.23	490.65	490.97	491.37	493.33	494.97	495.79
	MW-17**	504.73	500.95	501.49	500.71	500.95	501.49	501.73	500.95	500.68	501.41	—	—	501.85
	MW-19*	503.07	502.58	502.17	502.32	501.83	501.84	501.80	501.94	501.89	501.59	502.13	502.21	501.96
	PZ-2*	503.76	501.85	502.14	501.46	501.14	501.36	501.79	501.40	500.87	501.69	501.62	501.24	501.40
	PZ-4	506.13	504.13	504.16	503.74	503.63	503.78	503.76	503.38	502.97	503.22	503.48	503.31	503.06
	PZ-9	508.08	500.07	499.99	500.22	500.16	500.11	500.07	500.19	500.17	500.11	500.14	500.46	500.44
	PZ-10	508.14	499.44	499.50	499.30	499.28	499.46	499.11	499.23	499.23	499.34	499.30	499.41	499.36
	PZ-17	504.05	497.85	497.66	497.06	497.03	497.34	497.09	496.61	496.66	497.38	496.43	496.88	497.15
	PZ-19	504.60	—	498.06	497.33	497.40	497.55	497.49	497.22	497.13	497.35	497.18	497.15	497.25
	PZ-20	503.85	—	497.66	497.01	497.02	497.20	497.28	496.92	496.72	497.11	497.03	496.78	496.78
	PZ-21	505.70	DRY	496.77	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	PZ-22	508.57	502.02	501.86	501.18	499.80	501.58	501.34	500.34	499.39	501.52	500.50	500.79	500.84
	PZ-23	510.07	503.96	503.91	503.59	503.31	503.62	503.05	503.18	503.05	503.81	503.58	503.45	503.28
	PZ-24	504.77	494.49	494.52	494.12	493.79	494.19	494.18	493.83	493.77	494.15	493.93	493.84	493.92
	PZ-25	510.62	504.56	504.58	504.23	503.86	504.21	503.86	503.83	503.57	504.43	503.98	504.17	501.09
	PZ-27	504.12	—	495.36	493.70	492.70	494.09	493.64	492.74	492.57	493.80	493.07	493.24	492.87
	PZ-28	504.12	500.85	500.74	500.42	500.30	500.58	500.77	497.02	500.05	500.70	500.59	500.35	500.44
	PZ-29	503.84	—	501.80	501.67	501.61	501.64	501.79	501.68	501.19	501.72	501.74	501.42	—
	PZ-30	504.72	501.44	501.45	501.24	500.92	501.17	501.18	500.86	500.77	501.30	501.04	500.90	500.84
	PZ-31	506.17	505.86	505.87	505.06	505.67	505.77	505.87	505.11	505.47	505.62	505.82	505.63	505.13
	PZ-34	503.88	502.00	502.09	501.59	501.19	501.36	501.78	501.06	500.77	501.61	501.82	501.33	501.33
	PZ-35	503.98	502.32	503.30	502.27	501.86	501.74	502.81	501.86	501.54	502.21	502.50	502.17	502.40
	PZ-36	504.23	—	503.36	502.90	502.51	502.93	503.47	502.79	502.24	503.17	502.70	502.31	502.35
	PZ-39	504.51	502.49	503.15	501.54	500.93	501.26	501.87	500.92	500.30	501.52	501.05	500.51	500.50
	PZ-40	506.68	502.51	502.54	502.09	501.83	501.98	502.23	501.87	501.41	502.14	502.19	501.79	501.80
	PZ-41	506.27	501.97	502.51	502.01	501.58	501.84	501.95	501.63	501.25	501.93	501.77	500.53	501.45
	PZ-42	505.18	504.63	504.49	504.53	504.63	504.53	504.73	504.53	504.49	504.68	504.80	504.58	504.13
	A1-PZ-1	503.77	—	502.70	502.62	502.12	501.82	502.75	502.47	502.15	501.72	502.43	502.34	502.57
	A2-PZ-3**	504.83	508.23	508.05	506.98	506.15	507.64	507.53	505.82	505.36	507.40	—	—	497.91
	A2-PZ-4**	504.60	—	509.20	507.81	507.97	508.12	508.95	507.27	507.62	508.07	—	—	500.76

Notes:

1. "—" - Not measured due to access or well was decommissioned.
2. DRY - No measurable water
3. All measurements presented above are given in feet Above Mean Sea Level (AMSL), as measured from the July 1997 National Geodetic Survey datum.
4. PZ-11R, MW-2 and MW-19 measurements were unable to be collected on 10/1/2013. The values presented above were calculated from the initial water level collected during the sampling event between 10/2 and 10/4/2013.
5. The Oct. 2014 MW-14BR groundwater elevation was recorded immediately prior to sampling and not during the earlier gauging event, due to instrument malfunction.
6. PZ-11R was inaccessible on 7/11/16 during gauging (car parked on top of piezometer); the water level was measured the next day on 7/12/16 at 7:40 AM.
7. * Indicates a monitoring well or piezometer with an adjusted TOC elevation following the cutting of casing (MW-19, PZ-5, PZ-6, and PZ-7) or the replacement of PVC top (PZ-2) for improved well cover fitting. Repairs were performed on May 27, 2015 (MW-19), June 17, 2015 (PZ-2), and July 11, 2016 (PZ-5, PZ-6, and PZ-7). The casings were re-surveyed on January 21, 2016 (MW-19 and PZ-2) or re-measured on July 11, 2016 (PZ-5, PZ-6, PZ-7). Note that groundwater elevations calculated prior to the July 2015 monitoring event are based on the previous [surveyed] TOC elevations for MW-19 and PZ-2; the groundwater elevations calculated prior to the October 2016 monitoring event are based on the previous [surveyed] TOC elevations for PZ-5, PZ-6, and PZ-7.
8. In October 2017, monitoring wells MW-17 and MW-18 and piezometers A2-PZ-1, A2-PZ-2, A2-PZ-3, A2-PZ-4, A2-PZ-5, A2-PZ-6, A2-PZ-7, A2-PZ-8, PZ-32, and PZ-33 were decommissioned in preparation for the former northern perimeter ditch (FNPD) excavation.
9. ** Indicates a monitoring well or piezometer that was replaced following the FNPD excavation activities.

Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Tetrachloroethene																									
NYSDEC TOGS Guidance Value:		5																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	77 [81]	78	50	36	99	110D [120D]	70 [78]	69	93	43 [44]	19	69 [66]	58 [57]	48 [48]	37 [39]	76	79	48 [52]	29	32	29 [33]	50.2	22.6 J	37	21.9	
	MW-3	9.2	22	8.2	12[12]	8.4	16	12	21 [22]	9.6 [9.5]	4.3	7.9 [8.1]	16	4.2	7.0	25	16 [16]	12	24	19 [17]	12	3.3	2.7	2.5	6.4	1.4	
	MW-18	--	--	64 D	57	11	130 D	95	29	16 J	37	180	20	14	56	75	40 U	18 J	290	480	120	85	181	--	--	106	
	MW-20	--	--	7.2U	5.0 U	1.0 U	1.0 U	0.36 U	0.36 U	1.0 UJ	0.72 U	2.0 U	0.72 U	0.36 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0U	1.0 U	
	PZ-5	59	170	290	NS	7.2	55	5.5	130	190	150	NS	340	260	160	300	240	160	160	170	110	11	166	67.4	195	54.5	
	PZ-6	72	--	49	--	7.2	--	8.9	--	100 D	--	19	--	81	81	85	4.0	14	50	33	--	7.0	1.8	1.0 U	1.0 U	1.0 U	
	PZ-8	350 D	470	NS	NS	380	450 D	350	280	NS	NS	270	280	NS	55	190	210	NS	160	160	NS	NS	133	NS	NS	NS	
	PZ-11R	5.5	2.2	2.7	5.2	2.8	1.9	1.8	4.4	1.4	1.3	0.99 J	1.9	2.4	1.8	1.4	2.9	3.4	2.4	1.9	4.6	4.2	2.2	--	4.8	3.0	
	PZ-13R	1.7	0.98 J	0.75 J	1.1	0.59 J	1.0 U	0.57	0.92	0.59 J	0.49	1.0 U	0.67	0.89	0.66	1.0 U	0.83 J	1.1	0.88 J	0.59 J	1.2	1.3	1.0 U	1.0 U	1.1	1.0 U	
	A2-PZ-1	5	250 U	250 U [5.3]	250 U	250 U	1.0 U	90 U	90 U	250 U	90 U	250 U	90 U	180 U	3.2	1.7	4.4	1.8	100 U	200 U	3.2	2.2	3.8	--	--	1.9	
	A2-PZ-2	--	--	2300 D	810	730	1700 D	440 D	800	520	310	220	410	120	690	720	650 T	340	910	720	1100	400	936	--	--	23.3	
Objective 2	MW-5	1.0 U	--	1.0 U	--	0.55 J	--	0.36 U	--	1.0 UJ	--	1.0 U	--	0.36 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	0.36 U	0.36 U	NS	NS	1.0 U	0.36 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--	
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--		1.0 U	--	--	--	0.36 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	0.36 U	1.0 U	0.36 U	1.0 U	0.36 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	
	PZ-18	1.0 U	--	--	--	0.41 J	--	--	--	1.0 U	--	--	--	0.36 U	--	--	--	0.36 J	--	--	--	--	--	--	--	--	
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.36 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.36 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.36 U [3.6 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	0.36 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	1.0 U	1.0 U	1.0U	1.0 U	
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	0.36 U	--	1.0 U	--	1.0 U	--	0.36 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	

See last page for notes.



Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Trichloroethene																									
NYSDEC TOGS Guidance Value:		5																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	18 [19]	23	18	14	25	20 [20]	14 [14]	16	24	13 [14]	7.2	17 [16]	19 [19]	14 [13]	9.7 [10]	14	15	12 [11]	6.8	13	12 [14]	13.4	6.2	13.7	10.7	
	MW-3	16	24	10	12 [11]	12	13	10	8.9 [9.6]	11 [12]	5.2	3.0 [3.0]	8.3	6.4	6.4	14	9.5 [9.8]	7.2	15	11 [11]	12	6.4	4.2	5.9	6.7	4.3	
	MW-18	--	--	120 D	220	80	420 D	290	170	160	180	340	140	180	290	470	110	120	510	170	160	120	50.6	--	--	93	
	MW-20	--	--	170	2.6 J	1.0 U	1.0 U	0.46 U	0.46 U	1.0 UJ	0.92 U	2.0 U	0.92 U	0.46 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-5	91 D	52	61	NS	3.9 J	47	4.5	97	200	89	NS	53	65	86	60	86	70	41	42	75	19	39	18.5	46.4	11.5	
	PZ-6	20	--	44	--	20	--	21	--	25	--	28	--	42	38	36	5.8	14	11	14	--	19	8.1	4.6	4.3	1.9	
	PZ-8	290 D	410	NS	NS	320	260 D	220	180	NS	NS	210	180	NS	58	230	220	NS	180	120	NS	NS	185	NS	NS	NS	
	PZ-11R	9.0	4.2	4.5	8.7	6	3.9	2.9	5.6	4.7	2.3	1.9	3.8	5.3	3.4	2.0	5.4	5.9	3.3	2.5	5.4	7.2	2.5	--	7.4	5.4	
	PZ-13R	5.5	3.7	3.9	4.3	3.5	3.2 J	2.8	4.1	4.2	2.4	1.0 U	2.3	3.7	2.8	1.7	3.2	4.6	3.1	2.0	4.3	5.1	2.4	1.5	3.6	3.3	
	A2-PZ-1	2100 D	2300	4100 [4800]	2600	1500	1100	2300	2300	1300	1200	1300	5500	2300	880	480	1900	420	520	830	600	530	716	--	--	5.2	
	A2-PZ-2	--	--	740 D	360	330	580 D	390	380	260	160	100	170	85	270	260	240 T	140	360	260	430	230	354	--	--	23.7	
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	0.46 U	--	1.0 UJ	--	1.0 U	--	0.46 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	0.46 U	0.46 U	NS	NS	1.0 U	0.46 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--	
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.46 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.46 U	0.46 U	1.0 U	0.46 U	1.0 U	0.46 U	0.46 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.46 U	--	--	--	0.48 J	--	--	--	--	--	--	--	--	
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.46 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.46 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.46 U [4.6 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	
	MW-10	2.5	--	--	--	1.7	--	--	--	0.72 J [0.79 J]	--	--	--	1.0	--	--	--	0.61 J [0.58 J]	--	--	--	0.87 NJ	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-7	0.58 J	--	1.0 U	--	1.0 U	--	0.46 U	--	1.0 U	--	0.59 J	--	0.46 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	

See last page for notes.

Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		cis-1,2 Dichloroethene																									
NYSDEC TOGS Guidance Value:		5																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	40 [39]	35	34	40	44	20 [20]	19 [20]	11	19 J	17 [18]	6.2	15 [14]	23 [23 J]	11 [11]	8.7 [8.5]	12	9.1	15 [14]	18	24	23 [25]	13.6	11.1	18.4	17.2	
	MW-3	68	40	21	23 [23]	46	26	16	15 [15]	28 [29]	15	3.6 [3.9]	17	27	15	12 F1	14 [14]	16	24	13 [14]	19	22	14	9	14.7	18.7	
	MW-18	--	--	420 D	890	420	1500 D	1700 D	1400	1700	1100	1200	1000	1600	1500	1900	800	630	670	210	500	780	108	--	--	336	
	MW-20	--	--	1400 J	890 D	1.0 U	1.0 U	1.2	0.93	1.0 UJ	1.6 U	2.0 U	2.4	0.81 U	1.0 U	1.2	1.7	5.0 U	5.0 U	5.0 U	0.92 J [1.1]	5.0 U	1.0 U	1.6	1.1	2.7	
	PZ-5	53	41	41	NS	160	88	13	130	64	44	NS	39	46	47	41	43	57	30	24	41	35	25.3	13.4	39.6	13.7	
	PZ-6	20	--	58	--	21	--	19	--	17	--	18	--	20	21	20	5.8	10	9.6	9.5	--	22	20.7	6.6	30.6	7.0	
	PZ-8	77	91	NS	NS	56	52	36	26	NS	NS	34	28	NS	14	42	30	NS	34	20	NS	NS	30.8	NS	NS	NS	
	PZ-11R	5.0	3.3	1.9	2.4	2.8	2.8	2.6	4.3	1.8	1.9	2.3	2.0	1.8	3.3	2.9	2.3	1.7	3.0	1.6	1.8	1.7	1.9	--	2.2	1.7	
	PZ-13R	2.4	1.1	1.2	1.7	1.9		0.81 U	1.3	1.7	0.81 U	1.0 U	1.2	1.7	0.99 J	1.0 U	1.3	2.0	1.3	1.0 U	1.9	2.2	1.0 U	1.0 U	1.2	1.8	
	A2-PZ-1	27000 D	42000 D	24000 [28000 D]	17000	23000	17000	19000	18000	24000	22000	11000	35000	34000	19000	7100 F1	16000	7400	17000	20000	13000	12000 J	19500	--	--	42.6	
	A2-PZ-2	--	--	210 D	130	120	190 D	150	150	95	100	58	100	69	120	120	110	61	150	120	160	82	188	--	--	38.6	
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	0.81 U	--	1.0 UJ	--	1.0 U	--	0.81 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	0.81 U	0.81 U	NS	NS	1.0 U	0.81 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--	
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.81 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.81 U	0.81 U	1.0 U	0.81 U	1.0 U	0.81 U	0.81 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0U]	1.0 U	
	PZ-18	0.85 J	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.81 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.81 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
Objective 3	MW-2	13	--	--	--	14	--	--	--	13	--	--	--	10	--	--	--	7.4	--	--	--	6.4	7.3	6.9	11	10.8	
	MW-4	3.3	--	--	--	4.6	--	--	--	4.4	--	--	--	4.4 [8.1 UJ]	--	--	--	3.9	--	--	--	5.0	1.3 [1.1]	2.5 [2.3]	3.7	3.4 [3.6]	
	MW-10	53	--	--	--	45	--	--	--	35 [34]	--	--	--	33	--	--	--	29 [29]	--	--	--	31	25.6	23.7	44.7	45.2	
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	0.81 U	--	1.0 U	--	1.0 U	--	0.81 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	

See last page for notes.



Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		trans 1,2-Dichloroethene																									
NYSDEC TOGS Guidance Value:		5																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	1.0 U [1.3]	1.0 U	1.0 U	1.4	1.0 U	1.0 U	0.90 U	0.90 U	1.0 U	0.90 U [0.90 U]	1.0 U	0.90 U [0.90 U]	0.90 U [0.90 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.3	1.0 U	
	MW-3	1.0 U	1.1	1.0 U	1.1 [1]	0.91 J	1.0 U	0.90 U	0.90 U [0.90 U]	1.0 U [1.0 U]	0.90 U	1.0 U [1.0 U]	0.90 U	0.91	1.0 U	1.0 UF1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-18	--	--	1.0 U	2.6	5.0 U	4.4	4.5 U	18 U	20 U	9.0 U	20 U	18 U	18 U	4.7	4.9	40 U	20 U	20 U	20 U	20 U	20 U	1.0 U	--	--	1.6	
	MW-20	--	--	18 J	22	7.1	1.0 U	4.3	3.9	3.6 J	3.1	4.6	6.6	3.1	3.5	3.4	3.8	5.0 U	5.0 U	5.0 U	2.4 [2.4]	5.0 U	1.4	1.3	2.1	1.0 U	
	PZ-5	1.0 U	3.6 U	4.0 U	NS	4.0 U	1.2	0.90 U	1.1	2.0 U	1.8 U	NS	1.8 U	4.5 U	1.3	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.3	1.0 U	1.5	1.0 U	2.7	1.0 U	
	PZ-6	1.0 U	--	1.0 U	--	1.0 U	--	0.90 U	--	1.0 U	--	1.0 U	--	0.90 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-8	1.0 U	4.5 U	NS	NS	5.0 U	1	4.5 U	4.5 U	NS	NS	5.0 U	4.5 U	NS	1.0 U	1.2	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.5	NS	NS	NS	
	PZ-11R	1.0 U	0.97	1.0 U	1.0 U	1.0 U	1.0 U	0.9 U	0.90 U	1.0 U	0.90 U	1.0 U	0.90 U	0.90 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.9 U	0.90 U	1.0 U	0.90 U	1.0 U	0.90 U	0.90 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	A2-PZ-1	33	250 U	250 U [11]	250 U	250 U	1.0 U	230 U	230 U	250 U	230 U	250 U	230 U	450 U	19	8.0	14	14	100 U	200 U	16	9.0	69.0	--	--	1.0 U	
	A2-PZ-2	--	--	1.0 U	10 U	10 U	1.0 U	4.5 U	9.0 U	10 U	4.5 U	5.0 U	4.5 U	1.8 U	1.0 U	10 U	1.0 U	5.0 U	5.0 U	20 U	20 U	8.0 U	1.0 U	--	--	1.0 U	
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	0.9 U	--	1.0 UJ	--	1.0 U	--	0.90 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	0.9 U	0.90 U	NS	NS	1.0 U	0.90 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--	
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.90 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.9 U	0.90 U	1.0 U	0.90 U	1.0 U	0.90 U	0.90 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.90 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.90 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
Objective 3	MW-2	2.0	--	--	--	1.7	--	--	--	2	--	--	--	1.7	--	--	--	1.4	--	--	--	1.5	1.6	1.3	2.7	2.2	
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.90 U [9.0 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0]	
	MW-10	3.4	--	--	--	3.2	--	--	--	2.3 [2.4]	--	--	--	2.6	--	--	--	2.0 [2.3]	--	--	--	2.8	2.2	2.2	5.0	4.1	
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	0.9 U	--	1.0 U	--	1.0 U	--	0.90 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	

See last page for notes.



Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Vinyl Chloride																									
NYSDEC TOGS Guidance Value:		2																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	3.1 [3]	1.5	1.7	4.3	3.9	1.0 U	1.0 U [1.0]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	0.91 [1.0 J]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 UJ	1.0 U [1.0 U]	1.6	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.1	1.0 U	
	MW-3	5	3.8	8.4	13 [13]	9.1	4.3	7.8	2.0 [2.0]	5.2 [5.4]	3.8	1.0 U [1.0 U]	5.2	2.6	3.7	1.3	3.4 [3.0]	1.8	1.5	3.3 [2.1]	3.4	2.0	3.0	2.5	3.7 J	3.7	
	MW-18	--	--	5.5	7.6	5.0 U	7.6	7.9	20 U	20 U	10 U	20 U	20 U	20 U	9.0	10	40 U	20 UJ	20 U	20 U	20 U	20 U	1.0 U	--	--	--	
	MW-20	--	--	63	680 D	1.9	1.0 U	0.96 J	1.0 U	1.0 UJ	2.0 U	2.8	3.3	1.0 U	1.0 U	2.5	3.6	5.0 U	5.0 U	5.0 U	1.4 [1.1]	5.0 U	1.1	5.8	11 J	19.2 J	
	PZ-5	1.0 U	4.0 U	4.0 U	NS	27	68	2.8	2.4	5.9	2.0 U	NS	2.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U	1.0 UJ	
	PZ-6	1.0 U	--	4.9	--	2.1	--	0.95 J	--	1.0 U	--	1.0 U	--	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	
	PZ-8	1.0 U	5.0 U	NS	NS	5.0 U	1.0 U	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	1.0 U	1.1	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS	
	PZ-11R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	A2-PZ-1	720 D	1800	940 [1300 D]	830	1300	840	900	1000	1300	900	670	1300	1300	960	460^	850	460 J	690	1400	600	710	1200	--	--	5.7	
	A2-PZ-2	--	--	14	10 U	10 U	7.8	6.7	10 U	10 U	5.0 U	5.0 U	5.0 U	2.3	10 U	10 U	4.4	5.0 UJ	6.4	20 U	20 U	8.0 U	8.6	--	--	2.7	
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	NS	NS	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--		
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--		
	MW-21	--	--	9.3	6.5	13	1.0 U	2.1	5	5.2	3.5	2.6	3.9	2.6	2.4	1.7	2.0	1.4	2.0 U	2.0 U	1.8	3.4	1.9	1.0 U	2.3 J [2.1 J]	2.5 J	
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	--	--	--	--	--	
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	--	--	--	--	--	
Objective 3	MW-2	33	--	--	--	38	--	--	--	25	--	--	--	14	--	--	--	14	--	--	--	12	18.5	10.7	16.5	16.3	
	MW-4	1.4	--	--	--	4.8	--	--	--	4.2	--	--	--	2.3 [10 UJ]	--	--	--	3.6	--	--	--	3.1	1.0 U [1.0 U]	1.1 [2.1]	2.2 J	2.4 [2.5]	
	MW-10	23	--	--	--	38	--	--	--	20 [20]	--	--	--	19	--	--	--	17 [16 J]	--	--	--	23	15.6	7.9	23	22.6	
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	

See last page for notes.



Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		1,1,1-Trichloroethane																									
NYSDEC TOGS Guidance Value:		5																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.82 U [0.82 U]	0.82 U	1.0 U	0.82 U [0.82 U]	1.0 U	0.82 U [0.82 U]	0.82 U [0.82 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 UT	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	0.82 U	0.82 U [0.82 U]	1.0 U [1.0 U]	0.82 U	1.0 U [1.0 U]	0.82 U	0.82 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-18	--	--	1.0 U	1.0 U	5.0 U	1.0 U	4.1 U	16 U	20 U	8.2 U	20 U	16 U	16 U	1.0 U	1.0 U	40 U	20 U	20 U	20 U	20 U	20 U	1.0 U	--	--	1.0 U	
	MW-20	--	--	1.6 U	5.0 U	1.0 U	1.0 U	0.82 U	0.82 U	1.0 UJ	1.6 U	2.0 U	1.6 U	0.82 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-5	1.0 U	3.3 U	4.0 U	NS	4.0 U	1.0 U	0.82 U	0.82 U	2.0 U	1.6 U	NS	1.6 U	4.1 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-6	1.0 U	--	1.0 U	--	1.0 U	--	0.82 U	--	1.0 U	--	1.0 U	--	0.82 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-8	1.0 U	4.1 U	NS	NS	5.0 U	1.0 U	4.1 U	4.1 U	NS	NS	5.0 U	4.1 U	NS	1.0 U	1.0 U	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS	
	PZ-11R	1.0 U	0.82 U	1.0 U	1.0 U	1.0 U	1.0 U	0.82 U	0.82 U	1.0 U	0.82 U	1.0 U	0.82 U	0.82 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.82 U	0.82 U	1.0 U	0.82 U	1.0 U	0.82 U	0.82 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
A2-PZ-1	1.0 U	250 U	250 U [1.0 U]	250 U	250 U	1.0 U	210 U	210 U	250 U	210 U	250 U	210 U	410 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	200 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	
A2-PZ-2	--	--	1.0 U	10 U	10 U	1.0 U	4.1 U	8.2 U	1.0 U	4.1 U	5.0 U	4.1 U	1.6 U	10 U	10 U	1.0 U	5.0 U	5.0 U	20 U	20 U	8.0 U	1.0 U	--	--	1.0 U		
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	0.82 U	--	1.0 UJ	--	1.0 U	--	0.82 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	0.82 U	0.82 U	NS	NS	1.0 U	0.87	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--	
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.82 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.82 U	0.82 U	1.0 U	0.82 U	1.0 U	0.82 U	0.82 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.82 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.82 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.82 U	--	--	--	1.0 U	--	--	--	1.0 U	3.7	1.0 U	1.0 U	1.0 U	
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.82 U [8.2 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	0.82 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	0.82 U	--	1.0 U	--	1.0 U	--	0.82 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	

See last page for notes.

Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		1,1-Dichloroethane																									
NYSDEC TOGS Guidance Value:		5																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	5.8 [5.5]	3.8	4.2	5.9	5.7	2.1 [2.1]	2.4 [2.4]	1.1	2.1	2.1 [2.0]	0.64 J	1.4 [1.4]	2.8 [3.2]	0.99 J [0.94 J]	0.78 J [0.84 J]	1.4	1.3	2.3 [2.3]	2.7	3.0	3.3 [3.5]	1.9	2.2	3.6	2.4	
	MW-3	6.8	4.4	3.6	4.3 [4.1]	5.4	3	2.9	1.8 [2.0]	4.2 [4.4]	2.7	0.45 J [1.0 U]	3.8	4.0	2.6	1.3	2.8 [2.8]	2.8	2.6	1.7 [1.6]	2.8	3.1	2.9	2.3	4.1	3.2	
	MW-18	--	--	20 D	37	18	40	46	42	43	36	36	31	37	37	41	22 J	13 J	17 J	20 U	13 J	18 NJ	3.2	--	--	41.3	
	MW-20	--	--	7.6 U	7.9	0.41 J	1.0 U	0.38 U	0.7	1.0 UJ	0.76 U	2.0 U	1.2	0.65	0.70 J	1.0 U	1.0	5.0 U	5.0 U	5.0 U	0.81 J [0.85 J]	5.0 U	1.0 U	1.0 U	1.0	1.0 U	
	PZ-5	1.0 U	1.5 U	4.0 U	NS	4.0 U	1.0 U	0.38 U	0.38 U	2.0 U	0.76 U	NS	0.76 U	1.9 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-6	1.0 U	--	1.0 U	--	1.0 U	--	0.38 U	--	1.0 U	--	1.0 U	--	0.38 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-8	4.8	5.4	NS	NS	4.2 J	4	3.4	3.4	NS	NS	3.3 J	2.8	NS	1.4	3.7	3.8 J	NS	5.0 U	1.9 J	NS	NS	2.9	NS	NS	NS	
	PZ-11R	1.0 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	0.38 U	0.38 U	1.0 U	0.38 U	1.0 U	0.38 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.38 U	0.38 U	1.0 U	0.38 U	1.0 U	0.38 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	A2-PZ-1	1900 D	2800	1900 [2300 D]	1100	1300	990	1200	1100	1200	1300	790	2200	1600	890	350	860	370	730	990	600	600	984	--	--	5.3	
	A2-PZ-2	--	--	12	10 U	10 U	6	7.2	6.6	3.9 J	3.1	2.3 J	3.8	1.9	5.4 J	4.6 J	5.1	5.0 U	7.4	20 U	8.3 J	3.4 NJ	8.6	--	--	1.0 U	
Objective 2	MW-5	0.69 J	--	1.0 U	--	1.0 U	--	0.38 U	--	1.0 UJ	--	1.0 U	--	0.38 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-13S	2.4	NS	NS	NS	NS	1.1	1.4	2	NS	NS	1.1	2.6	NS	0.89 J	0.96 J	1.3	NS	0.96 J	--	--	--	--	--	--	--	
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.38 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.38 U	0.38 U	1.0 U	0.38 U	1.0 U	0.38 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.38 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.38 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
Objective 3	MW-2	5.9	--	--	--	4.9	--	--	--	4.7	--	--	--	4.3	--	--	--	4.3	--	--	--	3.9	1.0 U	2.9	5.0	4.5	
	MW-4	0.70 J	--	--	--	1.0	--	--	--	0.78 J	--	--	--	0.68 [3.8 U]	--	--	--	0.74 J	--	--	--	0.88 NJ	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	
	MW-10	2.6	--	--	--	3.5	--	--	--	2.9 [3.0]	--	--	--	2.3	--	--	--	2.8 [2.8]	--	--	--	3.0	2.0	1.7	2.3	2.4	
	PZ-7	0.83 J	--	0.69 J	--	0.58 J	--	0.57	--	0.45 J	--	1.0 U	--	0.39	--	0.38 J	--	0.43 J	--	--	--	--	--	--	--	--	

See last page for notes.

Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		1,2-Dichloroethane																									
NYSDEC TOGS Guidance Value:		0.6																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-18	--	--	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	20 U	20 U	10 U	20 U	20 U	20 U	1.0 U	1.0 U	40 U	20 U	20 U	20 U	20 U	20 U	1.0 U	--	--	1.0 U	
	MW-20	--	--	15 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-5	1.0 U	0.76 U	4.0 U	NS	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	NS	2.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-6	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-8	1.0 U	5.0 U	NS	NS	5.0 U	1.0 U	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	1.0 U	1.0 U	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS	
	PZ-11R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	A2-PZ-1	5	250 U	250 U [1.0 U]	250 U	250 U	1.0 U	250 U	250 U	250 U	250 U	250 U	250 U	500 U	1.2	0.39 J	1.2	1.0 U	100 U	200 U	0.95 J	0.96 NJ	1.0 U	--	--	1.0 U	
	A2-PZ-2	--	--	1.0 U	10 U	10 U	1.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	2.0 U	10 U	10 U	1.0 U	5.0 U	5.0 U	20 U	20 U	8.0 U	1.0 U	--	--	1.0 U	
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--		--	--	--	
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	NS	NS	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--	
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [10 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	

See last page for notes.

Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		1,1-Dichloroethene																									
NYSDEC TOGS Guidance Value:		5																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 UT	1.0 U	1.0 U [1.0 U]	0.29 J	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-3	0.57 J	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U	0.32 J	1.0 U	1.0 UF1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-18	--	--	1.0 U	1.3	5.0 U	2.2	3.7 J	20 U	20 U	10 U	20 U	20 U	20 U	2.7	3.6	40 U	20 U	20 U	20 U	20 U	20 UJ	1.0 U	--	--	1.0 U	
	MW-20	--	--	5.8 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-5	1.0 U	2.0 U	4.0 U	NS	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	NS	2.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-6	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-8	1.0 U	5.0 U	NS	NS	5.0 U	1.0 U	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	1.0 U	0.39 J	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS	
	PZ-11R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	--	1.0 U	1.0 U
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
	A2-PZ-1	45	250 U	250 U [23]	250 U	250 U	1.0 U	250 U	250 U	250 U	250 U	250 U	250 U	500 U	24	10	18	10 J	100 U	200 U	15	13 J	33.1	--	--	1.0 U	
	A2-PZ-2	--	--	1.5	10 U	10 U	1.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	2.0 U	10 U	10 U	0.76 J	5.0 U	5.0 U	20 U	20 U	8.0 U	1.5	--	--	1.0 U	
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	NS	NS	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--	
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [10 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	

See last page for notes.

Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		1,1,2,Trichloroethane																									
NYSDEC TOGS Guidance Value:		1																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 UF1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-18	--	--	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	20 U	20 U	10 U	20 U	20 U	20 U	1.0 U	1.0 U	40 U	20 U	20 U	20 U	20 U	20 U	1.0 U	--	--	--	
	MW-20	--	--	4.6 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-5	1.0 U	2.0 U	4.0 U	NS	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	NS	2.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-6	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-8	1.0 U	5.0 U	NS	NS	5.0 U	1.0 U	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	1.0 U	1.0 U	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS	
	PZ-11R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	A2-PZ-1	3	250 U	250 U [1.7]	250 U	250 U	1.0 U	250 U	250 U	250 U	250 U	250 U	250 U	500 U	0.28 J	1.0 U	1.0 U	1.0 U	100 U	200 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U	
	A2-PZ-2	--	--	1.0 U	10 U	10 U	1.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	2.0 U	15	10 U	1.0 U	5.0 U	5.0 U	20 U	20 U	8.0 U	1.0 U	--	--	1.0 U	
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	NS	NS	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--	
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [10 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	

See last page for notes.

Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)																									
NYSDEC TOGS Guidance Value:		5																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 UJ	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 UJ [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-18	--	--	1.2	1.0 U	5.0 U	1.0 U	5.0 U	20 U	20 UJ	10 U	20 U	20 U	20 U	2.4	3.4	40 U	20 U	20 U	20 U	20 U	20 UJ	2.9	--	--	7.3	
	MW-20	--	--	6.2 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-5	1.0 U	2.0 U	4.0 U	NS	4.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	2.0 U	NS	2.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-6	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U		1.0 UJ	--	1.0 U	--	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-8	1.0 U	5.0 U	NS	NS	5.0 U	1.0 U	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	1.0 U	1.0 U	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS	
	PZ-11R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	--	1.0 U	1.0 U	
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	
	A2-PZ-1	1600 EJ	1900	1300 [1100 D]	940	250 U	680	400	850	550 J	660	400	1200	730 J	470	180	520	150	200	260	230 J	180 NJ	241	--	--	12.7	
	A2-PZ-2	--	--	1.0 U	10 U	10 U	1.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	2.0 UJ	10 U	10 U	1.0 U	5.0 U	5.0 U	20 U	20 U	8.0 U	1.0 U	--	--	1.0 U	
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	NS	NS	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--		
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--		
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U [10 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ [1.0 U]	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	

See last page for notes.

Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Dichloro-difluoromethane (Freon 12)																									
NYSDEC TOGS Guidance Value:		5																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U* [1.0 U*]	1.0 UT	1.0 UJ	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 UJ	
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 UJ	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-18	--	--	1.0 U	1.0 U	5.0 UJ	0.96 J	5.0 U	20 U	20 U	10 U	20 U	20 U	20 U	1.0 U	1.0 U*	40 U	20 UJ	20 U	20 U	20 U	20 U	1.0 U	--	--	1.0 UJ	
	MW-20	--	--	14 UJ	5.0 J	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-5	1.0 U	4.0 U	4.0 U	NS	4.0 UJ	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	NS	2.0 U	5.0 U	1.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-6	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	1.0 U	2.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-8	1.0 U	5.0 U	NS	NS	5.0 UJ	1.0 U	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	1.0 U	1.0 U*	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS	
	PZ-11R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 UJ	
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
	A2-PZ-1	960 E	1200	830 [740 D]	250 U	250 UJ	1.0 U	250 U	250 U	560 J	440	240 J	300	500 UJ	1.0 U	160	460	1.0 UJ	100 U	200 UT	1.0 U	320 J	1.0 U	--	--		1.0 UJ
	A2-PZ-2	--	--	1.0 U	10 U	10 UJ	1.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	2.0 UJ	10 U	10 U	1.0 U	5.0 U	5.0 U	20 UT	20 U	8.0 U	1.0 U	--	--		1.0 U
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U*	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	NS	NS	1.0 U	1.0 U	NS	1.0 U	1.0 U*	1.0 U	NS	1.0 U	--	--	--	--	--	--	--	
	MW-14BR	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-21	--	--	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	--	--	--	--	--	
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	--	--	--	--	--	
Objective 3	MW-2	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-4	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U	--	--	--	1.0 U [10 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	
	MW-10	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	--	--	--	1.0 U [1.0 UJ]	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U*	--	1.0 U	--	--	--	--	--	--	--	--	

See last page for notes.

Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Ethylbenzene																									
NYSDEC TOGS Guidance Value:		5																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.74 U [0.74 U]	0.74 U	1.0 U	0.74 U [0.74 U]	1.0 U	0.74 U [0.74 U]	0.74 U [0.74 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	0.74 U	0.74 U [0.74 U]	1.0 U [1.0 U]	0.74 U	1.0 U [1.0 U]	0.74 U	0.74 U	1.0 U	1.0 UF1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-18	--	--	0.91 J	1.4	5.0 U	2.4	3.7 U	15 U	20 U	7.4 U	20 U	15 U	15 U	1.0 U	0.88 J	40 U	20 U	20 U	20 U	20 U	20 U	20 U	1.0 U	--	--	1.0 U
	MW-20	--	--	15 U	5.0 U	1.0 U	1.0 U	0.74 U	0.74 U	1.0 UJ	1.5 U	2.0 U	1.5 U	0.74 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-5	1.0 U	4.0 U	4.0 U	NS	3.8 J	1.7	4.5	4.3	2.0 U	1.5 U	NS	1.5 U	3.7 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-6	1.0 U	--	1.0 U	--	1.0 U	--	0.74 U	--	1.0 U	--	1.0 U	--	0.74 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-8	1.0 U	3.7 U	NS	NS	5.0 U	1.0 U	3.7 U	3.7 U	NS	NS	5.0 U	3.7 U	NS	1.0 U	1.0 U	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS	
	PZ-11R	1.0 U	0.74 U	1.0 U	1.0 U	1.0 U	1.0 U	0.74 U	0.74 U	1.0 U	0.74 U	1.0 U	0.74 U	0.74 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.74 U	0.74 U	1.0 U	0.74 U	1.0 U	0.74 U	0.74 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	A2-PZ-1	1.0 U	250 U	250 U [1.0 U]	250 U	250 U	1.0 U	190 U	190 U	250 U	190 U	250 U	190 U	370 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	200 U	1.0 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U
	A2-PZ-2	--	--	9.0	10 U	10 U	1.0 U	3.7 U	7.4 U	10 U	3.7 U	5.0 U	3.7 U	1.5 U	10 U	10 U	2.0	5.0 U	5.0 U	20 U	20 U	8.0 U	1.8	--	--	1.0 U	
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	0.74 U	--	1.0 UJ	--	1.0 U	--	0.74 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	0.74 U	0.74 U	NS	NS	1.0 U	0.74 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--	
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.74 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.74 U	0.74 U	1.0 U	0.74 U	1.0 U	0.74 U	0.74 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.74 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.74 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.74 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.74 U [7.4 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	0.74 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	0.74 U	--	1.0 U	--	1.0 U	--	0.74 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	

See last page for notes.

Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Toluene																									
NYSDEC TOGS Guidance Value:		5																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.51 U [0.51 U]	0.51 U	1.0 U	0.51 U [0.51 U]	1.0 U	0.51 U [0.51 U]	0.51 U [0.51 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	0.51 U	0.51 U [0.51 U]	1.0 U [1.0 U]	0.51 U	1.0 U [1.0 U]	0.51 U	0.51 U	1.0 U	1.0 UF1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-18	--	--	1.9	1.4	5.0 U	1.7	2.6 U	10 U	20 U	5.1 U	20 U	10 U	10 U	0.94 J	1.1	40 U	20 U	20 U	20 U	20 U	20 U	1.0 U	--	--	1.0 U	
	MW-20	--	--	10 U	5.0 U	1.0 U	1.0 U	0.51 U	0.51 U	1.0 UJ	1.0 U	2.0 U	1.0 U	0.51 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-5	1.0 U	2.0 U	4.0 U	NS	4.0 U	1.0 U	0.51 U	0.51 U	2.0 U	1.0 U	NS	1.0 U	2.6 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-6	1.0 U	--	1.0 U	--	1.0 U	--	0.51 U	--	1.0 U	--	1.0 U	--	0.51 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-8	1.0 U	2.6 U	NS	NS	5.0 U	1.0 U	2.6 U	2.6 U	NS	NS	5.0 U	2.6 U	NS	1.0 U	1.0 U	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS	
	PZ-11R	1.0 U	0.51 U	1.0 U	1.0 U	1.0 U	1.0 U	0.51 U	0.51 U	1.0 U	0.51 U	1.0 U	0.51 U	0.51 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.51 U	0.51 U	1.0 U	0.51 U	1.0 U	0.51 U	0.51 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	A2-PZ-1	5	250 U	250 U [4.6]	250 U	250 U	1.0 U	130 U	130 U	250 U	130 U	250 U	130 U	260 U	3.6	1.7	5.0	1.8	100 U	200 U	3.3	2.7	4.9	--	--	1.0 U	
	A2-PZ-2	--	--	1.0 U	10 U	10 U	1.0 U	2.6 U	5.1 U	10 U	2.6 U	5.0 U	2.6 U	1.0 U	10 U	10 U	1.0 U	5.0 U	5.0 U	20 U	20 U	8.0 U	1.0 U	--	--	1.0 U	
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	0.51 U	--	1.0 UJ	--	1.0 U	--	0.51 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	0.51 U	0.51 U	NS	NS	1.0 U	0.51 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--	
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.51 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.51 U	0.51 U	1.0 U	0.51 U	1.0 U	0.51 U	0.51 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.51 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.51 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.51 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.51 U [5.1 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	0.51 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	0.51 U	--	1.0 U	--	1.0 U	--	0.51 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--	

See last page for notes.

Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Xylenes, total																									
NYSDEC TOGS Guidance Value:		5																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	2.0 U [2.0U]	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	2.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	2.0 U [2.0 U]	2.0 U [2.0 U]	2.0 U	2.0 U	2.0 U [2.0 U]	2.0 U	2.0 U	2.0 U [2.0 U]	1.0 U	3.0 U	3.0 U	3.0 U	
	MW-3	2.0 U	2.0 U	2.0 U	2.0 U [2.0U]	2.0 U	2.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	2.0 U [2.0 U]	1.0 U	1.0 U	2.0 U	2.0 UF1 [2.0 U]	2.0 U [2.0 U]	2.0 U	2.0 U	2.0 U [2.0 U]	2.0 U	2.0 U	1.0 U	3.0 U	3.0 U	3.0 U	
	MW-18	--	--	1.3 J	1.0 J	10 U	2.0 U	5.0 U	20 U	20 U	10 U	40 U	20 U	20 U	2.0 U	2.0 U	80 U	40 U	40 U	40 U	40 U	40 U	1.0 U	--	--	3.0 U	
	MW-20	--	--	13 U	10 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 UJ	2.0 U	4.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	10 U	10 U	10 U	2.0 U [2.0 U]	10 U	1.0 U	3.0 U	3.0 U	3.0 U	
	PZ-5	2.0 U	4.0 U	8.0 U	NS	14	5.7	18	13	2.0 U	2.0 U	NS	2.0 U	5.0 U	2.0 U	10 U	10 U	10 U	10 U	10 U	2.0 U	2.0 U	1.0 U	3.0 U	3.0 U	3.0 U	
	PZ-6	2.0 U	--	1.0 U	--	2.0 U	--	0.74 J	--	1.0 U	--	2.0 U	--	1.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	--	2.0 U	1.0 U	3.0 U	3.0 U	3.0 U
	PZ-8	2.0 U	5.0 U	NS	NS	10 U	2.0 U	5.0 U	5.0 U	NS	NS	10 U	5.0 U	NS	2.0 U	2.0 U	10 U	NS	10 U	10 U	NS	NS	1.0 U	NS	NS	NS	
	PZ-11R	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	--	3.0 U	3.0 U	
	PZ-13R	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	3.0 U	3.0 U	3.0 U	
	A2-PZ-1	2.0 U	500 U	500 U [2.0U]	500 U	500 U	2.0 U	250 U	250 U	250 U	250 U	500 U	250 U	250 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	400 U	2.0 U	2.0 U	1.0 U	--	--	3.0 U
	A2-PZ-2	--	--	2.0 U	20 U	20 U	2.0 U	5.0 U	10 U	10 U	5.0 U	10 U	5.0 U	2.0 U	20 U	20 U	2.0 U	10 U	10 U	40 U	40 U	16 U	1.0 U	--	--	3.0 U	
Objective 2	MW-5	2.0 U	--	1.0 U	--	2.0 U	--	1.0 U	--	1.0 UJ	--	2.0 U	--	1.0 U	--	2.0 U	--	2.0 U	--	--	--	--	--	--	--	--	
	MW-13S	2.0 U	NS	NS	NS	NS	2.0 U	1.0 U	1.0 U	NS	NS	2.0 U	1.0 U	NS	2.0 U	2.0 U	2.0 U	NS	2.0 U	--	--	--	--	--	--	--	
	MW-14BR	2.0 U	--	--	--	2.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	2.0 U	--	--	--	--	--	--	--	--	
	MW-21	--	--	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	4.0 U	2.0 U	2.0 U	1.0 U	3.0 U	3.0 U [3.0 U]	3.0 U	
	PZ-18	2.0 U	--	--	--	2.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	2.0 U	--	--	--	--	--	--	--	--	
	PZ-26	2.0 U	--	--	--	2.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	2.0 U	--	--	--	--	--	--	--	--	
Objective 3	MW-2	2.0 U	--	--	--	2.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	2.0 U	--	--	--	2.0 U	1.0 U	3.0 U	3.0 U	3.0 U	
	MW-4	2.0 U	--	--	--	2.0 U	--	--	--	1.0 U	--	--	--	1.0 U [10 U]	--	--	--	2.0 U	--	--	--	2.0 U	1.0 U [1.0 U]	3.0 U [3.0 U]	3.0 U	3.0 U [3.0 U]	
	MW-10	2.0 U	--	--	--	2.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	--	--	--	2.0 U [2.0 U]	--	--	--	2.0 U	1.0 U	3.0 U	3.0 U	3.0 U	
	PZ-7	2.0 U	--	1.0 U	--	2.0 U	--	1.0 U	--	1.0 U	--	2.0 U	--	1.0 U	--	2.0 U	--	2.0 U	--	--	--	--	--	--	--	--	

See last page for notes.

Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Acetone																									
NYSDEC TOGS Guidance Value:		50																									
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	10 U [10U]	10 U	10 U	8.8 J	10 U	10 U	10 U [10 U]	10 U	10 U	10 U [10 U]	10 U	10 U [10 U]	10 U [10 U]	10 U [10 U]	10 U [10 U]	10 U	10 U	10 U [10 U]	10 U	10 U	10 U [10 U]	5.0 U	5.0 U	5.0 U	5.0 UJ	
	MW-3	10 U	10 U	10 U	1.0 U [1.0 U]	10 U	10 U	10 U [10 U]	10 U [10 U]	10 U	10 U [10 U]	10 U	10 U	10 U	10 U	10 U	10 U [10 U]	10 U	10 U	10 U [10 U]	3.8 J	10 U	5.0 U	5.0 U	5.0 U	5.0 UJ	
	MW-18	--	--	10 U	9.1 J	50 U	10 U	50 U	200 U	200 U	100 U	200 U	200 U	200 U	10 U	10 U	400 U	200 U	200 U	200 U	200 U	200 UJ	5.0 U	--	--	5.0 U	
	MW-20	--	--	200	400	78	10 U	4.5 J	8.7 J	10 UJ	20 U	20 U	20 U	10 U	10 U	10 U	4.7 J	50 U	50 U	50 U	5.2 J [3.1 J]	50 UJ	5.0 U	5.0 U	5.0 U	5.0 U	
	PZ-5	3.1 J	16	40 U	NS	40 U	10 U	6.1 J	3.1 J	20 U	6.6 J	NS	20 U	50 U	10 U	50 U	50 U	50 U	50 U	50 U	10 U	10 U	41	40.5	58	191	
	PZ-6	10 U	--	3.8 J	--	10 U	--	10 U	--	10 U	--	10 U	--	10 U	10 U	20 U	10 U	10 U	5.5 J	3.4 J	--	10 U	15.5	39.1	5.0 U	41.2	
	PZ-8	10 U	50 U	NS	NS	50 U	10 U	50 U	50 U	NS	NS	50 U	50 U	NS	3.0	3.8 J	50 U	NS	50 U	50 U	NS	NS	13.6	NS	NS	NS	
	PZ-11R	10 U	10 U	10 U	9.4 J	10 U	10 U	3.1 J	10 U	17	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	5.0 U	--	5.0 U	5.0J	
	PZ-13R	10 U	10 U	10 U	9.3 J	10 U	10 U	3.2 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	5.0 U	5.0 U	5.0 U	5.0 U	
	A2-PZ-1	9.5 J	2500 U	2500 U [14]	2500 U	2500 U	10 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	5000 U	10 U	10 U	6.9 J	10 U	1000 U	2000 U	3.9 J	10 UJ	5.0 U	--	--	5.0 UJ	
	A2-PZ-2	--	--	10 U	100 U	100 U	10 U	50 U	100 U	100 U	50 U	50 U	50 U	20 U	100 U	100 U	10 U	50 U	50 U	200 U	200 U	80 UJ	5.0 U	--	--	5.0 UJ	
Objective 2	MW-5	10 U	--	10 U	--	10 U	--	6.8 J	--	4.5 J	--	10 U	--	10 U	--	10 U	--	10 U	--	--	--	--		--	--	--	
	MW-13S	10 U	NS	NS	NS	NS	10 U	10 U	10 U	NS	NS	10 U	10 U	NS	10 U	10 U	10 U	NS	10 U	--	--	--		--	--	--	
	MW-14BR	10 U	--	--	--	16	--	--	--	19	--	--	--	18	--	--	--	15	--	--	--	--		--	--	--	
	MW-21	--	--	10 U	8.8 J	10 U	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	24	10 U	10 U	20 U	20 U	10 U	10 UJ	5.0 U	5.0 U	5.0 U [5.3 J]	5.0 U	
	PZ-18	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	--		--	--	--	
	PZ-26	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	--		--	--	--	
Objective 3	MW-2	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U	5.0 U	5.0 U	5.0 U	5.0 UJ	
	MW-4	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U [100 U]	--	--	--	10 U	--	--	--	10 U	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U	5.0 UJ [5.3 J]	
	MW-10	10 U	--	--	--	10 U	--	--	--	10 U [10 U]	--	--	--	10 U	--	--	--	10 U [10 U]	--	--	--	10 UJ	5.0 U	5.0 U	5.0 U	5.0 UJ	
	PZ-7	10 U	--	4.2 J	--	10 U	--	10 U	--	10 U	--	5.5 J	--	10 U	--	7.3 J	--	10 U	--	--	--	--		--	--	--	

See last page for notes.

Table 4-2
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Methylene Chloride																								
NYSDEC TOGS Guidance Value:		5																								
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	10 U [10 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U [10 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-18	--	--	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	20 U	20 U	10 U	20 U	20 U	20 U	1.0 U	1.0 U	20 J	20 U	20 U	20 U	20 U	20 U	1.0 U	--	--	1.0 U
	MW-20	--	--	8.8 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-5	1.0 U	4.0 U	4.0 U	NS	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	NS	2.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-6	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	1.0 U	2.0 U	0.56 J	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-8	1.0 U	5.0 U	NS	NS	5.0 U	1.0 U	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	1.0 U	1.0 U	3.1 J	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS
	PZ-11R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	A2-PZ-1	1.0 U	250 U	250 U [14]	250 U	250 U	110 JB	250 U	250 U	250 U	250 U	250 U	250 U	500 U	1.0 U	0.85 J	1.1	1.0 U	100 U	200 U	0.50 J	1.0 U	1.0 U	--	--	1.0 U
	A2-PZ-2	--	--	1.0 U	10 U	10 U	1.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	2.0 U	10 U	10 U	1.0 U	5.0 U	5.0 U	20 U	20 U	8.0 U	1.0 U	--	--	1.0 U
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	NS	NS	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--
	MW-14BR	0.57 J	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [10 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-7	1.0 U	--	0.55 J	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--

- Notes:
1. B = The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspected.
2. D = Diluted sample result within calibration range
3. E = Analyte exceeded calibration range.
4. F1 or T or * = MS and/or MSD Recovery or LCS or LCSD is outside acceptance limits.
5. ^ = ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
6. J = Indicates an estimated value.
7. NYSDEC TOGS = New York State Department of Environmental Conservation Technical and Operational Guidance Series
8. U = The compound was analyzed for but not detected. The associated value is the compound Reporting Limit.
9. "--" indicates not measured
10. "NS" indicates insufficient groundwater was available for sampling
11. "Green font" indicates sampled as part of the pilot test; the pilot test sampling was performed post-injection on 4/24/12 and 7/12/12.
12. **Bold** indicates concentration above NYSDEC TOGS Value
13. All units in micrograms per liter (µg/l)
14. [] = Field duplicate results
15. Potential exists that an air bubble in the PZ-6 sampling vial (collected July 2015) resulted in underestimated VOC concentrations (see Q3 2015 data summary).
16. NJ = The analysis indicates the presence of a compound that has been "tentatively identified"; the associated numerical value represents its approximate concentration.
17. Per NYSDEC approval, A1-PZ-2 was removed from the sampling program.
18. Wells A2-PZ-1, A2-PZ-2, and MW-18 were replaced following the former northern perimeter ditch excavation activities that were completed in the fall of 2019.



Table 4-3
Groundwater Sampling Field Parameters - September 2011 through July 2020
Groundwater Summary Report
Former Lockheed Martin French Road Facility
Utica, New York

	Well ID	pH (s.u.)																									
Sampling Date		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	6.92	7.52	7.20	7.36	7.03	7.19	6.92	7.08	7.10	7.30	7.37	7.24	7.18	7.35	7.51	7.06	6.96	7.78	7.39	7.55	7.46	5.67	7.82***	7.33	7.38	
	MW-3	6.93	7.57	7.27	7.33	7.15	7.38	6.98	6.95	7.15	7.35	7.14	6.74	7.25	7.34	7.19	7.10	6.92	7.47	7.52	7.48	7.37	5.93	7.70	7.38	7.34	
	MW-18	--	--	7.51	7.41	7.5	7.17	7.53	7.32	7.59	7.57	7.30	7.91	7.62	7.63	7.53	7.41	7.49	7.73	7.54	7.56	7.76	6.98	--	--	7.25	
	MW-20	--	--	--	6.24	6.85	6.78	6.82	6.75	7.3	6.87	6.75	7.1	7.10	6.95	7.03	6.98	6.95	7.11	7.20	7.12	7.04	6.91	7.32	6.94	6.86	
	PZ-5	7.79	8.04	7.79	--	7.59	7.85	8.44	7.5	7.59	7.72	NA	7.64	7.89	7.77	8.03	NA	NA	NA	NA	NA	NA	6.9	8.07	7.83	7.64	
	PZ-6	7.11	--	7.62	--	7.82	--	8.1	--	7.15	--	7.81	--	7.95	7.90	7.82	NA	NA	NA	NA	NA	NA	6.7	8.34	8.08	7.85	
	PZ-8	6.76	7.43	--	--	NA	7.16	NA	7.09	NA	NA	7.30	7.28	NA	NA	7.18	NA	NA	NA	NA	NA	NA	5.51	NA***	7.57	--	
	PZ-11R	7.24	7.56	7.07	6.93	7.07	6.51	7.12	7.54	7.18	7.11	6.78	7.49	7.14	7.03	7.21	6.92	7.18	7.36	7.50	6.77	7.05	6.33	7.52***	7.3	7.29	
	PZ-13R	6.70	7.60	6.85	6.67	6.85	6.79	7.19	6.79	8.18	7.00	6.93	7.89	7.14	7.45	7.08	6.84	6.95	7.46	7.24	7.04	7.14	6.11	7.48	6.25	7.14	
	A2-PZ-1	6.90	7.42	7.12	7.25	6.95	7.07	7.34	7.10	7.09	7.22	6.99	6.73	7.11	7.21	7.16	7.02	6.94	7.47	7.60	7.45	7.17	6.53	--	--	7.78	
A2-PZ-2	--	--	--	--	7.18	6.94	7.24	7.38	7.15	7.14	7.14	7.12	6.53	7.13	7.32	7.19	7.11	7.14	7.47	7.63	7.59	7.49	5.3	--	--	7.56	
Objective 2	MW-5	6.81	--	6.91	--	7.17	--	7.29	--	7.42	--	7.36	--	7.52	--	7.44	--	7.36	--	--	--	--	--	7.59***	--	--	
	MW-13S	6.97	--	--	--	--	6.58	7.31	7.05	NA	NA	7.30	7.26	NA	7.49	7.35	7.52	NA	7.42	--	--	--	--	--	--		
	MW-14BR	9.67	--	--	--	7.64	--	--	--	7.25	--	--	--	7.42	--	--	--	7.65	--	--	--	--	--	--	--	--	
	MW-21	--	--	7.35	7.13	7.23	7.55	7.81	7.38	7.66	7.50	7.48	7.62	7.63	7.72	7.73	7.82	7.50	7.76	8.06	7.65	7.54	7.51	8.14***	7.37	7.49	
	PZ-18	6.78	--	--	--	6.9	--	--	--	6.99	--	--	--	7.23	--	--	--	7.00	--	--	--	--	--	--	--	--	
	PZ-26	7.72	--	--	--	7.66	--	--	--	8.11	--	--	--	8.21	--	--	--	7.79	--	--	--	--	--	--	--	--	
Objective 3	MW-2	7.29	--	--	--	7.3	--	--	--	7.61	--	--	--	7.70	--	--	--	7.41	--	--	--	7.49	7.23	7.7	7.25	7.50	
	MW-4	6.83	--	--	--	7.11	--	--	--	7.26	--	--	--	7.37	--	--	--	7.02	--	--	--	7.36	6.38	7.67	7.29	7.46	
	MW-10	7.30	--	--	--	7.37	--	--	--	7.44	--	--	--	7.46	--	--	--	7.30	--	--	--	7.50	7.84	7.86	7.29	7.26	
	PZ-7	7.18	--	7.21	--	7.13	--	7.27	--	7.07	--	7.00	--	7.69	--	7.47	--	NA	--	--	--	--	--	--	--	--	
Others	MW-19	--	--	--	7.63	--	--	--	--	7.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	PZ-2	--	--	--	7.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.67***	--	--	
	PZ-27	6.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	A1-PZ-1	--	--	--	7.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	A2-PZ-7	6.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	OW-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.34***	--	--	
	MW-23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.65***	--	--	
	MW-F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.85***	--	--	
MW-13BR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.93***	--	--		

See last page for notes.

Table 4-3
Groundwater Sampling Field Parameters - September 2011 through July 2020
Groundwater Summary Report
Former Lockheed Martin French Road Facility
Utica, New York

	Well ID	Specific Conductivity (mS/cm)																									
Sampling Date		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	1.764	1.123	1.816	1.625	1.173	0.658	1.217	0.868	0.983	0.722	0.740	0.780	1.220	0.780	0.750	0.870	0.910	0.81	1.47	1.62	1.23	1.05	1.488***	2.574	1.568	
	MW-3	1.966	1.435	2.514	1.919	1.299	0.829	3.563	1.182	1.455	1.031	0.530	0.007	1.790	1.730	1.600	1.940	1.320	0.94	3.38	2.06	1.13	1.98	3.484	2.635	2.115	
	MW-18	--	--	0.836	0.696	0.759	0.689	0.966	0.929	0.736	0.570	0.810	0.780	0.770	0.655	0.720	0.444	0.490	0.497	0.389	1.08	0.79	0.468	--	--	3.447	
	MW-20	--	--	--	8.13	5.737	5.153	6.672	6.010	5.082	4.258	9.130	9.060	7.740	7.360	9.130	8.420	3.240	7.69	9.05	8.98	8.13	9.16	9.530	9.325	9.530	
	PZ-5	1.372	1.193	1.527	--	1.533	1.364	0.815	1.745	1.832	1.634	NA	1.800	1.740	1.590	1.020	NA	NA	NA	NA	NA	NA	1.528	1.570	1.608	1.521	
	PZ-6	1.666	--	1.445	--	1.774	--	1.573	--	1.727	--	1.720	--	1.800	1.630	0.990	NA	NA	NA	NA	NA	NA	1.785	1.594	--	1.485	
	PZ-8	1.316	1.021	--	--	NA	0.942	NA	1.380	NA	NA	0.900	0.522	NA	NA	0.550	NA	NA	NA	NA	NA	NA	0.881	NA***	--	--	
	PZ-11R	3.222	1.398	4.986	3.639	2.867	2.846	6.129	4.125	3.180	3.200	8.940	4.930	3.620	5.110	8.880	5.630	4.050	4.82	7.94	7.15	4.71	4.457	0.0083***	5.670	5.070	
	PZ-13R	7.593	2.762	5.503	7.164	6.601	4.704	6.226	9.009	6.874	4.840	12.700	9.350	7.320	6.720	14.460	9.540	8.640	8.30	16.01	10.09	9.57	9.06	10.06	9.937	9.530	
	A2-PZ-1	1.271	0.709	1.247	1.221	1.097	0.769	1.186	1.097	0.931	0.638	1.180	1.450	1.380	1.020	1.060	1.120	1.110	1.04	0.97	1.07	0.94	1.18	--	--	0.490	
A2-PZ-2	--	--	--	--	1.738	1.134	0.826	1.015	1.081	1.023	0.699	0.770	1.140	1.200	0.990	1.190	1.230	1.110	1.13	1.21	1.54	1.14	1.05	--	--	0.592	
Objective 2	MW-5	9.422	--	8.55	--	5.004	--	5.690	--	6.862	--	7.060	--	5.890	--	3.510	--	5.060	--	--	--	--	--	0.598***	--	--	
	MW-13S	1.756	--	--	--	--	0.885	1.417	0.878	NA	NA	1.130	1.180	NA	0.920	0.744	0.403	NA	0.85	--	--	--	--	--	--		
	MW-14BR	8.862	--	--	--	11.57	--	--	--	8.825	--	--	--	10.790	--	--	--	8.940	--	--	--	--	--	--	--	--	
	MW-21	--	--	9.773	8.36	12.15	5.203	4.104	4.588	5.891	4.514	8.650	6.450	5.760	4.570	5.310	4.760	5.340	3.01	2.81	2.15	5.63	2.145	0.601***	5.411	6.300	
	PZ-18	6.487	--	--	--	3.062	--	--	--	0.102	--	--	--	3.41	--	--	--	3.770	--	--	--	--	--	--	--	--	
	PZ-26	0.636	--	--	--	0.67	--	--	--	0.599	--	--	--	0.740	--	--	--	0.740	--	--	--	--	--	--	--	--	
Objective 3	MW-2	1.831	--	--	--	2.003	--	--	--	1.715	--	--	--	1.870	--	--	--	2.360	--	--	--	--	2.34	3.391	5.130	6.500	4.300
	MW-4	1.729	--	--	--	2.164	--	--	--	1.544	--	--	--	2.510	--	--	--	2.580	--	--	--	--	2.90	1.705	3.100	1.864	2.475
	MW-10	1.751	--	--	--	2.722	--	--	--	2.634	--	--	--	2.980	--	--	--	2.920	--	--	--	--	2.92	6.91	5.630	8.284	8.390
	PZ-7	1.389	--	1.063	--	1.22	--	1.091	--	1.019	--	1.030	--	0.930	--	0.980	--	NA	--	--	--	--	--	--	--	--	
Others	MW-19	--	--	--	0.984	--	--	--	--	0.732	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	PZ-2	--	--	--	2.806	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0029***	--	--	
	PZ-27	1.082	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	A1-PZ-1	--	--	--	1.362	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	A2-PZ-7	0.978	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	OW-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.896***	--	--
	MW-23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.831***	--	--	
	MW-F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.720***	--	--	
	MW-13BR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.865***	--	--	

See last page for notes.

Table 4-3
Groundwater Sampling Field Parameters - September 2011 through July 2020
Groundwater Summary Report
Former Lockheed Martin French Road Facility
Utica, New York

	Well ID	DO (mg/L)																									
Sampling Date		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	0.24	2.90	1.69	0.52	0.80	3.25	4.30	3.59	1.06	3.91	8.52	2.49	0.27	5.78	6.90	2.02	1.74	8.07	7.58	4.43	6.06	5.17	6.13***	1.38	0.37	
	MW-3	0.71	1.01	1.76	0.46	0.68	1.06	2.71	0.86	0.33	0.39	6.13	1.14	0.14	0.45	3.35	0.53	0.18	3.20	3.57	1.75	5.71	2.04	2.33	1.72	1.78	
	MW-18	--	--	0.82	1.03	0.2	0.16	4.4	0.64	0.33	1.04	0.75	0.21	0.16	2.80	0.33	2.30^	0.75	0.00	0.70	0.53	0.53	5.62	--	--	3.18	
	MW-20	--	--	--	0.55	0.62	4.5	1.28	1.95	0.21	2.1	0.78	0.27	3.62	1.06	0.61	1.99^	0.30	0.42	0.70	0.25	0.93	1.37	0.69	0.58	0.31	
	PZ-5	0.85	2.40	2.59	--	0.68	0.6	2.45	1.14	2.15	2.38	NA	4.8	3.57**	3.24	1.60	NA	NA	1.89	NA	NA	NA	3.35	4.3	1.20	2.64	
	PZ-6	1.70	--	1.55	--	0.89	--	NA	--	2.39	--	0.52	--	2.28**	4.57**	2.51	NA	NA	2.75	NA	--	NA	1.88	4.05	3.24	0.98	
	PZ-8	0.89	1.58	--	--	NA	1.48	NA	4.01	NA	NA	2.61	6.19	NA	NA	3.58	NA	NA	5.25	NA	NA	NA	3.5	NA***	7.35	--	
	PZ-11R	0.60	4.34	7.45	5.19	2.91	3.31	8.82	2.30	3.94	4.31	7.48	6.27	1.92**	3.40**	8.92	0.84**	1.78	4.43***	2.64***	3.88***	3.48***	7.06	5.47***	3.78	2.83	
	PZ-13R	0.04	2.48	3.44	2.09	0.80	2.83	3.52	2.89	2.34	4.58	2.53	3.85	4.40**	5.72**	9.02	1.07**	2.81	4.33***	3.16***	1.37***	3.65***	5.26	3.6	1.27	1.97	
	A2-PZ-1	0.43	1.07	0.86	0.65	0.80	5.4	1.09	0.09	0.49	0.08	0.69	0.02	1.97	0.70	0.10	0.09	0.13	0.47	0.30	0.43	0.86	1.31	--	--	2.30	
A2-PZ-2	--	--	--	1.10	1.40	0.87	2.6	1.07	2.17	1.52	8.14	2.33	2.87**	6.45**	2.28	1.34	1.32	3.47	4.16	1.49	2.45	1.97	--	--	2.21		
Objective 2	MW-5	0.03	--	1.04	--	0.22	--	3.67	--	1.54	--	1.73	--	1.18	--	1.27	--	1.45	--	--	--	--	--	7.83***	--	--	
	MW-13S	1.52	--	--	--	--	2.95	1.97	0.77	NA	NA	5.82	1.21	NA	3.97	2.87	3.47**	NA	7.20***	--	--	--	--	--	--	--	
	MW-14BR	1.90	--	--	--	4.17	--	--	--	1.59	--	--	--	1.93	--	--	--	0.64	--	--	--	--	--	--	--	--	
	MW-21	--	--	0.54	0.33	0.89	0.15	0.57	0.53	0.13	2.7	2.75	0.5	0.37	0.85	0.31	1.23^	0.20	0.21	0.62	0.54	0.22	1.19	3.26***	0.73	1.41	
	PZ-18	0.12	--	--	--	4.34	--	--	--	2.44	--	--	--	1.94**	--	--	--	0.56	--	--	--	--	--	--	--	--	
	PZ-26	0.08	--	--	--	0.2	--	--	--	2.39	--	--	--	0.17	--	--	--	0.20	--	--	--	--	--	--	--	--	
Objective 3	MW-2	0.60	--	--	--	0.2	--	--	--	0.18	--	--	--	0.76	--	--	--	0.67	--	--	--	0.25	0.91	0.23	0.49	0.20	
	MW-4	0.57	--	--	--	0.4	--	--	--	2.19	--	--	--	3.74	--	--	--	1.08	--	--	--	1.54	8.94	2.31	2.27	0.83	
	MW-10	0.09	--	--	--	0.2	--	--	--	0.15	--	--	--	0.08	--	--	--	0.00	--	--	--	0.37	1.65	0.83	0.68	0.46	
	PZ-7	1.81	--	1.6	--	0.75	--	1.46	--	2.17	--	1.91	--	2.71**	--	2.05	--	NA	--	--	--	--	--	--	--	--	
Others	MW-19	--	--	--	0.26	--	--	--	--	0.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	PZ-2	--	--	--	0.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.20***	--	--	
	PZ-27	1.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	A1-PZ-1	--	--	--	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	A2-PZ-7	4.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	OW-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.77***	--	--	
	MW-23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.73***	--	--	
	MW-F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.77***	--	--	
MW-13BR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.60***	--	--	

See last page for notes.

Table 4-3
Groundwater Sampling Field Parameters - September 2011 through July 2020
Groundwater Summary Report
Former Lockheed Martin French Road Facility
Utica, New York

	Well ID	ORP (mV)																									
Sampling Date		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20	
Objective 1	MW-1	121.2	-42.7	46.9	63.1	-203.6	82.0	97.30	69.0	50.7	32.3	202.1	151.7	150.9	111.7	115.0	125.6	171.8	65.2	70.7	212.5	3.0	-33.0	227***	-59	-53	
	MW-3	89.6	-42.9	59.3	62.4	-216.6	119.6	81.20	70.3	62.7	29.2	208.6	127.4	177.1	120.9	84.9	147.5	129.1	105.0	104.0	220.9	80.0	-70.0	237	-56	-54	
	MW-18	--	--	-77.4	92.8	-73.8	-53.8	-35.0	-84.3	-35.2	-94.5	40.2	-74.1	-76.9	-46.6	-30.6	-44.9	-82.6	-79.3	-2.0	90.7	-82	-21	--	--	-47	
	MW-20	--	--	--	-100	-160.6	-67.4	-63.5	-114.3	-94.4	-98.4	-51.1	-92	60.3	-69.3	-88.0	-103.0	-106.0	-61.8	-78.5	-80.2	-57.0	-144.0	259	-33	-25	
	PZ-5	-139.2	-88.3	-84.3	--	-132	121.16	92.40	-75.9	-48.6	-90.0	NA	181.20	53.4	86.0	63.8	NA	NA	127.2	NA	NA	NA	-30	212	-70	-59	
	PZ-6	12.4	--	-74	--	-58.6	--	16.1	--	-40	--	30.3	--	30.2	51.6	71.1	NA	NA	106.5	NA	--	NA	-7	202	-97	-82	
	PZ-8	73.7	-23.4	--	--	NA	115.4	NA	102.0	NA	NA	-19.3	241.7	NA	NA	227.3	NA	NA	136.5	NA	NA	NA	-44	NA***	-80	--	
	PZ-11R	33.0	-70.7	-2.1	104.2	-2.0	146.6	44.50	88.5	62.2	61.4	2.40	125.00	204.1	118.6	85.4	55.5	146.0	126.3***	111.2***	161.3***	92***	-18	245***	-49	-49	
	PZ-13R	-28.2	-28.1	201.3	-35.0	-18.5	3.3	5.30	83.5	-52.9	22.5	-23.40	-110.10	34.4	103.3	39.1	67.8	35.7	133.3***	138.9***	118.3***	78***	-20	245***	-4	-38	
	A2-PZ-1	-48.4	-87.9	-91.4	50.4	-208.2	-39.7	-36.90	-110.3	-111.1	-112.1	-90.60	-99.80	-68.8	-74.7	-49.0	-109.6	-104.6	-43.8	-86.2	203.5	-86.0	2.0	--	--	-66	
	A2-PZ-2	--	--	--	-78.3	-16.8	25.3	96.0	-16.0	-53.6	-1.1	60.9	-41.9	-10.0	21.3	-15.5	-55.4	44.6	1.4	26.6	84.5	-23.7	-10	--	--	-71	
Objective 2	MW-5	-55.1	--	-83.6	--	-97.2	--	20.4	--	-21.8	--	-10.7	--	-63.1	--	-80.1	--	-110.7	--	--	--	--	--	244***	--	--	
	MW-13S	83.2	--	--	--	--	160.7	65.2	153.7	NA	NA	215.8	109.8	NA	175.6	98.5	107.9	NA	133.7***	--	--	--	--	--	--	--	
	MW-14BR	-27.4	--	--	--	-254.5	--	--	--	-141.3	--	--	--	-105.4	--	--	--	-204.5	--	--	--	--	--	--	--	--	
	MW-21	--	--	-98.8	90.4	-112.7	-101.9	-85.6	-110.1	-68.5	-113.6	-77.2	-116.5	-86.7	-86.6	-112.3	-19.6	-131.1	-143.3	-102.6	58.7	-102	-124	213***	-56	-61	
	PZ-18	-17.9	--	--	--	-48.4	--	--	--	-61.1	--	--	--	37.4	--	--	--	-81.6	--	--	--	--	--	--	--	--	
Objective 3	PZ-26	-55.6	--	--	--	-27.8	--	--	--	-40.9	--	--	--	-59.9	--	--	--	-89.0	--	--	--	--	--	--	--	--	
	MW-2	-122.4	--	--	--	-108	--	--	--	-52.9	--	--	--	-66.9	--	--	--	-98.9	--	--	--	-147	-44	236	-54	-60	
	MW-4	68.8	--	--	--	-53	--	--	--	-12.7	--	--	--	41.4	--	--	--	-1.1	--	--	--	-147	-49	239	-56	-57	
	MW-10	-145.3	--	--	--	-254.2	--	--	--	-118.3	--	--	--	-110.4	--	--	--	-134.8	--	--	--	-167	-80	228	-54	-47	
	PZ-7	-20.0	--	-97.8	--	-88	--	-31.0	--	-60.9	--	-41.0	--	67.5	--	98.8	--	NA	--	--	--	--	--	--	--	--	
Others	MW-19	--	--	--	-128.2	--	--	--	--	-35.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	PZ-2	--	--	--	-154.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	238***	--	--	
	PZ-27	-24.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	A1-PZ-1	--	--	--	-153.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	A2-PZ-7	46.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	OW-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	254***	--	--	
	MW-23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	234***	--	--	
	MW-F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	237***	--	--	
MW-13BR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	172***	--	--		

See last page for notes.

Table 4-3
Groundwater Sampling Field Parameters - September 2011 through July 2020

Quarterly Data Summary

Former Lockheed Martin French Road Facility

Utica, New York

Notes:

1. DO = dissolved oxygen
2. mg/L = milligrams per liter
3. mS/cm = milliSiemens per centimeter
4. mV = millivolts
5. ORP = oxidation reduction potential
6. s.u. = standard units
7. * Instrument error
8. NA = not analyzed due to well being dry or insufficient sample volume.
9. -- = Not included in the specified sampling round.
10. Note for ORP analysis: only three wells are purged by the low flow evacuation method and parameters monitored using a flow-through cell: MW-1, MW-3, and MW-10. For the others, groundwater parameters are generally collected by bailer and are evaluated at the surface, which is not a reliable or reproducible method for evaluating ORP results.
11. ** Indicates downhole DO was not collected due to insufficient volume.
12. Field parameters for the following wells were collected prior to purging during the Q4 2014 event due to insufficient volume: PZ-5, PZ-6, PZ-7, PZ-9, and PZ-18.
13. Field parameters for the following wells were collected during purging during the Q4 2014 event due to the well going dry prior to purging three well volumes: PZ-13R, MW-14BR, A2-PZ-2, and A1-PZ-2.
14. Field parameters for the following wells were collected prior to purging due to insufficient volume during the Q1 2015 event: PZ-5, PZ-6, PZ-11R, and PZ-13R.
15. Field parameters for the following wells were collected prior to purging due to insufficient volume during the Q2 2015 event: PZ-5, PZ-6, PZ-7, and PZ-8.
16. Field parameters for the following wells were collected prior to purging due to insufficient volume during the Q3 2015 event: PZ-11R, PZ-13R, and MW-13S.
17. Field parameters for the following wells were collected during purging during the Q4 2015 event due to the well going dry prior to purging three well volumes: PZ-11R, PZ-18, and MW-14BR.
18. ^ Due to downhole DO instrument error, the DO value provided was measured using the YSI during bailer purging.
19. Beginning Q1 (January) 2016, all wells were purged and sampled using a bailer. Downhole DO and ORP were measured at all locations (assuming sufficient water column and unless otherwise noted) except at A1-PZ-2, which is too narrow to accommodate the downhole probes available.
20. *** Indicates downhole field parameters were not collected due to insufficient volume, or due to PFAS sampling.
21. Field parameters for the following wells were collected prior to or during purging due to insufficient volume during the Q1 2016 event: PZ-5, PZ-6, PZ-8, PZ-11R, PZ-13R, and MW-13S.
22. Field parameters for the following wells were collected prior to or during purging due to insufficient volume during the Q2-Q4 2016 events: PZ-11R and PZ-13R.
23. As per NYSDEC approval, A2-PZ-2 was removed from the groundwater sampling program.

Table 4-4
Summary of Mann-Kendall Trend Analysis of Groundwater Analytical Data
Groundwater Summary Report
Former Lockheed Martin French Road Facility
Utica, New York

Monitoring Well Objective	Location ID ^A	Analyte	Cleanup Goal (µg/L)	M-K?	Data Range							Mann-Kendall Analysis ^B		Sudden Increase Evaluation			
					Start Date	End Date	Min ^B (µg/L)	Max ^B (µg/L)	Historic Maximum ^C (µg/L)	Most recent result ^D (µg/L)	Comparison of the most recent data with Historic Maximum ^D	p Value	Data Trend ^D	Mean ^B	Std Dev ^B	Mean ^B +3xSTDV ^B	July 2020 Results
Objective 1	MW-1	cis-1,2-Dichloroethene	5	Y	06/20/96	07/08/20	11.1	25	390	17.2	Less than	0.2740	No Trend	18	4.8	32	No Sudden Increase
	MW-1	Tetrachloroethene	5	Y	06/20/96	07/08/20	21.9	52	11000	21.9	Less than	0.0540	No Trend	36	11	70	No Sudden Increase
	MW-1	Trichloroethene	5	Y	06/20/96	07/08/20	6.2	14	830	10.7	Less than	0.1685	No Trend	11	3.1	21	No Sudden Increase
	MW-3	cis-1,2-Dichloroethene	5	Y	08/22/96	07/08/20	8.5	24	510	18.7	Less than	0.3170	No Trend	17	5.0	32	No Sudden Increase
	MW-3	Tetrachloroethene	5	Y	08/22/96	07/08/20	1.4	24	73	1.4	Less than	0.0116	Decreasing Trend	9	8.6	35	No Sudden Increase
	MW-3	Trichloroethene	5	Y	05/19/98	07/08/20	4.2	15	430	4.3	Less than	0.0890	No Trend	8.2	4.0	20	No Sudden Increase
	MW-3	Vinyl Chloride	2	Y	08/22/96	07/08/20	1.5	3.7	94	3.7	Less than	0.4770	No Trend	2.9	0.8	5.3	No Sudden Increase
	MW-20	Vinyl Chloride	2	Y	04/11/12	07/08/20	1.10	19.2	680	19.2	Less than	0.2740	No Trend	6.5	6.0	24.4	No Sudden Increase
	PZ-5	cis-1,2-Dichloroethene	5	Y	06/20/96	07/08/20	13.4	41	500	13.7	Less than	0.0310	Decreasing Trend	28	11	60	No Sudden Increase
	PZ-5	Tetrachloroethene	5	Y	06/20/96	07/08/20	11	195	350	54.5	Less than	0.4770	No Trend	117	66	316	No Sudden Increase
	PZ-5	Trichloroethene	5	Y	06/20/96	07/08/20	11.5	75	330	11.5	Less than	0.0160	Decreasing Trend	37	20	98	No Sudden Increase
	PZ-6	cis-1,2-Dichloroethene	5	Y	02/09/95	07/08/20	6.6	30.6	97	7.0	Less than	0.1685	No Trend	15	9.3	43	No Sudden Increase
	PZ-6	Tetrachloroethene	5	Y	02/09/95	07/08/20	1.8	50	350	1.0 U	ND	0.0310	Decreasing Trend	23	23	91	No Sudden Increase
	PZ-6	Trichloroethene	5	Y	02/09/95	07/08/20	1.9	19	140	1.9	Less than	0.1685	No Trend	9	6	27	No Sudden Increase
Objective 2	MW-21	Vinyl Chloride	2	Y	04/11/12	07/08/20	1.4	3.4	13	2.5	Less than	0.1685	No Trend	2.1	0.65	4.0	No Sudden Increase
Objective 3	MW-2	1,1-Dichloroethane	5	Y	08/22/96	07/08/20	0.9	5	87	4.5	Less than	0.1135	No Trend	3.9	1.4	8.0	No Sudden Increase
	MW-2	cis-1,2-Dichloroethene	5	Y	08/22/96	07/08/20	6.4	14	390	10.8	Less than	0.0540	No Trend	10	2.9	18	No Sudden Increase
	MW-2	Vinyl Chloride	2	Y	08/22/96	07/08/20	10.7	38	78	16.3	Less than	0.0715	No Trend	19	9	46	No Sudden Increase
	MW-4	cis-1,2-Dichloroethene	5	Y	08/22/96	07/08/20	1.3	5	7.4	2.4	Less than	0.0715	No Trend	3.7	1.2	7.4	No Sudden Increase
	MW-4	Vinyl Chloride	2	Y	08/22/96	07/08/20	0.9	4.8	6.4	3.4	Less than	0.0160	Decreasing Trend	2.9	1.3	6.7	No Sudden Increase
	MW-10	1,1-Dichloroethane	5	Y	06/20/96	07/08/20	1.7	3.5	280	2.4	Less than	0.0310	Decreasing Trend	2.6	0.6	4.4	No Sudden Increase
	MW-10	1,1-Dichloroethene	5	Y	06/20/96	07/08/20	0	0	4	1.0 U	ND	0.5480	No Trend	0.9	1.2E-16	0.9	No Sudden Increase
	MW-10	cis-1,2-Dichloroethene	5	Y	06/20/96	07/08/20	23.7	45	1700	45.2	Less than	0.0540	No Trend	33	8.0	57	No Sudden Increase
	MW-10	Vinyl Chloride	2	Y	06/20/96	07/08/20	7.9	38	320	22.6	Less than	0.1135	No Trend	20	8.6	46	No Sudden Increase

Notes:

^A Locations were excluded if: more than half of the last eight rounds were non-detect or if there were no exceedances in the last eight rounds.

^B Indicates a calculation based on the eight most recent rounds of data.

^C Historical maximum provided is based on all available data (excluding the most recent round).

^D For non-detect results, 90% of the reporting limit (RL) is used for calculations. However, the "greater than" distinction for the Historic Maximum comparison is only applied if the most recent result is above the reporting limit (i.e. a "non-detect" with higher reporting limit will not trigger a "greater than" result as the value is not representative of a detected contaminant concentration). Similarly, a statistically-significant increasing or decreasing trend is only shown if detections (not modified reporting limits) contribute to the trend's statistical significance (i.e. an "increasing trend" is not representative of groundwater conditions if the trend is caused by non-detect results with elevated reporting limits).

Abbreviations:

J Indicates an estimated value.

ND Indicates a non-detect result with an elevated reporting limit for the most recent sampling event that would cause mis-identification of new Historical Maxima and/or statistically-significant trends. See Note^B above.

NJ The analysis indicates the presence of a compound that has been "tentatively identified"; the associated numerical value represents its approximate concentration.

U The compound was analyzed for but not detected. The associated value is the compound Reporting Limit.

Table 4-5
Groundwater Monitoring Data -
Per- and Polyfluoroalkyl Substances (PFAS)
Former Lockheed Martin French Road Facility
Utica, New York

			Per- and polyfluoroalkyl substances (PFAS)																					
Well ID	Date	Initial Depth To Water (feet)	1,4-Dioxane	6:2 FTS	8:2 FTS	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecanesulfonic acid (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoA)	Perfluoroheptanesulfonic Acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane Sulfonamide (FOSA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeA)	Perfluorotridecanoic Acid (PFTriA)	Perfluoroundecanoic acid (PFUnA)
A2-PZ-1	7/8/2020	1.25	1.5	43.4	42.0	18.2 U	18.2 U	1.82 U	27.4	1.82 U	1.82 U	1.82 U	1.82 U	6.19	1.82 U	1.82 U	1.82 U	9.09 U	2.14	9.32	13.5	1.82 U	1.82 U	1.82 U
EQUIPMENT BLANK	7/8/2020	NA	NA	39.7	39.1	18.2 U	18.2 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	9.11 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U
FIELD BLANK	7/8/2020	NA	NA	47.8	42.2	17.9 U	17.9 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U	8.95 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U
TRIP BLANK	7/8/2020	NA	NA	41.6	39.3	18.3 U	18.3 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U	9.14 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U

Notes:

PFAS results are reported in ng/L

1,4 Dioxane result is reported in µg/L

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value

DUP - Duplicate sample

U - Indicates the compound was analyzed for but not detected

NA - Not analyzed

Bold - Concentration detected above reporting limit



DATA USABILITY SUMMARY REPORT

DATA USABILITY SUMMARY REPORT
PROJECT: LOCKHEED MARTIN CORPORATION (LMC) UTICA
NEW YORK
DATE SAMPLES COLLECTED: JULY 8 & 9, 2020

LAB REPORT No. 70137879

1.0 INTRODUCTION

Eighteen aqueous samples including a field duplicate pair, one equipment blank, one field blank, and one trip blank were collected by Tetra Tech, Inc., at the Lockheed Martin Utica site on July 8-9, 2020. The samples were sent to Pace Analytical Services, LLC, in Melville, New York. All analyses were conducted in accordance with USEPA SW846 8260C, 8270C SIM and Method International Organization for Standardization (ISO) 25101 analytical and reporting protocols.

The data package deliverables provided by the laboratory included a Category B deliverable as outlined in the New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocols.

Data validation was performed on the aforementioned samples in accordance with EPA Region II data validation guidelines. Data validation review requirements were applied with specifications of the methods and as outlined in the USEPA Region II Standard Operating Procedures (SOPs) Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 8260B & 8260C (September 2014) and the EPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (November 2018).

The Data Usability Summary Report (DUSR) was prepared after the process of data validation was completed and summarizes the overall data quality and usability in accordance with the NYSDEC Technical Guidance for Site Investigation and Remediation (NYSDEC 2010).

The DUSR review is based on the following parameters:

- * ● Data completeness
- * ● Hold times/Sample Preservation
- * ● GC/MS System Tuning and Performance
- * ● Mass Calibration
- * ● LC/MS/MS System Tuning and Performance
- * ● Mass Spectral Acquisition Rate
- * ● Ion Transition Check
- * ● Instrument Sensitivity Check
- * ● Initial/Continuing calibrations
- * ● Laboratory Preparation/Method and Field Blank Results
- * ● Surrogate Spike Recoveries
- * ● Internal Standard Results
- * ● Injection Internal Standard Recoveries
- * ● Laboratory Control Sample Results
- * ● Matrix Spike/Matrix Spike Duplicate Results
- * ● Field Duplicate Precision
- * ● Laboratory Duplicate Precision
- * ● Compound Identification/Quantitation
- * ● Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter.

This report was prepared to provide a critical review of the laboratory analysis and reported chemical results. Overall, the data quality is acceptable. The results of the Quality Assurance Review are presented in Section 3.0. Summary tables are provided. Attachments 1, 2, and 3 are provided so that the data user can review the qualified analytical results, results reported by the laboratory, and the supporting documentation associated with data findings and data quality.

2.0 SAMPLES INCLUDED IN REVIEW

Lab Report No. 70137879

Sample ID	Lab ID	Date Collected	Test Requested
A2-PZ-1	70137879001	7/8/2020	VOCs, 1,4-Dioxane, PFAS
A2-PZ-2	70137879005	7/8/2020	VOCs
MW-1	70137879008	7/8/2020	VOCs
MW-10	70137879012	7/9/2020	VOCs
MW-18	70137879006	7/8/2020	VOCs
MW-2	70137879007	7/8/2020	VOCs
MW-20	70137879017	7/9/2020	VOCs
MW-21	70137879018	7/9/2020	VOCs
MW-3	70137879009	7/8/2020	VOCs
MW-4-DUP	70137879011	7/8/2020	VOCs
MW-4	70137879010	7/8/2020	VOCs
PZ-11R	70137879015	7/9/2020	VOCs
PZ-13R	70137879016	7/9/2020	VOCs
PZ-5	70137879013	7/9/2020	VOCs
PZ-6	70137879014	7/9/2020	VOCs
TRIP BLANK	70137879004	7/8/2020	VOCs, 1,4-Dioxane, PFAS
EQUIPMENT BLANK	70137879003	7/8/2020	VOCs, 1,4-Dioxane, PFAS
FIELD BLANK	70137879002	7/8/2020	VOCs, 1,4-Dioxane, PFAS

Legend:

VOCs = Volatile Organic Compounds in accordance with SW846 8260C.

1,4-Dioxane = 1,4-Dioxane in accordance with SW846 28260C SIM.

PFAS = Polyfluoroalkyl Substances in accordance with Method ISO 25101.

3.0 RESULTS

3.1 DATA COMPLETENESS

With regard to the data package deliverables, the contents of the data package were complete and contained all necessary summary forms and raw instrument data. The laboratory had the incorrect sample date for several samples in the data package. The correct sample dates are shown in the above table and in the electronic deliverable.

3.2 QUALITY CONTROL PARAMETERS

Hold Times/Sample Preservation: Technical hold times and preservation were assessed by comparing the sample dates and preservation code on the sample COC with that of the analysis dates.

- All project samples were properly preserved and analyzed within the required hold time for all analyses.

GC/MS Performance Check (Tuning) Summary: Gas chromatograph/mass spectrometer (GC/MS) instrument tuning and performance checks are performed to ensure the instrument's ability to provide appropriate mass-resolution, identification and sensitivity.

- The BFB tuning compound mass-ion abundance criteria for the VOC analyses were reported within control limits.

Mass Calibration & LC/MS/MS System Tuning and Performance

- The mass calibration and LC/MS/MS tuning criteria were acceptable.

Mass Spectral Acquisition Rate

- The mass spectral acquisition rate of a minimum of 10 spectra scans across each chromatographic peak was met by the laboratory.

Ion Transition Check

- The correct ion transition ratios were used by the laboratory for each PFAS compound.

Instrument Sensitivity Check (ISC)

- The ISC was analyzed prior to sample analyses and at the proper frequency during analyses. All criteria were acceptable.

Initial and Continuing Calibration Results: Control limits for initial and continuing instrument calibrations are established to ensure that the instrument is capable of producing accurate quantitative data. The following issues were noted:

- The Initial Calibration Verification (ICV) performed on instrument 70MSV5 on 06/26/2020 had Percent Differences (%Ds) for 2-butanone and vinyl chloride above the 30% quality control criterion. Samples PZ-5, PZ-6, MW-20, and MW-21 were affected. The detected and non-detected results reported for these compounds were qualified as estimated, (J) and (UJ), respectively.
- The ICV performed on instrument 70MSDV8 on 07/07/2020 had %Ds for 2-butanone and vinyl chloride and a Percent Drift (%Drift) for bromomethane above the 30% quality control criterion. Samples A2-PZ-1, A2-PZ-2, MW-1, MW-10, MW-18, MW-2, MW-3, MW-4, MW-4-DUP, PZ-11R, PZ-13R, and TRIP BLANK were affected. The detected

and non-detected results reported for these compounds were qualified as estimated, (J) and (UJ), respectively.

- The VOC continuing calibration performed on instrument 70MSV5 on 7/21/2020 @ 14:29 had %Ds for methylene chloride, naphthalene, 1,2,3-trichlorobenzene, and vinyl chloride which exceeded the 20% quality control limit. Samples PZ-5, PZ-6, MW-20, and MW-21 were affected. The detected and non-detected results reported for these compounds were qualified as estimated, (J) and (UJ), respectively.
- The VOC continuing calibration performed on instrument 70MSDV8 on 7/16/2020 @ 10:37 had %Ds for bromoform, carbon tetrachloride, and dichlorodifluoromethane and Percent Drifts (%Drifts) for acetone and bromomethane which exceeded the 20% quality control limit. Samples A2-PZ-1, A2-PZ-2, MW-1, MW-10, MW-18, MW-2, MW-3, MW-4, MW-4-DUP, PZ-11R, PZ-13R, and TRIP BLANK were affected. The detected and non-detected results reported for these compounds were qualified as estimated, (J) and (UJ), respectively.
- All VOC initial calibration Percent Relative Standard Deviations (%RSDs) and initial and continuing calibration Relative Response Factors (RRFs) were within the quality control limits. Acetone and bromomethane were evaluated via linear and quadratic equation, respectively.
- All 1,4-dioxane and PFAS initial/continuing calibration %RSDs, %Ds, and RRFs were within the quality control limits.

Laboratory Preparation/Method and Field Blank Contamination:

- No target compound contaminants were detected in the VOC, 1,4-dioxane, and PFAS laboratory method blanks associated with the reviewed parameters in this data set. In addition, no target compound contaminants were detected in the field quality control blanks.

System Monitoring Compound (Surrogate) Recoveries:

- All surrogate recoveries fell within control limits for the project samples received for VOC and 1,4-dioxane samples reviewed.

Internal Standard Results:

- The VOC and 1,4-dioxane internal standard area counts and retention times fell within control limits for the project samples received and reviewed.
- The PFAS extracted internal standard %Rs were within the 50-150% quality control limits.

Injected Internal Standards Recoveries:

- The PFAS injected internal standard areas counts and retention times fell within control limits for the project samples received and reviewed.

Laboratory Control Spike/Laboratory Control Spike Duplicate (LCS/LCSD) Results:

- The VOC LCS analyzed on 07/21/2020 had Percent Recoveries (%Rs) for bromobenzene, trans-1,4-dichloro-2-butene, cis-1,3-dichloropropene, and 1,1,1,2-tetrachloroethane above the upper quality control limits. In addition, naphthalene and 1,2,3-trichlorobenzene were below the lower quality control limits. Samples PZ-5, PZ-6, MW-20, AND MW-21 were affected. The detected and non-detected results reported for these compounds were qualified as estimated, (J) and (UJ), respectively. No action was taken for the remaining compounds because these compounds were not detected in the affected samples.
- The remaining LCS and LCS/LCSD target compound %Rs and Relative Percent Differences (RPDs) were within the quality control limits for the VOC, 1,4-dioxane, and PFAS fractions.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results:

- The MS/MSD parent sample was not a sample of concern in the VOC fraction; therefore, it was not evaluated. The 1,4-dioxane MS analysis had an acceptable %R.

Field Duplicate Precision: Field duplicates are collected to provide information on sampling precision and homogeneity.

- MW-4-DUP was collected as a field duplicate sample of MW-4. The results associated with these two samples fell within quality control limits, thereby satisfying precision.

Laboratory Duplicate Precision:

- The parent sample analyzed for laboratory duplicate precision in the VOC fraction was not a sample of concern, therefore, no action was taken. Sample EQUIPMENT BLANK was analyzed for laboratory duplicate precision in the 1,4-dioxane fraction. The RPD was within the quality control limits, thereby satisfying laboratory precision.

Target Compound Identification and Quantitation: The laboratory calculations are verified and compound identifications are reviewed and assessed by the data reviewer.

- The GC/MS raw data (quantitation reports and chromatograms) were provided for review. No laboratory calculation errors were noted for the sample selected for verification during data validation.

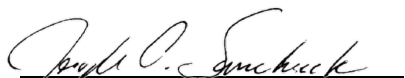
Detection Limits: Non-detected results were reported to the Reporting Limit (RL). Sample MW-18 was analyzed at a 2X dilution for cis-1,2-dichloroethene and sample PZ-5 was analyzed at 5X for acetone.

4.0 CONCLUSIONS

Overall, based on the outcome of data validation and as summarized in the DUSR, the data quality is acceptable with the qualifiers noted in this report.



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Joseph A. Samchuck
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November 11, 2020

Attachments:

- Attachment 1 – Qualified Analytical Results
- Attachment 2 – Results as Reported by the Laboratory
- Attachment 3 – Support Documentation

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated value with an unknown bias. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	The sample result (detected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
UR	The sample result (nondetected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

Attachment 1

Qualified Analytical Results

Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (i.e., base-time drifting)
- P = Uncertainty near detection limit ($< 2 \times \text{IDL}$ for inorganics and $< \text{CRQL}$ for organics)
- Q = Other problems (can encompass a number of issues; i.e. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = RPD between columns/detectors $> 40\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $< 30\%$
- Z = Uncertainty at 2 standard deviations is greater than sample activity
- Z1 = Tentatively Identified Compound considered presumptively present
- Z2 = Tentatively Identified Compound column bleed
- Z3 = Tentatively Identified Compound aldol condensate
- Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
- Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

PROJ_NO: 08218 SDG: 70137879 FRACTION: OV MEDIA: WATER	NSAMPLE	A2-PZ-1			A2-PZ-2			MW-1			MW-10		
	LAB_ID	70137879001			70137879005			70137879008			70137879012		
	SAMP_DATE	7/8/2020			7/8/2020			7/8/2020			7/9/2020		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,1-TRICHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE		1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE		5.3			1	U		2.4			2.4		
1,1-DICHLOROETHENE		1	U		1	U		1	U		1	U	
1,1-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
1,2,3-TRICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2,3-TRICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,2,4,5-TETRAMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2,4-TRIMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,2-DIBROMOETHANE		1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE		1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,3,5-TRIMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,3-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,4-DIETHYLBENZENE		1	U		1	U		1	U		1	U	
2,2-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
2-BUTANONE		5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
2-CHLOROTOLUENE		1	U		1	U		1	U		1	U	
2-HEXANONE		5	U		5	U		5	U		5	U	
4-CHLOROTOLUENE		1	U		1	U		1	U		1	U	
4-ISOPROPYLTOLUENE		1	U		1	U		1	U		1	U	
4-METHYL-2-PENTANONE		5	U		5	U		5	U		5	U	
ACETONE		5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
BENZENE		1	U		1	U		1	U		1	U	
BROMOBENZENE		1	U		1	U		1	U		1	U	
BROMOCHLOROMETHANE		1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE		1	U		1	U		1	U		1	U	
BROMOFORM		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
BROMOMETHANE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C

PROJ_NO: 08218 SDG: 70137879 FRACTION: OV MEDIA: WATER	NSAMPLE	MW-18			MW-2			MW-20			MW-21		
	LAB_ID	70137879006			70137879007			70137879017			70137879018		
	SAMP_DATE	7/8/2020			7/8/2020			7/9/2020			7/9/2020		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		1 U			1 U			1 U			1 U		
1,1,1-TRICHLOROETHANE		1 U			1 U			1 U			1 U		
1,1,2,2-TETRACHLOROETHANE		1 U			1 U			1 U			1 U		
1,1,2-TRICHLOROETHANE		1 U			1 U			1 U			1 U		
1,1-DICHLOROETHANE		41.3			4.5			1 U			1 U		
1,1-DICHLOROETHENE		1 U			1 U			1 U			1 U		
1,1-DICHLOROPROPENE		1 U			1 U			1 U			1 U		
1,2,3-TRICHLOROBENZENE		1 U			1 U			1 UJ	CE		1 UJ	CE	
1,2,3-TRICHLOROPROPANE		1 U			1 U			1 U			1 U		
1,2,4,5-TETRAMETHYLBENZENE		1 U			1 U			1 U			1 U		
1,2,4-TRICHLOROBENZENE		1 U			1 U			1 U			1 U		
1,2,4-TRIMETHYLBENZENE		1 U			1 U			1 U			1 U		
1,2-DIBROMOETHANE		1 U			1 U			1 U			1 U		
1,2-DICHLOROBENZENE		1 U			1 U			1 U			1 U		
1,2-DICHLOROETHANE		1 U			1 U			1 U			1 U		
1,2-DICHLOROPROPANE		1 U			1 U			1 U			1 U		
1,3,5-TRIMETHYLBENZENE		1 U			1 U			1 U			1 U		
1,3-DICHLOROBENZENE		1 U			1 U			1 U			1 U		
1,3-DICHLOROPROPANE		1 U			1 U			1 U			1 U		
1,4-DICHLOROBENZENE		1 U			1 U			1 U			1 U		
1,4-DIETHYLBENZENE		1 U			1 U			1 U			1 U		
2,2-DICHLOROPROPANE		1 U			1 U			1 U			1 U		
2-BUTANONE		5 UJ	C		5 UJ	C		5 UJ	C		5 UJ	C	
2-CHLOROTOLUENE		1 U			1 U			1 U			1 U		
2-HEXANONE		5 U			5 U			5 U			5 U		
4-CHLOROTOLUENE		1 U			1 U			1 U			1 U		
4-ISOPROPYLTOLUENE		1 U			1 U			1 U			1 U		
4-METHYL-2-PENTANONE		5 U			5 U			5 U			5 U		
ACETONE		5 UJ	C		5 UJ	C		5 U			5 U		
BENZENE		1 U			1 U			1 U			1 U		
BROMOBENZENE		1 U			1 U			1 U			1 U		
BROMOCHLOROMETHANE		1 U			1 U			1 U			1 U		
BROMODICHLOROMETHANE		1 U			1 U			1 U			1 U		
BROMOFORM		1 UJ	C		1 UJ	C		1 U			1 U		
BROMOMETHANE		1 UJ	C		1 UJ	C		1 U			1 U		

PROJ_NO: 08218 SDG: 70137879 FRACTION: OV MEDIA: WATER	NSAMPLE	MW-3			MW-4			MW-4-D			PZ-11R		
	LAB_ID	70137879009			70137879010			70137879011			70137879015		
	SAMP_DATE	7/8/2020			7/8/2020			7/8/2020			7/9/2020		
	QC_TYPE	NM			NM			FD			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF							MW-4					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,1-TRICHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE		1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE		3.2			1	U		1	U		1	U	
1,1-DICHLOROETHENE		1	U		1	U		1	U		1	U	
1,1-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
1,2,3-TRICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2,3-TRICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,2,4,5-TETRAMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2,4-TRIMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,2-DIBROMOETHANE		1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE		1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,3,5-TRIMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,3-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,4-DIETHYLBENZENE		1	U		1	U		1	U		1	U	
2,2-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
2-BUTANONE		5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
2-CHLOROTOLUENE		1	U		1	U		1	U		1	U	
2-HEXANONE		5	U		5	U		5	U		5	U	
4-CHLOROTOLUENE		1	U		1	U		1	U		1	U	
4-ISOPROPYLTOLUENE		1	U		1	U		1	U		1	U	
4-METHYL-2-PENTANONE		5	U		5	U		5	U		5	U	
ACETONE		5	UJ	C	5	UJ	C	5	UJ	C	5	J	C
BENZENE		1	U		1	U		1	U		1	U	
BROMOBENZENE		1	U		1	U		1	U		1	U	
BROMOCHLOROMETHANE		1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE		1	U		1	U		1	U		1	U	
BROMOFORM		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
BROMOMETHANE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C

PROJ_NO: 08218 SDG: 70137879 FRACTION: OV MEDIA: WATER	NSAMPLE	PZ-13R			PZ-5			PZ-6			TRIP BLANK		
	LAB_ID	70137879016			70137879013			70137879014			70137879004		
	SAMP_DATE	7/9/2020			7/9/2020			7/9/2020			7/8/2020		
	QC_TYPE	NM			NM			NM			TB		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		1 U			1 U			1 U			1 U		
1,1,1-TRICHLOROETHANE		1 U			1 U			1 U			1 U		
1,1,2,2-TETRACHLOROETHANE		1 U			1 U			1 U			1 U		
1,1,2-TRICHLOROETHANE		1 U			1 U			1 U			1 U		
1,1-DICHLOROETHANE		1 U			1 U			1 U			1 U		
1,1-DICHLOROETHENE		1 U			1 U			1 U			1 U		
1,1-DICHLOROPROPENE		1 U			1 U			1 U			1 U		
1,2,3-TRICHLOROBENZENE		1 U			1.3 J	CE		1 UJ	CE		1 U		
1,2,3-TRICHLOROPROPANE		1 U			1 U			1 U			1 U		
1,2,4,5-TETRAMETHYLBENZENE		1 U			1 U			1 U			1 U		
1,2,4-TRICHLOROBENZENE		1 U			1 U			1 U			1 U		
1,2,4-TRIMETHYLBENZENE		1 U			1 U			1 U			1 U		
1,2-DIBROMOETHANE		1 U			1 U			1 U			1 U		
1,2-DICHLOROBENZENE		1 U			1 U			1 U			1 U		
1,2-DICHLOROETHANE		1 U			1 U			1 U			1 U		
1,2-DICHLOROPROPANE		1 U			1 U			1 U			1 U		
1,3,5-TRIMETHYLBENZENE		1 U			1 U			1 U			1 U		
1,3-DICHLOROBENZENE		1 U			1 U			1 U			1 U		
1,3-DICHLOROPROPANE		1 U			1 U			1 U			1 U		
1,4-DICHLOROBENZENE		1 U			1 U			1 U			1 U		
1,4-DIETHYLBENZENE		1 U			1 U			1 U			1 U		
2,2-DICHLOROPROPANE		1 U			1 U			1 U			1 U		
2-BUTANONE		5 UJ	C		5 UJ	C		5 UJ	C		5 UJ	C	
2-CHLOROTOLUENE		1 U			1 U			1 U			1 U		
2-HEXANONE		5 U			5 U			5 U			5 U		
4-CHLOROTOLUENE		1 U			1 U			1 U			1 U		
4-ISOPROPYLTOLUENE		1 U			1 U			1 U			1 U		
4-METHYL-2-PENTANONE		5 U			5 U			5 U			5 U		
ACETONE		5 UJ	C		191			41.2			5 UJ	C	
BENZENE		1 U			1 U			1 U			1 U		
BROMOBENZENE		1 U			1 U			1 U			1 U		
BROMOCHLOROMETHANE		1 U			1 U			1 U			1 U		
BROMODICHLOROMETHANE		1 U			1 U			1 U			1 U		
BROMOFORM		1 UJ	C		1 U			1 U			1 UJ	C	
BROMOMETHANE		1 UJ	C		1 U			1 U			1 UJ	C	

PROJ_NO: 08218 SDG: 70137879 FRACTION: OV MEDIA: WATER	NSAMPLE	A2-PZ-1			A2-PZ-2			MW-1			MW-10		
	LAB_ID	70137879001			70137879005			70137879008			70137879012		
	SAMP_DATE	7/8/2020			7/8/2020			7/8/2020			7/9/2020		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE		1	U		1	U		1	U		1	U	
CARBON TETRACHLORIDE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
CHLOROBENZENE		1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE		1	U		1	U		1	U		1	U	
CHLORODIFLUOROMETHANE		1	U		1	U		1	U		1	U	
CHLOROETHANE		1	U		1	U		1	U		1	U	
CHLOROFORM		1	U		1	U		1	U		1	U	
CHLOROMETHANE		1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE		42.6			38.6			17.2			45.2		
CIS-1,3-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
DIBROMOMETHANE		1	U		1	U		1	U		1	U	
DICHLORODIFLUOROMETHANE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
ETHANOL		250	U		250	U		250	U		250	U	
ETHYLBENZENE		1	U		1	U		1	U		1	U	
HEXACHLOROBUTADIENE		1	U		1	U		1	U		1	U	
ISOPROPYLBENZENE		1	U		1	U		1	U		1	U	
M+P-XYLENES		2	U		2	U		2	U		2	U	
METHYL TERT-BUTYL ETHER		1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE		1	U		1	U		1	U		1	U	
NAPHTHALENE		1	U		1	U		1	U		1	U	
N-BUTYLBENZENE		1	U		1	U		1	U		1	U	
N-PROPYLBENZENE		1	U		1	U		1	U		1	U	
O-XYLENE		1	U		1	U		1	U		1	U	
SEC-BUTYLBENZENE		1	U		1	U		1	U		1	U	
STYRENE		1	U		1	U		1	U		1	U	
TERT-BUTYLBENZENE		1	U		1	U		1	U		1	U	
TETRACHLOROETHENE		1.9			23.3			21.9			1	U	
TOLUENE		1	U		1	U		1	U		1	U	
TOTAL XYLENES		3	U		3	U		3	U		3	U	
TRANS-1,2-DICHLOROETHENE		1	U		1	U		1	U		4.1		
TRANS-1,3-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
TRANS-1,4-DICHLORO-2-BUTENE		1	U		1	U		1	U		1	U	
TRICHLOROETHENE		5.2			23.7			10.7			1	U	
TRICHLOROFLUOROMETHANE		1	U		1	U		1	U		1	U	
VINYL CHLORIDE		5.7	J	C	2.7	J	C	1	UJ	C	22.6	J	C

PROJ_NO: 08218 SDG: 70137879 FRACTION: OV MEDIA: WATER	NSAMPLE	MW-18			MW-2			MW-20			MW-21		
	LAB_ID	70137879006			70137879007			70137879017			70137879018		
	SAMP_DATE	7/8/2020			7/8/2020			7/9/2020			7/9/2020		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE		1	U		1	U		1	U		1	U	
CARBON TETRACHLORIDE		1	UJ	C	1	UJ	C	1	U		1	U	
CHLOROBENZENE		1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE		1	U		1	U		1	U		1	U	
CHLORODIFLUOROMETHANE		1	U		1	U		1	U		1	U	
CHLOROETHANE		1	U		1	U		1	U		1	U	
CHLOROFORM		1	U		1	U		1	U		1	U	
CHLOROMETHANE		1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE		336			10.8			2.7			1	U	
CIS-1,3-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
DIBROMOMETHANE		1	U		1	U		1	U		1	U	
DICHLORODIFLUOROMETHANE		1	UJ	C	1	UJ	C	1	U		1	U	
ETHANOL		250	U		250	U		250	U		250	U	
ETHYLBENZENE		1	U		1	U		1	U		1	U	
HEXACHLOROBUTADIENE		1	U		1	U		1	U		1	U	
ISOPROPYLBENZENE		1	U		1	U		1	U		1	U	
M+P-XYLENES		2	U		2	U		2	U		2	U	
METHYL TERT-BUTYL ETHER		1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE		1	U		1	U		1	UJ	C	1	UJ	C
NAPHTHALENE		1	U		1	U		1	UJ	CE	1	UJ	CE
N-BUTYLBENZENE		1	U		1	U		1	U		1	U	
N-PROPYLBENZENE		1	U		1	U		1	U		1	U	
O-XYLENE		1	U		1	U		1	U		1	U	
SEC-BUTYLBENZENE		1	U		1	U		1	U		1	U	
STYRENE		1	U		1	U		1	U		1	U	
TERT-BUTYLBENZENE		1	U		1	U		1	U		1	U	
TETRACHLOROETHENE		106			1	U		1	U		1	U	
TOLUENE		1	U		1	U		1	U		1	U	
TOTAL XYLENES		3	U		3	U		3	U		3	U	
TRANS-1,2-DICHLOROETHENE		1.6			2.2			1	U		1	U	
TRANS-1,3-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
TRANS-1,4-DICHLORO-2-BUTENE		1	U		1	U		1	U		1	U	
TRICHLOROETHENE		93			1	U		1	U		1	U	
TRICHLOROFLUOROMETHANE		1	U		1	U		1	U		1	U	
VINYL CHLORIDE		1.7	J	C	16.3	J	C	19.2	J	C	2.5	J	C

PROJ_NO: 08218 SDG: 70137879 FRACTION: OV MEDIA: WATER	NSAMPLE	MW-3			MW-4			MW-4-D			PZ-11R		
	LAB_ID	70137879009			70137879010			70137879011			70137879015		
	SAMP_DATE	7/8/2020			7/8/2020			7/8/2020			7/9/2020		
	QC_TYPE	NM			NM			FD			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF							MW-4					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE		1	U		1	U		1	U		1	U	
CARBON TETRACHLORIDE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
CHLOROBENZENE		1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE		1	U		1	U		1	U		1	U	
CHLORODIFLUOROMETHANE		1	U		1	U		1	U		1	U	
CHLOROETHANE		1	U		1	U		1	U		1	U	
CHLOROFORM		1	U		1	U		1	U		1	U	
CHLOROMETHANE		1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE		18.7			3.4			3.6			1.7		
CIS-1,3-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
DIBROMOMETHANE		1	U		1	U		1	U		1	U	
DICHLORODIFLUOROMETHANE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
ETHANOL		250	U		250	U		250	U		250	U	
ETHYLBENZENE		1	U		1	U		1	U		1	U	
HEXACHLOROBUTADIENE		1	U		1	U		1	U		1	U	
ISOPROPYLBENZENE		1	U		1	U		1	U		1	U	
M+P-XYLENES		2	U		2	U		2	U		2	U	
METHYL TERT-BUTYL ETHER		1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE		1	U		1	U		1	U		1	U	
NAPHTHALENE		1	U		1	U		1	U		1	U	
N-BUTYLBENZENE		1	U		1	U		1	U		1	U	
N-PROPYLBENZENE		1	U		1	U		1	U		1	U	
O-XYLENE		1	U		1	U		1	U		1	U	
SEC-BUTYLBENZENE		1	U		1	U		1	U		1	U	
STYRENE		1	U		1	U		1	U		1	U	
TERT-BUTYLBENZENE		1	U		1	U		1	U		1	U	
TETRACHLOROETHENE		1.4			1	U		1	U		3		
TOLUENE		1	U		1	U		1	U		1	U	
TOTAL XYLENES		3	U		3	U		3	U		3	U	
TRANS-1,2-DICHLOROETHENE		1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
TRANS-1,4-DICHLORO-2-BUTENE		1	U		1	U		1	U		1	U	
TRICHLOROETHENE		4.3			1	U		1	U		5.4		
TRICHLOROFLUOROMETHANE		1	U		1	U		1	U		1	U	
VINYL CHLORIDE		3.7	J	C	2.4	J	C	2.5	J	C	1	UJ	C

PROJ_NO: 08218 SDG: 70137879 FRACTION: OV MEDIA: WATER	NSAMPLE	PZ-13R			PZ-5			PZ-6			TRIP BLANK		
	LAB_ID	70137879016			70137879013			70137879014			70137879004		
	SAMP_DATE	7/9/2020			7/9/2020			7/9/2020			7/8/2020		
	QC_TYPE	NM			NM			NM			TB		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE		1	U		1	U		1	U		1	U	
CARBON TETRACHLORIDE		1	UJ	C	1	U		1	U		1	UJ	C
CHLOROBENZENE		1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE		1	U		1	U		1	U		1	U	
CHLORODIFLUOROMETHANE		1	U		1	U		1	U		1	U	
CHLOROETHANE		1	U		1	U		1	U		1	U	
CHLOROFORM		1	U		1	U		1	U		1	U	
CHLOROMETHANE		1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE		1.8			13.7			7			1	U	
CIS-1,3-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
DIBROMOMETHANE		1	U		1	U		1	U		1	U	
DICHLORODIFLUOROMETHANE		1	UJ	C	1	U		1	U		1	UJ	C
ETHANOL		250	U		250	U		250	U		250	U	
ETHYLBENZENE		1	U		1	U		1	U		1	U	
HEXACHLOROBUTADIENE		1	U		1	U		1	U		1	U	
ISOPROPYLBENZENE		1	U		1	U		1	U		1	U	
M+P-XYLENES		2	U		2	U		2	U		2	U	
METHYL TERT-BUTYL ETHER		1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE		1	U		1	UJ	C	1	UJ	C	1	U	
NAPHTHALENE		1	U		1	UJ	CE	1	UJ	CE	1	U	
N-BUTYLBENZENE		1	U		1	U		1	U		1	U	
N-PROPYLBENZENE		1	U		1	U		1	U		1	U	
O-XYLENE		1	U		1	U		1	U		1	U	
SEC-BUTYLBENZENE		1	U		1	U		1	U		1	U	
STYRENE		1	U		1	U		1	U		1	U	
TERT-BUTYLBENZENE		1	U		1	U		1	U		1	U	
TETRACHLOROETHENE		1	U		54.5			1	U		1	U	
TOLUENE		1	U		1	U		1	U		1	U	
TOTAL XYLENES		3	U		3	U		3	U		3	U	
TRANS-1,2-DICHLOROETHENE		1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
TRANS-1,4-DICHLORO-2-BUTENE		1	U		1	U		1	U		1	U	
TRICHLOROETHENE		3.3			11.5			1.9			1	U	
TRICHLOROFLUOROMETHANE		1	U		1	U		1	U		1	U	
VINYL CHLORIDE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C

PROJ_NO: 08218 SDG: 70137879 FRACTION: OVSIM MEDIA: WATER	NSAMPLE	A2-PZ-1			EQUIPMENT BLANK			FIELD BLANK			TRIP BLANK		
	LAB_ID	70137879001			70137879003			70137879002			70137879004		
	SAMP_DATE	7/8/2020			7/8/2020			7/8/2020			7/8/2020		
	QC_TYPE	NM			EB			FB			TB		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,4-DIOXANE		1.5			0.2	U		0.2	U		0.2	U	

PROJ_NO: 08218 SDG: 70137879 FRACTION: PFAS MEDIA: WATER	NSAMPLE	AZ-PZ-1			EQUIPMENT BLANK			FIELD BLANK			TRIP BLANK		
	LAB_ID	200-54421-1			200-54421-3			200-54421-2			200-54421-4		
	SAMP_DATE	7/8/2020			7/8/2020			7/8/2020			7/8/2020		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
6:2 FLUOROTELOMER SULFONATE (6:2FTS)		18.2	U		18.2	U		17.9	U		18.3	U	
8:2 FLUOROTELOMER SULFONATE (8:2FTS)		18.2	U		18.2	U		17.9	U		18.3	U	
N-ETHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NEFOSA)		18.2	U		18.2	U		17.9	U		18.3	U	
N-METHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NMFOSA)		18.2	U		18.2	U		17.9	U		18.3	U	
PENTADECALUOROOCTANOIC ACID (PFOA)		9.32			1.82	U		1.79	U		1.83	U	
PERFLUOROBUTANESULFONIC ACID (PFBS)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUOROBUTANOIC ACID (PFBA)		27.4			1.82	U		1.79	U		1.83	U	
PERFLUORODECANESULFONIC ACID (PFDS)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUORODECANOIC ACID (PFDA)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUORODODECANOIC ACID (PFDOA)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUOROHEPTANESULFONIC ACID (PFHPS)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUOROHEPTANOIC ACID (PFHPA)		6.19			1.82	U		1.79	U		1.83	U	
PERFLUOROHEXANESULFONIC ACID (PFHXS)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUOROHEXANOIC ACID (PFHXA)		9.8			1.82	U		1.79	U		1.83	U	
PERFLUORONONANOIC ACID (PFNA)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUOROOCTANE SULFONAMIDE (FOSA)		9.09	U		9.11	U		8.95	U		9.14	U	
PERFLUOROOCTANESULFONIC ACID (PFOS)		2.14			1.82	U		1.79	U		1.83	U	
PERFLUOROPENTANOIC ACID (PFPEA)		13.5			1.82	U		1.79	U		1.83	U	
PERFLUOROTETRADECANOIC ACID (PFTEA)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUOROTRIDECANOIC ACID (PFTRIA)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUOROUNDECANOIC ACID (PFUNA)		1.82	U		1.82	U		1.79	U		1.83	U	

Attachment 2

Results as Reported by the Laboratory

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: A2-PZ-1		Lab ID: 70137879001		Collected: 07/08/20 10:15		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C SIM Volatile Organics		Analytical Method: EPA 8260C SIM/5030C Pace Analytical Services - Melville							
1,4-Dioxane (p-Dioxane)	1.5	ug/L	0.20	1		07/20/20 20:48	123-91-1		
Surrogates									
1,2-Dichlorobenzene-d4 (S)	86	%	60-140	1		07/20/20 20:48	2199-69-1		
4-Bromofluorobenzene (S)	110	%	79-124	1		07/20/20 20:48	460-00-4		
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	<5.0	ug/L	5.0	1		07/16/20 16:06	67-64-1	IC	
Benzene	<1.0	ug/L	1.0	1		07/16/20 16:06	71-43-2		
Bromobenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	108-86-1		
Bromochloromethane	<1.0	ug/L	1.0	1		07/16/20 16:06	74-97-5		
Bromodichloromethane	<1.0	ug/L	1.0	1		07/16/20 16:06	75-27-4		
Bromoform	<1.0	ug/L	1.0	1		07/16/20 16:06	75-25-2	CL	
Bromomethane	<1.0	ug/L	1.0	1		07/16/20 16:06	74-83-9		
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/16/20 16:06	78-93-3	IL	
n-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	104-51-8		
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	135-98-8		
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	98-06-6		
Carbon disulfide	<1.0	ug/L	1.0	1		07/16/20 16:06	75-15-0		
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/16/20 16:06	56-23-5	CL	
Chlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	108-90-7		
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 16:06	75-45-6	N3	
Chloroethane	<1.0	ug/L	1.0	1		07/16/20 16:06	75-00-3		
Chloroform	<1.0	ug/L	1.0	1		07/16/20 16:06	67-66-3		
Chloromethane	<1.0	ug/L	1.0	1		07/16/20 16:06	74-87-3		
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 16:06	95-49-8		
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 16:06	106-43-4		
Dibromochloromethane	<1.0	ug/L	1.0	1		07/16/20 16:06	124-48-1		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/16/20 16:06	106-93-4		
Dibromomethane	<1.0	ug/L	1.0	1		07/16/20 16:06	74-95-3		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	95-50-1		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	541-73-1		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	106-46-7		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/16/20 16:06	110-57-6		
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 16:06	75-71-8	CL	
1,1-Dichloroethane	5.3	ug/L	1.0	1		07/16/20 16:06	75-34-3		
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 16:06	107-06-2		
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 16:06	75-35-4		
cis-1,2-Dichloroethene	42.6	ug/L	1.0	1		07/16/20 16:06	156-59-2		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 16:06	156-60-5		
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 16:06	78-87-5		
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 16:06	142-28-9		
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 16:06	594-20-7		
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 16:06	563-58-6		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 16:06	10061-01-5		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 16:06	10061-02-6		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: A2-PZ-1		Lab ID: 70137879001		Collected: 07/08/20 10:15		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	105-05-5	N3	
Ethanol	<250	ug/L	250	1		07/16/20 16:06	64-17-5		
Ethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	100-41-4		
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/16/20 16:06	87-68-3		
2-Hexanone	<5.0	ug/L	5.0	1		07/16/20 16:06	591-78-6		
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/16/20 16:06	98-82-8		
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/16/20 16:06	99-87-6		
Methylene Chloride	<1.0	ug/L	1.0	1		07/16/20 16:06	75-09-2		
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/16/20 16:06	108-10-1		
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/16/20 16:06	1634-04-4		
Naphthalene	<1.0	ug/L	1.0	1		07/16/20 16:06	91-20-3		
n-Propylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	103-65-1		
Styrene	<1.0	ug/L	1.0	1		07/16/20 16:06	100-42-5		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 16:06	630-20-6		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 16:06	79-34-5		
Tetrachloroethene	1.9	ug/L	1.0	1		07/16/20 16:06	127-18-4		
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	95-93-2	N3	
Toluene	<1.0	ug/L	1.0	1		07/16/20 16:06	108-88-3		
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	87-61-6		
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	120-82-1		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 16:06	71-55-6		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 16:06	79-00-5		
Trichloroethene	5.2	ug/L	1.0	1		07/16/20 16:06	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/16/20 16:06	75-69-4		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/16/20 16:06	96-18-4		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	95-63-6		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:06	108-67-8		
Vinyl chloride	5.7	ug/L	1.0	1		07/16/20 16:06	75-01-4	IH	
Xylene (Total)	<3.0	ug/L	3.0	1		07/16/20 16:06	1330-20-7		
m&p-Xylene	<2.0	ug/L	2.0	1		07/16/20 16:06	179601-23-1		
o-Xylene	<1.0	ug/L	1.0	1		07/16/20 16:06	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/16/20 16:06	17060-07-0		
4-Bromofluorobenzene (S)	98	%	79-124	1		07/16/20 16:06	460-00-4		
Toluene-d8 (S)	97	%	69-124	1		07/16/20 16:06	2037-26-5		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: FIELD BLANK		Lab ID: 70137879002		Collected: 07/08/20 09:55		Received: 07/11/20 11:05		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C SIM Volatile Organics		Analytical Method: EPA 8260C SIM/5030C Pace Analytical Services - Melville							
1,4-Dioxane (p-Dioxane)		<0.20	ug/L	0.20	1		07/20/20 20:21	123-91-1	
Surrogates									
1,2-Dichlorobenzene-d4 (S)		87	%	60-140	1		07/20/20 20:21	2199-69-1	
4-Bromofluorobenzene (S)		110	%	79-124	1		07/20/20 20:21	460-00-4	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: EQUIPMENT BLANK	Lab ID: 70137879003		Collected: 07/08/20 10:05	Received: 07/11/20 11:05		Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C SIM Volatile Organics	Analytical Method: EPA 8260C SIM/5030C							
	Pace Analytical Services - Melville							
1,4-Dioxane (p-Dioxane)	<0.20	ug/L	0.20	1		07/20/20 19:54	123-91-1	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	85	%	60-140	1		07/20/20 19:54	2199-69-1	
4-Bromofluorobenzene (S)	109	%	79-124	1		07/20/20 19:54	460-00-4	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: TRIP BLANK		Lab ID: 70137879004		Collected: 07/08/20 00:00		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C SIM Volatile Organics		Analytical Method: EPA 8260C SIM/5030C Pace Analytical Services - Melville							
1,4-Dioxane (p-Dioxane)	<0.20	ug/L	0.20	1		07/20/20 19:28	123-91-1		
Surrogates									
1,2-Dichlorobenzene-d4 (S)	87	%	60-140	1		07/20/20 19:28	2199-69-1		
4-Bromofluorobenzene (S)	111	%	79-124	1		07/20/20 19:28	460-00-4		
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	<5.0	ug/L	5.0	1		07/16/20 12:42	67-64-1	IC	
Benzene	<1.0	ug/L	1.0	1		07/16/20 12:42	71-43-2		
Bromobenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	108-86-1		
Bromochloromethane	<1.0	ug/L	1.0	1		07/16/20 12:42	74-97-5		
Bromodichloromethane	<1.0	ug/L	1.0	1		07/16/20 12:42	75-27-4		
Bromoform	<1.0	ug/L	1.0	1		07/16/20 12:42	75-25-2	CL	
Bromomethane	<1.0	ug/L	1.0	1		07/16/20 12:42	74-83-9		
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/16/20 12:42	78-93-3	IL	
n-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	104-51-8		
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	135-98-8		
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	98-06-6		
Carbon disulfide	<1.0	ug/L	1.0	1		07/16/20 12:42	75-15-0		
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/16/20 12:42	56-23-5	CL	
Chlorobenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	108-90-7		
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 12:42	75-45-6	N3	
Chloroethane	<1.0	ug/L	1.0	1		07/16/20 12:42	75-00-3		
Chloroform	<1.0	ug/L	1.0	1		07/16/20 12:42	67-66-3		
Chloromethane	<1.0	ug/L	1.0	1		07/16/20 12:42	74-87-3		
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 12:42	95-49-8		
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 12:42	106-43-4		
Dibromochloromethane	<1.0	ug/L	1.0	1		07/16/20 12:42	124-48-1		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/16/20 12:42	106-93-4		
Dibromomethane	<1.0	ug/L	1.0	1		07/16/20 12:42	74-95-3		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	95-50-1		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	541-73-1		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	106-46-7		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/16/20 12:42	110-57-6		
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 12:42	75-71-8	CL	
1,1-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 12:42	75-34-3		
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 12:42	107-06-2		
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 12:42	75-35-4		
cis-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 12:42	156-59-2		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 12:42	156-60-5		
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 12:42	78-87-5		
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 12:42	142-28-9		
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 12:42	594-20-7		
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 12:42	563-58-6		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 12:42	10061-01-5		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 12:42	10061-02-6		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: TRIP BLANK		Lab ID: 70137879004		Collected: 07/08/20 00:00		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	105-05-5	N3	
Ethanol	<250	ug/L	250	1		07/16/20 12:42	64-17-5		
Ethylbenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	100-41-4		
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/16/20 12:42	87-68-3		
2-Hexanone	<5.0	ug/L	5.0	1		07/16/20 12:42	591-78-6		
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/16/20 12:42	98-82-8		
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/16/20 12:42	99-87-6		
Methylene Chloride	<1.0	ug/L	1.0	1		07/16/20 12:42	75-09-2		
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/16/20 12:42	108-10-1		
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/16/20 12:42	1634-04-4		
Naphthalene	<1.0	ug/L	1.0	1		07/16/20 12:42	91-20-3		
n-Propylbenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	103-65-1		
Styrene	<1.0	ug/L	1.0	1		07/16/20 12:42	100-42-5		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 12:42	630-20-6		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 12:42	79-34-5		
Tetrachloroethene	<1.0	ug/L	1.0	1		07/16/20 12:42	127-18-4		
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	95-93-2	N3	
Toluene	<1.0	ug/L	1.0	1		07/16/20 12:42	108-88-3		
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	87-61-6		
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	120-82-1		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 12:42	71-55-6		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 12:42	79-00-5		
Trichloroethene	<1.0	ug/L	1.0	1		07/16/20 12:42	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/16/20 12:42	75-69-4		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/16/20 12:42	96-18-4		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	95-63-6		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 12:42	108-67-8		
Vinyl chloride	<1.0	ug/L	1.0	1		07/16/20 12:42	75-01-4		
Xylene (Total)	<3.0	ug/L	3.0	1		07/16/20 12:42	1330-20-7		
m&p-Xylene	<2.0	ug/L	2.0	1		07/16/20 12:42	179601-23-1		
o-Xylene	<1.0	ug/L	1.0	1		07/16/20 12:42	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/16/20 12:42	17060-07-0		
4-Bromofluorobenzene (S)	96	%	79-124	1		07/16/20 12:42	460-00-4		
Toluene-d8 (S)	98	%	69-124	1		07/16/20 12:42	2037-26-5		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: A2-PZ-2		Lab ID: 70137879005	Collected: 07/08/20 12:45	Received: 07/11/20 11:05	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville						
Acetone	<5.0	ug/L	5.0	1		07/16/20 16:29	67-64-1	IC
Benzene	<1.0	ug/L	1.0	1		07/16/20 16:29	71-43-2	
Bromobenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	108-86-1	
Bromochloromethane	<1.0	ug/L	1.0	1		07/16/20 16:29	74-97-5	
Bromodichloromethane	<1.0	ug/L	1.0	1		07/16/20 16:29	75-27-4	
Bromoform	<1.0	ug/L	1.0	1		07/16/20 16:29	75-25-2	CL
Bromomethane	<1.0	ug/L	1.0	1		07/16/20 16:29	74-83-9	
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/16/20 16:29	78-93-3	IL
n-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	104-51-8	
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	135-98-8	
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	98-06-6	
Carbon disulfide	<1.0	ug/L	1.0	1		07/16/20 16:29	75-15-0	
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/16/20 16:29	56-23-5	CL
Chlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	108-90-7	
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 16:29	75-45-6	N3
Chloroethane	<1.0	ug/L	1.0	1		07/16/20 16:29	75-00-3	
Chloroform	<1.0	ug/L	1.0	1		07/16/20 16:29	67-66-3	
Chloromethane	<1.0	ug/L	1.0	1		07/16/20 16:29	74-87-3	
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 16:29	95-49-8	
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 16:29	106-43-4	
Dibromochloromethane	<1.0	ug/L	1.0	1		07/16/20 16:29	124-48-1	
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/16/20 16:29	106-93-4	
Dibromomethane	<1.0	ug/L	1.0	1		07/16/20 16:29	74-95-3	
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	95-50-1	
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	541-73-1	
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	106-46-7	
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/16/20 16:29	110-57-6	
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 16:29	75-71-8	CL
1,1-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 16:29	75-34-3	
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 16:29	107-06-2	
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 16:29	75-35-4	
cis-1,2-Dichloroethene	38.6	ug/L	1.0	1		07/16/20 16:29	156-59-2	
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 16:29	156-60-5	
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 16:29	78-87-5	
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 16:29	142-28-9	
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 16:29	594-20-7	
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 16:29	563-58-6	
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 16:29	10061-01-5	
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 16:29	10061-02-6	
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	105-05-5	N3
Ethanol	<250	ug/L	250	1		07/16/20 16:29	64-17-5	
Ethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	100-41-4	
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/16/20 16:29	87-68-3	
2-Hexanone	<5.0	ug/L	5.0	1		07/16/20 16:29	591-78-6	
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/16/20 16:29	98-82-8	
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/16/20 16:29	99-87-6	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: A2-PZ-2		Lab ID: 70137879005		Collected: 07/08/20 12:45		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	<1.0	ug/L	1.0	1		07/16/20 16:29	75-09-2		
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/16/20 16:29	108-10-1		
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/16/20 16:29	1634-04-4		
Naphthalene	<1.0	ug/L	1.0	1		07/16/20 16:29	91-20-3		
n-Propylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	103-65-1		
Styrene	<1.0	ug/L	1.0	1		07/16/20 16:29	100-42-5		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 16:29	630-20-6		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 16:29	79-34-5		
Tetrachloroethene	23.3	ug/L	1.0	1		07/16/20 16:29	127-18-4		
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	95-93-2	N3	
Toluene	<1.0	ug/L	1.0	1		07/16/20 16:29	108-88-3		
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	87-61-6		
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	120-82-1		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 16:29	71-55-6		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 16:29	79-00-5		
Trichloroethene	23.7	ug/L	1.0	1		07/16/20 16:29	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/16/20 16:29	75-69-4		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/16/20 16:29	96-18-4		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	95-63-6		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:29	108-67-8		
Vinyl chloride	2.7	ug/L	1.0	1		07/16/20 16:29	75-01-4	IH	
Xylene (Total)	<3.0	ug/L	3.0	1		07/16/20 16:29	1330-20-7		
m&p-Xylene	<2.0	ug/L	2.0	1		07/16/20 16:29	179601-23-1		
o-Xylene	<1.0	ug/L	1.0	1		07/16/20 16:29	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	68-153	1		07/16/20 16:29	17060-07-0		
4-Bromofluorobenzene (S)	99	%	79-124	1		07/16/20 16:29	460-00-4		
Toluene-d8 (S)	96	%	69-124	1		07/16/20 16:29	2037-26-5		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-18		Lab ID: 70137879006		Collected: 07/08/20 15:30		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	<5.0	ug/L	5.0	1		07/16/20 16:51	67-64-1	IC	
Benzene	<1.0	ug/L	1.0	1		07/16/20 16:51	71-43-2		
Bromobenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	108-86-1		
Bromochloromethane	<1.0	ug/L	1.0	1		07/16/20 16:51	74-97-5		
Bromodichloromethane	<1.0	ug/L	1.0	1		07/16/20 16:51	75-27-4		
Bromoform	<1.0	ug/L	1.0	1		07/16/20 16:51	75-25-2	CL	
Bromomethane	<1.0	ug/L	1.0	1		07/16/20 16:51	74-83-9		
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/16/20 16:51	78-93-3	IL	
n-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	104-51-8		
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	135-98-8		
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	98-06-6		
Carbon disulfide	<1.0	ug/L	1.0	1		07/16/20 16:51	75-15-0		
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/16/20 16:51	56-23-5	CL	
Chlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	108-90-7		
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 16:51	75-45-6	N3	
Chloroethane	<1.0	ug/L	1.0	1		07/16/20 16:51	75-00-3		
Chloroform	<1.0	ug/L	1.0	1		07/16/20 16:51	67-66-3		
Chloromethane	<1.0	ug/L	1.0	1		07/16/20 16:51	74-87-3		
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 16:51	95-49-8		
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 16:51	106-43-4		
Dibromochloromethane	<1.0	ug/L	1.0	1		07/16/20 16:51	124-48-1		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/16/20 16:51	106-93-4		
Dibromomethane	<1.0	ug/L	1.0	1		07/16/20 16:51	74-95-3		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	95-50-1		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	541-73-1		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	106-46-7		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/16/20 16:51	110-57-6		
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 16:51	75-71-8	CL	
1,1-Dichloroethane	41.3	ug/L	1.0	1		07/16/20 16:51	75-34-3		
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 16:51	107-06-2		
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 16:51	75-35-4		
cis-1,2-Dichloroethene	336	ug/L	2.0	2		07/17/20 20:19	156-59-2		
trans-1,2-Dichloroethene	1.6	ug/L	1.0	1		07/16/20 16:51	156-60-5		
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 16:51	78-87-5		
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 16:51	142-28-9		
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 16:51	594-20-7		
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 16:51	563-58-6		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 16:51	10061-01-5		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 16:51	10061-02-6		
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	105-05-5	N3	
Ethanol	<250	ug/L	250	1		07/16/20 16:51	64-17-5		
Ethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	100-41-4		
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/16/20 16:51	87-68-3		
2-Hexanone	<5.0	ug/L	5.0	1		07/16/20 16:51	591-78-6		
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/16/20 16:51	98-82-8		
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/16/20 16:51	99-87-6		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-18		Lab ID: 70137879006		Collected: 07/08/20 15:30		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	<1.0	ug/L	1.0	1		07/16/20 16:51	75-09-2		
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/16/20 16:51	108-10-1		
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/16/20 16:51	1634-04-4		
Naphthalene	<1.0	ug/L	1.0	1		07/16/20 16:51	91-20-3		
n-Propylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	103-65-1		
Styrene	<1.0	ug/L	1.0	1		07/16/20 16:51	100-42-5		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 16:51	630-20-6		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 16:51	79-34-5		
Tetrachloroethene	106	ug/L	1.0	1		07/16/20 16:51	127-18-4		
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	95-93-2	N3	
Toluene	<1.0	ug/L	1.0	1		07/16/20 16:51	108-88-3		
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	87-61-6		
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	120-82-1		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 16:51	71-55-6		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 16:51	79-00-5		
Trichloroethene	93.0	ug/L	1.0	1		07/16/20 16:51	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/16/20 16:51	75-69-4		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/16/20 16:51	96-18-4		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	95-63-6		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 16:51	108-67-8		
Vinyl chloride	1.7	ug/L	1.0	1		07/16/20 16:51	75-01-4	IH	
Xylene (Total)	<3.0	ug/L	3.0	1		07/16/20 16:51	1330-20-7		
m&p-Xylene	<2.0	ug/L	2.0	1		07/16/20 16:51	179601-23-1		
o-Xylene	<1.0	ug/L	1.0	1		07/16/20 16:51	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	68-153	1		07/16/20 16:51	17060-07-0		
4-Bromofluorobenzene (S)	97	%	79-124	1		07/16/20 16:51	460-00-4		
Toluene-d8 (S)	95	%	69-124	1		07/16/20 16:51	2037-26-5		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-2		Lab ID: 70137879007		Collected: 07/08/20 16:15		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C								
	Pace Analytical Services - Melville								
Acetone	<5.0	ug/L	5.0	1		07/16/20 17:14	67-64-1	IC	
Benzene	<1.0	ug/L	1.0	1		07/16/20 17:14	71-43-2		
Bromobenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	108-86-1		
Bromochloromethane	<1.0	ug/L	1.0	1		07/16/20 17:14	74-97-5		
Bromodichloromethane	<1.0	ug/L	1.0	1		07/16/20 17:14	75-27-4		
Bromoform	<1.0	ug/L	1.0	1		07/16/20 17:14	75-25-2	CL	
Bromomethane	<1.0	ug/L	1.0	1		07/16/20 17:14	74-83-9		
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/16/20 17:14	78-93-3	IL	
n-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	104-51-8		
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	135-98-8		
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	98-06-6		
Carbon disulfide	<1.0	ug/L	1.0	1		07/16/20 17:14	75-15-0		
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/16/20 17:14	56-23-5	CL	
Chlorobenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	108-90-7		
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 17:14	75-45-6	N3	
Chloroethane	<1.0	ug/L	1.0	1		07/16/20 17:14	75-00-3		
Chloroform	<1.0	ug/L	1.0	1		07/16/20 17:14	67-66-3		
Chloromethane	<1.0	ug/L	1.0	1		07/16/20 17:14	74-87-3		
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 17:14	95-49-8		
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 17:14	106-43-4		
Dibromochloromethane	<1.0	ug/L	1.0	1		07/16/20 17:14	124-48-1		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/16/20 17:14	106-93-4		
Dibromomethane	<1.0	ug/L	1.0	1		07/16/20 17:14	74-95-3		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	95-50-1		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	541-73-1		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	106-46-7		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/16/20 17:14	110-57-6		
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 17:14	75-71-8	CL	
1,1-Dichloroethane	4.5	ug/L	1.0	1		07/16/20 17:14	75-34-3		
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 17:14	107-06-2		
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 17:14	75-35-4		
cis-1,2-Dichloroethene	10.8	ug/L	1.0	1		07/16/20 17:14	156-59-2		
trans-1,2-Dichloroethene	2.2	ug/L	1.0	1		07/16/20 17:14	156-60-5		
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 17:14	78-87-5		
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 17:14	142-28-9		
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 17:14	594-20-7		
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 17:14	563-58-6		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 17:14	10061-01-5		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 17:14	10061-02-6		
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	105-05-5	N3	
Ethanol	<250	ug/L	250	1		07/16/20 17:14	64-17-5		
Ethylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	100-41-4		
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/16/20 17:14	87-68-3		
2-Hexanone	<5.0	ug/L	5.0	1		07/16/20 17:14	591-78-6		
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/16/20 17:14	98-82-8		
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/16/20 17:14	99-87-6		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-2		Lab ID: 70137879007		Collected: 07/08/20 16:15		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	<1.0	ug/L	1.0	1		07/16/20 17:14	75-09-2		
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/16/20 17:14	108-10-1		
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/16/20 17:14	1634-04-4		
Naphthalene	<1.0	ug/L	1.0	1		07/16/20 17:14	91-20-3		
n-Propylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	103-65-1		
Styrene	<1.0	ug/L	1.0	1		07/16/20 17:14	100-42-5		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 17:14	630-20-6		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 17:14	79-34-5		
Tetrachloroethene	<1.0	ug/L	1.0	1		07/16/20 17:14	127-18-4		
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	95-93-2	N3	
Toluene	<1.0	ug/L	1.0	1		07/16/20 17:14	108-88-3		
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	87-61-6		
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	120-82-1		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 17:14	71-55-6		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 17:14	79-00-5		
Trichloroethene	<1.0	ug/L	1.0	1		07/16/20 17:14	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/16/20 17:14	75-69-4		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/16/20 17:14	96-18-4		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	95-63-6		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:14	108-67-8		
Vinyl chloride	16.3	ug/L	1.0	1		07/16/20 17:14	75-01-4	IH	
Xylene (Total)	<3.0	ug/L	3.0	1		07/16/20 17:14	1330-20-7		
m&p-Xylene	<2.0	ug/L	2.0	1		07/16/20 17:14	179601-23-1		
o-Xylene	<1.0	ug/L	1.0	1		07/16/20 17:14	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/16/20 17:14	17060-07-0		
4-Bromofluorobenzene (S)	97	%	79-124	1		07/16/20 17:14	460-00-4		
Toluene-d8 (S)	97	%	69-124	1		07/16/20 17:14	2037-26-5		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-1		Lab ID: 70137879008		Collected: 07/08/20 17:00		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	<5.0	ug/L	5.0	1		07/16/20 17:37	67-64-1	IC	
Benzene	<1.0	ug/L	1.0	1		07/16/20 17:37	71-43-2		
Bromobenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	108-86-1		
Bromochloromethane	<1.0	ug/L	1.0	1		07/16/20 17:37	74-97-5		
Bromodichloromethane	<1.0	ug/L	1.0	1		07/16/20 17:37	75-27-4		
Bromoform	<1.0	ug/L	1.0	1		07/16/20 17:37	75-25-2	CL	
Bromomethane	<1.0	ug/L	1.0	1		07/16/20 17:37	74-83-9		
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/16/20 17:37	78-93-3	IL	
n-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	104-51-8		
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	135-98-8		
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	98-06-6		
Carbon disulfide	<1.0	ug/L	1.0	1		07/16/20 17:37	75-15-0		
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/16/20 17:37	56-23-5	CL	
Chlorobenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	108-90-7		
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 17:37	75-45-6	N3	
Chloroethane	<1.0	ug/L	1.0	1		07/16/20 17:37	75-00-3		
Chloroform	<1.0	ug/L	1.0	1		07/16/20 17:37	67-66-3		
Chloromethane	<1.0	ug/L	1.0	1		07/16/20 17:37	74-87-3		
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 17:37	95-49-8		
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 17:37	106-43-4		
Dibromochloromethane	<1.0	ug/L	1.0	1		07/16/20 17:37	124-48-1		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/16/20 17:37	106-93-4		
Dibromomethane	<1.0	ug/L	1.0	1		07/16/20 17:37	74-95-3		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	95-50-1		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	541-73-1		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	106-46-7		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/16/20 17:37	110-57-6		
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 17:37	75-71-8	CL	
1,1-Dichloroethane	2.4	ug/L	1.0	1		07/16/20 17:37	75-34-3		
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 17:37	107-06-2		
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 17:37	75-35-4		
cis-1,2-Dichloroethene	17.2	ug/L	1.0	1		07/16/20 17:37	156-59-2		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 17:37	156-60-5		
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 17:37	78-87-5		
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 17:37	142-28-9		
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 17:37	594-20-7		
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 17:37	563-58-6		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 17:37	10061-01-5		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 17:37	10061-02-6		
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	105-05-5	N3	
Ethanol	<250	ug/L	250	1		07/16/20 17:37	64-17-5		
Ethylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	100-41-4		
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/16/20 17:37	87-68-3		
2-Hexanone	<5.0	ug/L	5.0	1		07/16/20 17:37	591-78-6		
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/16/20 17:37	98-82-8		
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/16/20 17:37	99-87-6		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-1		Lab ID: 70137879008		Collected: 07/08/20 17:00		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	<1.0	ug/L	1.0	1		07/16/20 17:37	75-09-2		
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/16/20 17:37	108-10-1		
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/16/20 17:37	1634-04-4		
Naphthalene	<1.0	ug/L	1.0	1		07/16/20 17:37	91-20-3		
n-Propylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	103-65-1		
Styrene	<1.0	ug/L	1.0	1		07/16/20 17:37	100-42-5		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 17:37	630-20-6		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 17:37	79-34-5		
Tetrachloroethene	21.9	ug/L	1.0	1		07/16/20 17:37	127-18-4		
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	95-93-2	N3	
Toluene	<1.0	ug/L	1.0	1		07/16/20 17:37	108-88-3		
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	87-61-6		
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	120-82-1		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 17:37	71-55-6		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 17:37	79-00-5		
Trichloroethene	10.7	ug/L	1.0	1		07/16/20 17:37	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/16/20 17:37	75-69-4		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/16/20 17:37	96-18-4		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	95-63-6		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 17:37	108-67-8		
Vinyl chloride	<1.0	ug/L	1.0	1		07/16/20 17:37	75-01-4		
Xylene (Total)	<3.0	ug/L	3.0	1		07/16/20 17:37	1330-20-7		
m&p-Xylene	<2.0	ug/L	2.0	1		07/16/20 17:37	179601-23-1		
o-Xylene	<1.0	ug/L	1.0	1		07/16/20 17:37	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/16/20 17:37	17060-07-0		
4-Bromofluorobenzene (S)	98	%	79-124	1		07/16/20 17:37	460-00-4		
Toluene-d8 (S)	96	%	69-124	1		07/16/20 17:37	2037-26-5		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-3		Lab ID: 70137879009		Collected: 07/08/20 17:30		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C								
	Pace Analytical Services - Melville								
Acetone	<5.0	ug/L	5.0	1		07/16/20 18:00	67-64-1	IC	
Benzene	<1.0	ug/L	1.0	1		07/16/20 18:00	71-43-2		
Bromobenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	108-86-1		
Bromochloromethane	<1.0	ug/L	1.0	1		07/16/20 18:00	74-97-5		
Bromodichloromethane	<1.0	ug/L	1.0	1		07/16/20 18:00	75-27-4		
Bromoform	<1.0	ug/L	1.0	1		07/16/20 18:00	75-25-2	CL	
Bromomethane	<1.0	ug/L	1.0	1		07/16/20 18:00	74-83-9		
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/16/20 18:00	78-93-3	IL	
n-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	104-51-8		
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	135-98-8		
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	98-06-6		
Carbon disulfide	<1.0	ug/L	1.0	1		07/16/20 18:00	75-15-0		
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/16/20 18:00	56-23-5	CL	
Chlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	108-90-7		
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 18:00	75-45-6	N3	
Chloroethane	<1.0	ug/L	1.0	1		07/16/20 18:00	75-00-3		
Chloroform	<1.0	ug/L	1.0	1		07/16/20 18:00	67-66-3		
Chloromethane	<1.0	ug/L	1.0	1		07/16/20 18:00	74-87-3		
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 18:00	95-49-8		
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 18:00	106-43-4		
Dibromochloromethane	<1.0	ug/L	1.0	1		07/16/20 18:00	124-48-1		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/16/20 18:00	106-93-4		
Dibromomethane	<1.0	ug/L	1.0	1		07/16/20 18:00	74-95-3		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	95-50-1		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	541-73-1		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	106-46-7		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/16/20 18:00	110-57-6		
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 18:00	75-71-8	CL	
1,1-Dichloroethane	3.2	ug/L	1.0	1		07/16/20 18:00	75-34-3		
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 18:00	107-06-2		
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 18:00	75-35-4		
cis-1,2-Dichloroethene	18.7	ug/L	1.0	1		07/16/20 18:00	156-59-2		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 18:00	156-60-5		
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 18:00	78-87-5		
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 18:00	142-28-9		
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 18:00	594-20-7		
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 18:00	563-58-6		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 18:00	10061-01-5		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 18:00	10061-02-6		
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	105-05-5	N3	
Ethanol	<250	ug/L	250	1		07/16/20 18:00	64-17-5		
Ethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	100-41-4		
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/16/20 18:00	87-68-3		
2-Hexanone	<5.0	ug/L	5.0	1		07/16/20 18:00	591-78-6		
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/16/20 18:00	98-82-8		
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/16/20 18:00	99-87-6		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-3		Lab ID: 70137879009		Collected: 07/08/20 17:30		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	<1.0	ug/L	1.0	1		07/16/20 18:00	75-09-2		
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/16/20 18:00	108-10-1		
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/16/20 18:00	1634-04-4		
Naphthalene	<1.0	ug/L	1.0	1		07/16/20 18:00	91-20-3		
n-Propylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	103-65-1		
Styrene	<1.0	ug/L	1.0	1		07/16/20 18:00	100-42-5		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 18:00	630-20-6		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 18:00	79-34-5		
Tetrachloroethene	1.4	ug/L	1.0	1		07/16/20 18:00	127-18-4		
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	95-93-2	N3	
Toluene	<1.0	ug/L	1.0	1		07/16/20 18:00	108-88-3		
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	87-61-6		
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	120-82-1		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 18:00	71-55-6		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 18:00	79-00-5		
Trichloroethene	4.3	ug/L	1.0	1		07/16/20 18:00	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/16/20 18:00	75-69-4		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/16/20 18:00	96-18-4		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	95-63-6		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:00	108-67-8		
Vinyl chloride	3.7	ug/L	1.0	1		07/16/20 18:00	75-01-4	IH	
Xylene (Total)	<3.0	ug/L	3.0	1		07/16/20 18:00	1330-20-7		
m&p-Xylene	<2.0	ug/L	2.0	1		07/16/20 18:00	179601-23-1		
o-Xylene	<1.0	ug/L	1.0	1		07/16/20 18:00	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	68-153	1		07/16/20 18:00	17060-07-0		
4-Bromofluorobenzene (S)	98	%	79-124	1		07/16/20 18:00	460-00-4		
Toluene-d8 (S)	97	%	69-124	1		07/16/20 18:00	2037-26-5		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-4		Lab ID: 70137879010		Collected: 07/08/20 18:00		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	<5.0	ug/L	5.0	1		07/16/20 18:23	67-64-1	IC	
Benzene	<1.0	ug/L	1.0	1		07/16/20 18:23	71-43-2		
Bromobenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	108-86-1		
Bromochloromethane	<1.0	ug/L	1.0	1		07/16/20 18:23	74-97-5		
Bromodichloromethane	<1.0	ug/L	1.0	1		07/16/20 18:23	75-27-4		
Bromoform	<1.0	ug/L	1.0	1		07/16/20 18:23	75-25-2	CL	
Bromomethane	<1.0	ug/L	1.0	1		07/16/20 18:23	74-83-9		
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/16/20 18:23	78-93-3	IL	
n-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	104-51-8		
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	135-98-8		
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	98-06-6		
Carbon disulfide	<1.0	ug/L	1.0	1		07/16/20 18:23	75-15-0		
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/16/20 18:23	56-23-5	CL	
Chlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	108-90-7		
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 18:23	75-45-6	N3	
Chloroethane	<1.0	ug/L	1.0	1		07/16/20 18:23	75-00-3		
Chloroform	<1.0	ug/L	1.0	1		07/16/20 18:23	67-66-3		
Chloromethane	<1.0	ug/L	1.0	1		07/16/20 18:23	74-87-3		
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 18:23	95-49-8		
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 18:23	106-43-4		
Dibromochloromethane	<1.0	ug/L	1.0	1		07/16/20 18:23	124-48-1		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/16/20 18:23	106-93-4		
Dibromomethane	<1.0	ug/L	1.0	1		07/16/20 18:23	74-95-3		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	95-50-1		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	541-73-1		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	106-46-7		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/16/20 18:23	110-57-6		
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 18:23	75-71-8	CL	
1,1-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 18:23	75-34-3		
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 18:23	107-06-2		
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 18:23	75-35-4		
cis-1,2-Dichloroethene	3.4	ug/L	1.0	1		07/16/20 18:23	156-59-2		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 18:23	156-60-5		
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 18:23	78-87-5		
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 18:23	142-28-9		
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 18:23	594-20-7		
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 18:23	563-58-6		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 18:23	10061-01-5		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 18:23	10061-02-6		
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	105-05-5	N3	
Ethanol	<250	ug/L	250	1		07/16/20 18:23	64-17-5		
Ethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	100-41-4		
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/16/20 18:23	87-68-3		
2-Hexanone	<5.0	ug/L	5.0	1		07/16/20 18:23	591-78-6		
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/16/20 18:23	98-82-8		
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/16/20 18:23	99-87-6		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-4		Lab ID: 70137879010		Collected: 07/08/20 18:00		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	<1.0	ug/L	1.0	1		07/16/20 18:23	75-09-2		
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/16/20 18:23	108-10-1		
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/16/20 18:23	1634-04-4		
Naphthalene	<1.0	ug/L	1.0	1		07/16/20 18:23	91-20-3		
n-Propylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	103-65-1		
Styrene	<1.0	ug/L	1.0	1		07/16/20 18:23	100-42-5		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 18:23	630-20-6		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 18:23	79-34-5		
Tetrachloroethene	<1.0	ug/L	1.0	1		07/16/20 18:23	127-18-4		
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	95-93-2	N3	
Toluene	<1.0	ug/L	1.0	1		07/16/20 18:23	108-88-3		
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	87-61-6		
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	120-82-1		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 18:23	71-55-6		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 18:23	79-00-5		
Trichloroethene	<1.0	ug/L	1.0	1		07/16/20 18:23	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/16/20 18:23	75-69-4		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/16/20 18:23	96-18-4		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	95-63-6		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:23	108-67-8		
Vinyl chloride	2.4	ug/L	1.0	1		07/16/20 18:23	75-01-4	IH	
Xylene (Total)	<3.0	ug/L	3.0	1		07/16/20 18:23	1330-20-7		
m&p-Xylene	<2.0	ug/L	2.0	1		07/16/20 18:23	179601-23-1		
o-Xylene	<1.0	ug/L	1.0	1		07/16/20 18:23	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	68-153	1		07/16/20 18:23	17060-07-0		
4-Bromofluorobenzene (S)	97	%	79-124	1		07/16/20 18:23	460-00-4		
Toluene-d8 (S)	96	%	69-124	1		07/16/20 18:23	2037-26-5		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-4-DUP		Lab ID: 70137879011	Collected: 07/08/20 18:05	Received: 07/11/20 11:05	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville						
Acetone	<5.0	ug/L	5.0	1		07/16/20 18:46	67-64-1	IC
Benzene	<1.0	ug/L	1.0	1		07/16/20 18:46	71-43-2	
Bromobenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	108-86-1	
Bromochloromethane	<1.0	ug/L	1.0	1		07/16/20 18:46	74-97-5	
Bromodichloromethane	<1.0	ug/L	1.0	1		07/16/20 18:46	75-27-4	
Bromoform	<1.0	ug/L	1.0	1		07/16/20 18:46	75-25-2	CL
Bromomethane	<1.0	ug/L	1.0	1		07/16/20 18:46	74-83-9	
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/16/20 18:46	78-93-3	IL
n-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	104-51-8	
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	135-98-8	
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	98-06-6	
Carbon disulfide	<1.0	ug/L	1.0	1		07/16/20 18:46	75-15-0	
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/16/20 18:46	56-23-5	CL
Chlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	108-90-7	
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 18:46	75-45-6	N3
Chloroethane	<1.0	ug/L	1.0	1		07/16/20 18:46	75-00-3	
Chloroform	<1.0	ug/L	1.0	1		07/16/20 18:46	67-66-3	
Chloromethane	<1.0	ug/L	1.0	1		07/16/20 18:46	74-87-3	
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 18:46	95-49-8	
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 18:46	106-43-4	
Dibromochloromethane	<1.0	ug/L	1.0	1		07/16/20 18:46	124-48-1	
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/16/20 18:46	106-93-4	
Dibromomethane	<1.0	ug/L	1.0	1		07/16/20 18:46	74-95-3	
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	95-50-1	
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	541-73-1	
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	106-46-7	
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/16/20 18:46	110-57-6	
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 18:46	75-71-8	CL
1,1-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 18:46	75-34-3	
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 18:46	107-06-2	
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 18:46	75-35-4	
cis-1,2-Dichloroethene	3.6	ug/L	1.0	1		07/16/20 18:46	156-59-2	
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 18:46	156-60-5	
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 18:46	78-87-5	
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 18:46	142-28-9	
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 18:46	594-20-7	
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 18:46	563-58-6	
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 18:46	10061-01-5	
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 18:46	10061-02-6	
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	105-05-5	N3
Ethanol	<250	ug/L	250	1		07/16/20 18:46	64-17-5	
Ethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	100-41-4	
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/16/20 18:46	87-68-3	
2-Hexanone	<5.0	ug/L	5.0	1		07/16/20 18:46	591-78-6	
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/16/20 18:46	98-82-8	
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/16/20 18:46	99-87-6	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-4-DUP		Lab ID: 70137879011	Collected: 07/08/20 18:05	Received: 07/11/20 11:05	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville						
Methylene Chloride	<1.0	ug/L	1.0	1		07/16/20 18:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/16/20 18:46	108-10-1	
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/16/20 18:46	1634-04-4	
Naphthalene	<1.0	ug/L	1.0	1		07/16/20 18:46	91-20-3	
n-Propylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	103-65-1	
Styrene	<1.0	ug/L	1.0	1		07/16/20 18:46	100-42-5	
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 18:46	630-20-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 18:46	79-34-5	
Tetrachloroethene	<1.0	ug/L	1.0	1		07/16/20 18:46	127-18-4	
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	95-93-2	N3
Toluene	<1.0	ug/L	1.0	1		07/16/20 18:46	108-88-3	
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	87-61-6	
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	120-82-1	
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 18:46	71-55-6	
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 18:46	79-00-5	
Trichloroethene	<1.0	ug/L	1.0	1		07/16/20 18:46	79-01-6	
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/16/20 18:46	75-69-4	
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/16/20 18:46	96-18-4	
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	95-63-6	
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 18:46	108-67-8	
Vinyl chloride	2.5	ug/L	1.0	1		07/16/20 18:46	75-01-4	IH
Xylene (Total)	<3.0	ug/L	3.0	1		07/16/20 18:46	1330-20-7	
m&p-Xylene	<2.0	ug/L	2.0	1		07/16/20 18:46	179601-23-1	
o-Xylene	<1.0	ug/L	1.0	1		07/16/20 18:46	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%	68-153	1		07/16/20 18:46	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-124	1		07/16/20 18:46	460-00-4	
Toluene-d8 (S)	97	%	69-124	1		07/16/20 18:46	2037-26-5	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-10		Lab ID: 70137879012		Collected: 07/08/20 07:45		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C								
	Pace Analytical Services - Melville								
Acetone	<5.0	ug/L	5.0	1		07/16/20 19:09	67-64-1	IC	
Benzene	<1.0	ug/L	1.0	1		07/16/20 19:09	71-43-2		
Bromobenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	108-86-1		
Bromochloromethane	<1.0	ug/L	1.0	1		07/16/20 19:09	74-97-5		
Bromodichloromethane	<1.0	ug/L	1.0	1		07/16/20 19:09	75-27-4		
Bromoform	<1.0	ug/L	1.0	1		07/16/20 19:09	75-25-2	CL	
Bromomethane	<1.0	ug/L	1.0	1		07/16/20 19:09	74-83-9		
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/16/20 19:09	78-93-3	IL	
n-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	104-51-8		
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	135-98-8		
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	98-06-6		
Carbon disulfide	<1.0	ug/L	1.0	1		07/16/20 19:09	75-15-0		
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/16/20 19:09	56-23-5	CL	
Chlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	108-90-7		
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 19:09	75-45-6	N3	
Chloroethane	<1.0	ug/L	1.0	1		07/16/20 19:09	75-00-3		
Chloroform	<1.0	ug/L	1.0	1		07/16/20 19:09	67-66-3		
Chloromethane	<1.0	ug/L	1.0	1		07/16/20 19:09	74-87-3		
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 19:09	95-49-8		
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 19:09	106-43-4		
Dibromochloromethane	<1.0	ug/L	1.0	1		07/16/20 19:09	124-48-1		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/16/20 19:09	106-93-4		
Dibromomethane	<1.0	ug/L	1.0	1		07/16/20 19:09	74-95-3		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	95-50-1		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	541-73-1		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	106-46-7		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/16/20 19:09	110-57-6		
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 19:09	75-71-8	CL	
1,1-Dichloroethane	2.4	ug/L	1.0	1		07/16/20 19:09	75-34-3		
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 19:09	107-06-2		
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 19:09	75-35-4		
cis-1,2-Dichloroethene	45.2	ug/L	1.0	1		07/16/20 19:09	156-59-2		
trans-1,2-Dichloroethene	4.1	ug/L	1.0	1		07/16/20 19:09	156-60-5		
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 19:09	78-87-5		
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 19:09	142-28-9		
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 19:09	594-20-7		
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 19:09	563-58-6		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 19:09	10061-01-5		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 19:09	10061-02-6		
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	105-05-5	N3	
Ethanol	<250	ug/L	250	1		07/16/20 19:09	64-17-5		
Ethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	100-41-4		
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/16/20 19:09	87-68-3		
2-Hexanone	<5.0	ug/L	5.0	1		07/16/20 19:09	591-78-6		
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/16/20 19:09	98-82-8		
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/16/20 19:09	99-87-6		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-10		Lab ID: 70137879012		Collected: 07/08/20 07:45		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	<1.0	ug/L	1.0	1		07/16/20 19:09	75-09-2		
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/16/20 19:09	108-10-1		
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/16/20 19:09	1634-04-4		
Naphthalene	<1.0	ug/L	1.0	1		07/16/20 19:09	91-20-3		
n-Propylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	103-65-1		
Styrene	<1.0	ug/L	1.0	1		07/16/20 19:09	100-42-5		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 19:09	630-20-6		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 19:09	79-34-5		
Tetrachloroethene	<1.0	ug/L	1.0	1		07/16/20 19:09	127-18-4		
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	95-93-2	N3	
Toluene	<1.0	ug/L	1.0	1		07/16/20 19:09	108-88-3		
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	87-61-6		
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	120-82-1		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 19:09	71-55-6		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 19:09	79-00-5		
Trichloroethene	<1.0	ug/L	1.0	1		07/16/20 19:09	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/16/20 19:09	75-69-4		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/16/20 19:09	96-18-4		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	95-63-6		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:09	108-67-8		
Vinyl chloride	22.6	ug/L	1.0	1		07/16/20 19:09	75-01-4	IH	
Xylene (Total)	<3.0	ug/L	3.0	1		07/16/20 19:09	1330-20-7		
m&p-Xylene	<2.0	ug/L	2.0	1		07/16/20 19:09	179601-23-1		
o-Xylene	<1.0	ug/L	1.0	1		07/16/20 19:09	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/16/20 19:09	17060-07-0		
4-Bromofluorobenzene (S)	98	%	79-124	1		07/16/20 19:09	460-00-4		
Toluene-d8 (S)	97	%	69-124	1		07/16/20 19:09	2037-26-5		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: PZ-5		Lab ID: 70137879013	Collected: 07/08/20 10:30	Received: 07/11/20 11:05	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville						
Acetone	191	ug/L	25.0	5		07/21/20 17:32	67-64-1	
Benzene	<1.0	ug/L	1.0	1		07/21/20 16:15	71-43-2	
Bromobenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	108-86-1	L1
Bromochloromethane	<1.0	ug/L	1.0	1		07/21/20 16:15	74-97-5	
Bromodichloromethane	<1.0	ug/L	1.0	1		07/21/20 16:15	75-27-4	
Bromoform	<1.0	ug/L	1.0	1		07/21/20 16:15	75-25-2	
Bromomethane	<1.0	ug/L	1.0	1		07/21/20 16:15	74-83-9	
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/21/20 16:15	78-93-3	IL
n-Butylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	104-51-8	
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	135-98-8	
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	98-06-6	
Carbon disulfide	<1.0	ug/L	1.0	1		07/21/20 16:15	75-15-0	
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/21/20 16:15	56-23-5	
Chlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	108-90-7	
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/21/20 16:15	75-45-6	N3
Chloroethane	<1.0	ug/L	1.0	1		07/21/20 16:15	75-00-3	
Chloroform	<1.0	ug/L	1.0	1		07/21/20 16:15	67-66-3	
Chloromethane	<1.0	ug/L	1.0	1		07/21/20 16:15	74-87-3	
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/21/20 16:15	95-49-8	
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/21/20 16:15	106-43-4	
Dibromochloromethane	<1.0	ug/L	1.0	1		07/21/20 16:15	124-48-1	
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/21/20 16:15	106-93-4	
Dibromomethane	<1.0	ug/L	1.0	1		07/21/20 16:15	74-95-3	
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	95-50-1	
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	541-73-1	
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	106-46-7	
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/21/20 16:15	110-57-6	L1
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/21/20 16:15	75-71-8	
1,1-Dichloroethane	<1.0	ug/L	1.0	1		07/21/20 16:15	75-34-3	
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/21/20 16:15	107-06-2	
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/21/20 16:15	75-35-4	
cis-1,2-Dichloroethene	13.7	ug/L	1.0	1		07/21/20 16:15	156-59-2	
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/21/20 16:15	156-60-5	
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/21/20 16:15	78-87-5	
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/21/20 16:15	142-28-9	
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/21/20 16:15	594-20-7	
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/21/20 16:15	563-58-6	
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/21/20 16:15	10061-01-5	L1
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/21/20 16:15	10061-02-6	
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	105-05-5	N3
Ethanol	<250	ug/L	250	1		07/21/20 16:15	64-17-5	
Ethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	100-41-4	
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/21/20 16:15	87-68-3	
2-Hexanone	<5.0	ug/L	5.0	1		07/21/20 16:15	591-78-6	
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/21/20 16:15	98-82-8	
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/21/20 16:15	99-87-6	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: PZ-5	Lab ID: 70137879013	Collected: 07/08/20 10:30	Received: 07/11/20 11:05	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	<1.0	ug/L	1.0	1		07/21/20 16:15	75-09-2	CL
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/21/20 16:15	108-10-1	
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/21/20 16:15	1634-04-4	
Naphthalene	<1.0	ug/L	1.0	1		07/21/20 16:15	91-20-3	CL,L2
n-Propylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	103-65-1	
Styrene	<1.0	ug/L	1.0	1		07/21/20 16:15	100-42-5	
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/21/20 16:15	630-20-6	L1
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/21/20 16:15	79-34-5	
Tetrachloroethene	54.5	ug/L	1.0	1		07/21/20 16:15	127-18-4	
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	95-93-2	N3
Toluene	<1.0	ug/L	1.0	1		07/21/20 16:15	108-88-3	
1,2,3-Trichlorobenzene	1.3	ug/L	1.0	1		07/21/20 16:15	87-61-6	CL,L2
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	120-82-1	
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/21/20 16:15	71-55-6	
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/21/20 16:15	79-00-5	
Trichloroethene	11.5	ug/L	1.0	1		07/21/20 16:15	79-01-6	
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/21/20 16:15	75-69-4	
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/21/20 16:15	96-18-4	
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	95-63-6	
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:15	108-67-8	
Vinyl chloride	<1.0	ug/L	1.0	1		07/21/20 16:15	75-01-4	
Xylene (Total)	<3.0	ug/L	3.0	1		07/21/20 16:15	1330-20-7	
m&p-Xylene	<2.0	ug/L	2.0	1		07/21/20 16:15	179601-23-1	
o-Xylene	<1.0	ug/L	1.0	1		07/21/20 16:15	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/21/20 16:15	17060-07-0	
4-Bromofluorobenzene (S)	95	%	79-124	1		07/21/20 16:15	460-00-4	
Toluene-d8 (S)	98	%	69-124	1		07/21/20 16:15	2037-26-5	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: PZ-6		Lab ID: 70137879014		Collected: 07/08/20 10:45		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	41.2	ug/L	5.0	1		07/21/20 16:34	67-64-1		
Benzene	<1.0	ug/L	1.0	1		07/21/20 16:34	71-43-2		
Bromobenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	108-86-1	L1	
Bromochloromethane	<1.0	ug/L	1.0	1		07/21/20 16:34	74-97-5		
Bromodichloromethane	<1.0	ug/L	1.0	1		07/21/20 16:34	75-27-4		
Bromoform	<1.0	ug/L	1.0	1		07/21/20 16:34	75-25-2		
Bromomethane	<1.0	ug/L	1.0	1		07/21/20 16:34	74-83-9		
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/21/20 16:34	78-93-3	IL	
n-Butylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	104-51-8		
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	135-98-8		
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	98-06-6		
Carbon disulfide	<1.0	ug/L	1.0	1		07/21/20 16:34	75-15-0		
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/21/20 16:34	56-23-5		
Chlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	108-90-7		
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/21/20 16:34	75-45-6	N3	
Chloroethane	<1.0	ug/L	1.0	1		07/21/20 16:34	75-00-3		
Chloroform	<1.0	ug/L	1.0	1		07/21/20 16:34	67-66-3		
Chloromethane	<1.0	ug/L	1.0	1		07/21/20 16:34	74-87-3		
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/21/20 16:34	95-49-8		
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/21/20 16:34	106-43-4		
Dibromochloromethane	<1.0	ug/L	1.0	1		07/21/20 16:34	124-48-1		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/21/20 16:34	106-93-4		
Dibromomethane	<1.0	ug/L	1.0	1		07/21/20 16:34	74-95-3		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	95-50-1		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	541-73-1		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	106-46-7		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/21/20 16:34	110-57-6	L1	
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/21/20 16:34	75-71-8		
1,1-Dichloroethane	<1.0	ug/L	1.0	1		07/21/20 16:34	75-34-3		
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/21/20 16:34	107-06-2		
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/21/20 16:34	75-35-4		
cis-1,2-Dichloroethene	7.0	ug/L	1.0	1		07/21/20 16:34	156-59-2		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/21/20 16:34	156-60-5		
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/21/20 16:34	78-87-5		
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/21/20 16:34	142-28-9		
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/21/20 16:34	594-20-7		
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/21/20 16:34	563-58-6		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/21/20 16:34	10061-01-5	L1	
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/21/20 16:34	10061-02-6		
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	105-05-5	N3	
Ethanol	<250	ug/L	250	1		07/21/20 16:34	64-17-5		
Ethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	100-41-4		
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/21/20 16:34	87-68-3		
2-Hexanone	<5.0	ug/L	5.0	1		07/21/20 16:34	591-78-6		
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/21/20 16:34	98-82-8		
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/21/20 16:34	99-87-6		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: PZ-6		Lab ID: 70137879014		Collected: 07/08/20 10:45		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	<1.0	ug/L	1.0	1		07/21/20 16:34	75-09-2	CL	
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/21/20 16:34	108-10-1		
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/21/20 16:34	1634-04-4		
Naphthalene	<1.0	ug/L	1.0	1		07/21/20 16:34	91-20-3	CL,L2	
n-Propylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	103-65-1		
Styrene	<1.0	ug/L	1.0	1		07/21/20 16:34	100-42-5		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/21/20 16:34	630-20-6	L1	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/21/20 16:34	79-34-5		
Tetrachloroethene	<1.0	ug/L	1.0	1		07/21/20 16:34	127-18-4		
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	95-93-2	N3	
Toluene	<1.0	ug/L	1.0	1		07/21/20 16:34	108-88-3		
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	87-61-6	CL,L2	
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	120-82-1		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/21/20 16:34	71-55-6		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/21/20 16:34	79-00-5		
Trichloroethene	1.9	ug/L	1.0	1		07/21/20 16:34	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/21/20 16:34	75-69-4		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/21/20 16:34	96-18-4		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	95-63-6		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:34	108-67-8		
Vinyl chloride	<1.0	ug/L	1.0	1		07/21/20 16:34	75-01-4		
Xylene (Total)	<3.0	ug/L	3.0	1		07/21/20 16:34	1330-20-7		
m&p-Xylene	<2.0	ug/L	2.0	1		07/21/20 16:34	179601-23-1		
o-Xylene	<1.0	ug/L	1.0	1		07/21/20 16:34	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%	68-153	1		07/21/20 16:34	17060-07-0		
4-Bromofluorobenzene (S)	93	%	79-124	1		07/21/20 16:34	460-00-4		
Toluene-d8 (S)	95	%	69-124	1		07/21/20 16:34	2037-26-5		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: PZ-11R		Lab ID: 70137879015		Collected: 07/08/20 10:00		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C								
	Pace Analytical Services - Melville								
Acetone	5.0	ug/L	5.0	1		07/16/20 19:32	67-64-1	CH,IC	
Benzene	<1.0	ug/L	1.0	1		07/16/20 19:32	71-43-2		
Bromobenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	108-86-1		
Bromochloromethane	<1.0	ug/L	1.0	1		07/16/20 19:32	74-97-5		
Bromodichloromethane	<1.0	ug/L	1.0	1		07/16/20 19:32	75-27-4		
Bromoform	<1.0	ug/L	1.0	1		07/16/20 19:32	75-25-2	CL	
Bromomethane	<1.0	ug/L	1.0	1		07/16/20 19:32	74-83-9		
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/16/20 19:32	78-93-3	IL	
n-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	104-51-8		
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	135-98-8		
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	98-06-6		
Carbon disulfide	<1.0	ug/L	1.0	1		07/16/20 19:32	75-15-0		
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/16/20 19:32	56-23-5	CL	
Chlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	108-90-7		
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 19:32	75-45-6	N3	
Chloroethane	<1.0	ug/L	1.0	1		07/16/20 19:32	75-00-3		
Chloroform	<1.0	ug/L	1.0	1		07/16/20 19:32	67-66-3		
Chloromethane	<1.0	ug/L	1.0	1		07/16/20 19:32	74-87-3		
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 19:32	95-49-8		
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 19:32	106-43-4		
Dibromochloromethane	<1.0	ug/L	1.0	1		07/16/20 19:32	124-48-1		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/16/20 19:32	106-93-4		
Dibromomethane	<1.0	ug/L	1.0	1		07/16/20 19:32	74-95-3		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	95-50-1		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	541-73-1		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	106-46-7		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/16/20 19:32	110-57-6		
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 19:32	75-71-8	CL	
1,1-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 19:32	75-34-3		
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 19:32	107-06-2		
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 19:32	75-35-4		
cis-1,2-Dichloroethene	1.7	ug/L	1.0	1		07/16/20 19:32	156-59-2		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 19:32	156-60-5		
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 19:32	78-87-5		
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 19:32	142-28-9		
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 19:32	594-20-7		
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 19:32	563-58-6		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 19:32	10061-01-5		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 19:32	10061-02-6		
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	105-05-5	N3	
Ethanol	<250	ug/L	250	1		07/16/20 19:32	64-17-5		
Ethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	100-41-4		
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/16/20 19:32	87-68-3		
2-Hexanone	<5.0	ug/L	5.0	1		07/16/20 19:32	591-78-6		
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/16/20 19:32	98-82-8		
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/16/20 19:32	99-87-6		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: PZ-11R		Lab ID: 70137879015		Collected: 07/08/20 10:00		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	<1.0	ug/L	1.0	1		07/16/20 19:32	75-09-2	N3	
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/16/20 19:32	108-10-1		
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/16/20 19:32	1634-04-4		
Naphthalene	<1.0	ug/L	1.0	1		07/16/20 19:32	91-20-3		
n-Propylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	103-65-1		
Styrene	<1.0	ug/L	1.0	1		07/16/20 19:32	100-42-5		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 19:32	630-20-6		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 19:32	79-34-5		
Tetrachloroethene	3.0	ug/L	1.0	1		07/16/20 19:32	127-18-4		
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	95-93-2		
Toluene	<1.0	ug/L	1.0	1		07/16/20 19:32	108-88-3		
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	87-61-6		
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	120-82-1		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 19:32	71-55-6		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 19:32	79-00-5		
Trichloroethene	5.4	ug/L	1.0	1		07/16/20 19:32	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/16/20 19:32	75-69-4		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/16/20 19:32	96-18-4		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	95-63-6		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:32	108-67-8		
Vinyl chloride	<1.0	ug/L	1.0	1		07/16/20 19:32	75-01-4		
Xylene (Total)	<3.0	ug/L	3.0	1		07/16/20 19:32	1330-20-7		
m&p-Xylene	<2.0	ug/L	2.0	1		07/16/20 19:32	179601-23-1		
o-Xylene	<1.0	ug/L	1.0	1		07/16/20 19:32	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/16/20 19:32	17060-07-0		
4-Bromofluorobenzene (S)	99	%	79-124	1		07/16/20 19:32	460-00-4		
Toluene-d8 (S)	96	%	69-124	1		07/16/20 19:32	2037-26-5		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: PZ-13R		Lab ID: 70137879016		Collected: 07/08/20 10:15		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C								
	Pace Analytical Services - Melville								
Acetone	<5.0	ug/L	5.0	1		07/16/20 19:55	67-64-1	IC	
Benzene	<1.0	ug/L	1.0	1		07/16/20 19:55	71-43-2		
Bromobenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	108-86-1		
Bromochloromethane	<1.0	ug/L	1.0	1		07/16/20 19:55	74-97-5		
Bromodichloromethane	<1.0	ug/L	1.0	1		07/16/20 19:55	75-27-4		
Bromoform	<1.0	ug/L	1.0	1		07/16/20 19:55	75-25-2	CL	
Bromomethane	<1.0	ug/L	1.0	1		07/16/20 19:55	74-83-9		
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/16/20 19:55	78-93-3	IL	
n-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	104-51-8		
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	135-98-8		
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	98-06-6		
Carbon disulfide	<1.0	ug/L	1.0	1		07/16/20 19:55	75-15-0		
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/16/20 19:55	56-23-5	CL	
Chlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	108-90-7		
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 19:55	75-45-6	N3	
Chloroethane	<1.0	ug/L	1.0	1		07/16/20 19:55	75-00-3		
Chloroform	<1.0	ug/L	1.0	1		07/16/20 19:55	67-66-3		
Chloromethane	<1.0	ug/L	1.0	1		07/16/20 19:55	74-87-3		
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 19:55	95-49-8		
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/16/20 19:55	106-43-4		
Dibromochloromethane	<1.0	ug/L	1.0	1		07/16/20 19:55	124-48-1		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/16/20 19:55	106-93-4		
Dibromomethane	<1.0	ug/L	1.0	1		07/16/20 19:55	74-95-3		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	95-50-1		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	541-73-1		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	106-46-7		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/16/20 19:55	110-57-6		
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/16/20 19:55	75-71-8	CL	
1,1-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 19:55	75-34-3		
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/16/20 19:55	107-06-2		
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 19:55	75-35-4		
cis-1,2-Dichloroethene	1.8	ug/L	1.0	1		07/16/20 19:55	156-59-2		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/16/20 19:55	156-60-5		
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 19:55	78-87-5		
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 19:55	142-28-9		
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/16/20 19:55	594-20-7		
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 19:55	563-58-6		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 19:55	10061-01-5		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/16/20 19:55	10061-02-6		
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	105-05-5	N3	
Ethanol	<250	ug/L	250	1		07/16/20 19:55	64-17-5		
Ethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	100-41-4		
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/16/20 19:55	87-68-3		
2-Hexanone	<5.0	ug/L	5.0	1		07/16/20 19:55	591-78-6		
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/16/20 19:55	98-82-8		
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/16/20 19:55	99-87-6		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: PZ-13R		Lab ID: 70137879016		Collected: 07/08/20 10:15		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	<1.0	ug/L	1.0	1		07/16/20 19:55	75-09-2	N3	
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/16/20 19:55	108-10-1		
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/16/20 19:55	1634-04-4		
Naphthalene	<1.0	ug/L	1.0	1		07/16/20 19:55	91-20-3		
n-Propylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	103-65-1		
Styrene	<1.0	ug/L	1.0	1		07/16/20 19:55	100-42-5		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 19:55	630-20-6		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/16/20 19:55	79-34-5		
Tetrachloroethene	<1.0	ug/L	1.0	1		07/16/20 19:55	127-18-4		
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	95-93-2		
Toluene	<1.0	ug/L	1.0	1		07/16/20 19:55	108-88-3		
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	87-61-6		
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	120-82-1		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 19:55	71-55-6		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/16/20 19:55	79-00-5		
Trichloroethene	3.3	ug/L	1.0	1		07/16/20 19:55	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/16/20 19:55	75-69-4		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/16/20 19:55	96-18-4		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	95-63-6		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/16/20 19:55	108-67-8		
Vinyl chloride	<1.0	ug/L	1.0	1		07/16/20 19:55	75-01-4		
Xylene (Total)	<3.0	ug/L	3.0	1		07/16/20 19:55	1330-20-7		
m&p-Xylene	<2.0	ug/L	2.0	1		07/16/20 19:55	179601-23-1		
o-Xylene	<1.0	ug/L	1.0	1		07/16/20 19:55	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/16/20 19:55	17060-07-0		
4-Bromofluorobenzene (S)	98	%	79-124	1		07/16/20 19:55	460-00-4		
Toluene-d8 (S)	96	%	69-124	1		07/16/20 19:55	2037-26-5		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-20		Lab ID: 70137879017		Collected: 07/08/20 09:00		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	<5.0	ug/L	5.0	1		07/21/20 16:53	67-64-1		
Benzene	<1.0	ug/L	1.0	1		07/21/20 16:53	71-43-2		
Bromobenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	108-86-1	L1	
Bromochloromethane	<1.0	ug/L	1.0	1		07/21/20 16:53	74-97-5		
Bromodichloromethane	<1.0	ug/L	1.0	1		07/21/20 16:53	75-27-4		
Bromoform	<1.0	ug/L	1.0	1		07/21/20 16:53	75-25-2		
Bromomethane	<1.0	ug/L	1.0	1		07/21/20 16:53	74-83-9		
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/21/20 16:53	78-93-3	IL	
n-Butylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	104-51-8		
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	135-98-8		
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	98-06-6		
Carbon disulfide	<1.0	ug/L	1.0	1		07/21/20 16:53	75-15-0		
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/21/20 16:53	56-23-5		
Chlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	108-90-7		
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/21/20 16:53	75-45-6	N3	
Chloroethane	<1.0	ug/L	1.0	1		07/21/20 16:53	75-00-3		
Chloroform	<1.0	ug/L	1.0	1		07/21/20 16:53	67-66-3		
Chloromethane	<1.0	ug/L	1.0	1		07/21/20 16:53	74-87-3		
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/21/20 16:53	95-49-8		
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/21/20 16:53	106-43-4		
Dibromochloromethane	<1.0	ug/L	1.0	1		07/21/20 16:53	124-48-1		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/21/20 16:53	106-93-4		
Dibromomethane	<1.0	ug/L	1.0	1		07/21/20 16:53	74-95-3		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	95-50-1		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	541-73-1		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	106-46-7		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/21/20 16:53	110-57-6	L1	
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/21/20 16:53	75-71-8		
1,1-Dichloroethane	<1.0	ug/L	1.0	1		07/21/20 16:53	75-34-3		
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/21/20 16:53	107-06-2		
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/21/20 16:53	75-35-4		
cis-1,2-Dichloroethene	2.7	ug/L	1.0	1		07/21/20 16:53	156-59-2		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/21/20 16:53	156-60-5		
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/21/20 16:53	78-87-5		
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/21/20 16:53	142-28-9		
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/21/20 16:53	594-20-7		
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/21/20 16:53	563-58-6		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/21/20 16:53	10061-01-5	L1	
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/21/20 16:53	10061-02-6		
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	105-05-5	N3	
Ethanol	<250	ug/L	250	1		07/21/20 16:53	64-17-5		
Ethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	100-41-4		
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/21/20 16:53	87-68-3		
2-Hexanone	<5.0	ug/L	5.0	1		07/21/20 16:53	591-78-6		
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/21/20 16:53	98-82-8		
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/21/20 16:53	99-87-6		

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-20	Lab ID: 70137879017	Collected: 07/08/20 09:00	Received: 07/11/20 11:05	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	<1.0	ug/L	1.0	1		07/21/20 16:53	75-09-2	CL
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/21/20 16:53	108-10-1	
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/21/20 16:53	1634-04-4	
Naphthalene	<1.0	ug/L	1.0	1		07/21/20 16:53	91-20-3	CL,L2
n-Propylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	103-65-1	
Styrene	<1.0	ug/L	1.0	1		07/21/20 16:53	100-42-5	
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/21/20 16:53	630-20-6	L1
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/21/20 16:53	79-34-5	
Tetrachloroethene	<1.0	ug/L	1.0	1		07/21/20 16:53	127-18-4	
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	95-93-2	N3
Toluene	<1.0	ug/L	1.0	1		07/21/20 16:53	108-88-3	
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	87-61-6	CL,L2
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	120-82-1	
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/21/20 16:53	71-55-6	
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/21/20 16:53	79-00-5	
Trichloroethene	<1.0	ug/L	1.0	1		07/21/20 16:53	79-01-6	
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/21/20 16:53	75-69-4	
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/21/20 16:53	96-18-4	
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	95-63-6	
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/21/20 16:53	108-67-8	
Vinyl chloride	19.2	ug/L	1.0	1		07/21/20 16:53	75-01-4	CH,IH
Xylene (Total)	<3.0	ug/L	3.0	1		07/21/20 16:53	1330-20-7	
m&p-Xylene	<2.0	ug/L	2.0	1		07/21/20 16:53	179601-23-1	
o-Xylene	<1.0	ug/L	1.0	1		07/21/20 16:53	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%	68-153	1		07/21/20 16:53	17060-07-0	
4-Bromofluorobenzene (S)	93	%	79-124	1		07/21/20 16:53	460-00-4	
Toluene-d8 (S)	98	%	69-124	1		07/21/20 16:53	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-21		Lab ID: 70137879018		Collected: 07/08/20 08:30		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	<5.0	ug/L	5.0	1		07/21/20 17:13	67-64-1		
Benzene	<1.0	ug/L	1.0	1		07/21/20 17:13	71-43-2		
Bromobenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	108-86-1	L1	
Bromochloromethane	<1.0	ug/L	1.0	1		07/21/20 17:13	74-97-5		
Bromodichloromethane	<1.0	ug/L	1.0	1		07/21/20 17:13	75-27-4		
Bromoform	<1.0	ug/L	1.0	1		07/21/20 17:13	75-25-2		
Bromomethane	<1.0	ug/L	1.0	1		07/21/20 17:13	74-83-9		
2-Butanone (MEK)	<5.0	ug/L	5.0	1		07/21/20 17:13	78-93-3	IL	
n-Butylbenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	104-51-8		
sec-Butylbenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	135-98-8		
tert-Butylbenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	98-06-6		
Carbon disulfide	<1.0	ug/L	1.0	1		07/21/20 17:13	75-15-0		
Carbon tetrachloride	<1.0	ug/L	1.0	1		07/21/20 17:13	56-23-5		
Chlorobenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	108-90-7		
Chlorodifluoromethane	<1.0	ug/L	1.0	1		07/21/20 17:13	75-45-6	N3	
Chloroethane	<1.0	ug/L	1.0	1		07/21/20 17:13	75-00-3		
Chloroform	<1.0	ug/L	1.0	1		07/21/20 17:13	67-66-3		
Chloromethane	<1.0	ug/L	1.0	1		07/21/20 17:13	74-87-3		
2-Chlorotoluene	<1.0	ug/L	1.0	1		07/21/20 17:13	95-49-8		
4-Chlorotoluene	<1.0	ug/L	1.0	1		07/21/20 17:13	106-43-4		
Dibromochloromethane	<1.0	ug/L	1.0	1		07/21/20 17:13	124-48-1		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		07/21/20 17:13	106-93-4		
Dibromomethane	<1.0	ug/L	1.0	1		07/21/20 17:13	74-95-3		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	95-50-1		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	541-73-1		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	106-46-7		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1		07/21/20 17:13	110-57-6	L1	
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		07/21/20 17:13	75-71-8		
1,1-Dichloroethane	<1.0	ug/L	1.0	1		07/21/20 17:13	75-34-3		
1,2-Dichloroethane	<1.0	ug/L	1.0	1		07/21/20 17:13	107-06-2		
1,1-Dichloroethene	<1.0	ug/L	1.0	1		07/21/20 17:13	75-35-4		
cis-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/21/20 17:13	156-59-2		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1		07/21/20 17:13	156-60-5		
1,2-Dichloropropane	<1.0	ug/L	1.0	1		07/21/20 17:13	78-87-5		
1,3-Dichloropropane	<1.0	ug/L	1.0	1		07/21/20 17:13	142-28-9		
2,2-Dichloropropane	<1.0	ug/L	1.0	1		07/21/20 17:13	594-20-7		
1,1-Dichloropropene	<1.0	ug/L	1.0	1		07/21/20 17:13	563-58-6		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/21/20 17:13	10061-01-5	L1	
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		07/21/20 17:13	10061-02-6		
1,4-Diethylbenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	105-05-5	N3	
Ethanol	<250	ug/L	250	1		07/21/20 17:13	64-17-5		
Ethylbenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	100-41-4		
Hexachloro-1,3-butadiene	<1.0	ug/L	1.0	1		07/21/20 17:13	87-68-3		
2-Hexanone	<5.0	ug/L	5.0	1		07/21/20 17:13	591-78-6		
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		07/21/20 17:13	98-82-8		
p-Isopropyltoluene	<1.0	ug/L	1.0	1		07/21/20 17:13	99-87-6		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Sample: MW-21		Lab ID: 70137879018		Collected: 07/08/20 08:30		Received: 07/11/20 11:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	<1.0	ug/L	1.0	1		07/21/20 17:13	75-09-2	CL	
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		07/21/20 17:13	108-10-1		
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		07/21/20 17:13	1634-04-4		
Naphthalene	<1.0	ug/L	1.0	1		07/21/20 17:13	91-20-3	CL,L2	
n-Propylbenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	103-65-1		
Styrene	<1.0	ug/L	1.0	1		07/21/20 17:13	100-42-5		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/21/20 17:13	630-20-6	L1	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		07/21/20 17:13	79-34-5		
Tetrachloroethene	<1.0	ug/L	1.0	1		07/21/20 17:13	127-18-4		
1,2,4,5-tetramethylbenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	95-93-2	N3	
Toluene	<1.0	ug/L	1.0	1		07/21/20 17:13	108-88-3		
1,2,3-Trichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	87-61-6	CL,L2	
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	120-82-1		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		07/21/20 17:13	71-55-6		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		07/21/20 17:13	79-00-5		
Trichloroethene	<1.0	ug/L	1.0	1		07/21/20 17:13	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		07/21/20 17:13	75-69-4		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1		07/21/20 17:13	96-18-4		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	95-63-6		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1		07/21/20 17:13	108-67-8		
Vinyl chloride	2.5	ug/L	1.0	1		07/21/20 17:13	75-01-4	CH,IH	
Xylene (Total)	<3.0	ug/L	3.0	1		07/21/20 17:13	1330-20-7		
m&p-Xylene	<2.0	ug/L	2.0	1		07/21/20 17:13	179601-23-1		
o-Xylene	<1.0	ug/L	1.0	1		07/21/20 17:13	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/21/20 17:13	17060-07-0		
4-Bromofluorobenzene (S)	94	%	79-124	1		07/21/20 17:13	460-00-4		
Toluene-d8 (S)	99	%	69-124	1		07/21/20 17:13	2037-26-5		

REPORT OF LABORATORY ANALYSIS

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FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>Eurofins TestAmerica, Burlington</u>	Job No.: <u>200-54421-1</u>
SDG No.: <u>70137879</u>	
Client Sample ID: <u>AZ-PZ-1</u>	Lab Sample ID: <u>200-54421-1</u>
Matrix: <u>Water</u>	Lab File ID: <u>PA200721A16.d</u>
Analysis Method: <u>25101:2009</u>	Date Collected: <u>07/08/2020 10:15</u>
Extraction Method: <u>25101:2009 SPE</u>	Date Extracted: <u>07/21/2020 12:30</u>
Sample wt/vol: <u>275.1 (mL)</u>	Date Analyzed: <u>07/21/2020 19:42</u>
Con. Extract Vol.: <u>10 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>20 (uL)</u>	GC Column: <u>C-18</u> ID: <u>4.6 (mm)</u>
% Moisture: _____	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>157082</u>	Units: <u>ng/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
375-85-9	Perfluoroheptanoic acid (PFHpA)	6.19		1.82	
335-67-1	Perfluorooctanoic acid (PFOA)	9.32		1.82	
375-95-1	Perfluorononanoic acid (PFNA)	1.82	U	1.82	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.82	U	1.82	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.82	U	1.82	
375-22-4	Perfluorobutanoic acid	27.4		1.82	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.14		1.82	
375-92-8	Perfluoroheptanesulfonic acid	1.82	U	1.82	
754-91-6	Perfluorooctanesulfonamide	9.09	U	9.09	
2706-90-3	Perfluoropentanoic acid	13.5		1.82	
335-76-2	Perfluorodecanoic acid	1.82	U	1.82	
307-55-1	Perfluorododecanoic acid	1.82	U	1.82	
307-24-4	Perfluorohexanoic acid	9.80		1.82	
376-06-7	Perfluorotetradecanoic acid	1.82	U	1.82	
39108-34-4	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	18.2	U	18.2	
72629-94-8	Perfluorotridecanoic acid	1.82	U	1.82	
27619-97-2	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	18.2	U	18.2	
2058-94-8	Perfluoroundecanoic acid	1.82	U	1.82	
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid	18.2	U	18.2	
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid	18.2	U	18.2	
335-77-3	Perfluorodecanesulfonic acid	1.82	U	1.82	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>Eurofins TestAmerica, Burlington</u>	Job No.: <u>200-54421-1</u>
SDG No.: <u>70137879</u>	
Client Sample ID: <u>AZ-PZ-1</u>	Lab Sample ID: <u>200-54421-1</u>
Matrix: <u>Water</u>	Lab File ID: <u>PA200721A16.d</u>
Analysis Method: <u>25101:2009</u>	Date Collected: <u>07/08/2020 10:15</u>
Extraction Method: <u>25101:2009 SPE</u>	Date Extracted: <u>07/21/2020 12:30</u>
Sample wt/vol: <u>275.1 (mL)</u>	Date Analyzed: <u>07/21/2020 19:42</u>
Con. Extract Vol.: <u>10 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>20 (uL)</u>	GC Column: <u>C-18</u> ID: <u>4.6 (mm)</u>
% Moisture: <u></u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>157082</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00994	18O2 PFHxS	76		50-150
STL01892	13C4 PFHpA	64		50-150
STL00990	13C4 PFOA	89		70-130
STL00991	13C4 PFOS	86		70-130
STL00995	13C5 PFNA	95		50-150
STL02279	M2-6:2 FTS	100		50-150
STL02280	M2-8:2 FTS	96		50-150
STL02116	13C2 PFTeDA	69		50-150
STL02118	d3-NMeFOSAA	71		50-150
STL02117	d5-NEtFOSAA	75		50-150
STL00992	13C4 PFBA	82		50-150
STL00998	13C2 PFDoA	71		50-150
STL00993	13C2 PFHxA	97		50-150
STL00996	13C2 PFDA	94		50-150
STL00997	13C2 PFUnA	81		50-150
STL01056	13C8 FOSA	74		50-150
STL01893	13C5 PFPeA	86		50-150
STL02337	13C3 PFBS	94		50-150

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>Eurofins TestAmerica, Burlington</u>	Job No.: <u>200-54421-1</u>
SDG No.: <u>70137879</u>	
Client Sample ID: <u>EQUIPMENT BLANK</u>	Lab Sample ID: <u>200-54421-3</u>
Matrix: <u>Water</u>	Lab File ID: <u>PA200721A18.d</u>
Analysis Method: <u>25101:2009</u>	Date Collected: <u>07/08/2020 10:05</u>
Extraction Method: <u>25101:2009 SPE</u>	Date Extracted: <u>07/21/2020 12:30</u>
Sample wt/vol: <u>274.3 (mL)</u>	Date Analyzed: <u>07/21/2020 19:59</u>
Con. Extract Vol.: <u>10 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>20 (uL)</u>	GC Column: <u>C-18</u> ID: <u>4.6 (mm)</u>
% Moisture: <u></u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>157082</u>	Units: <u>ng/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.82	U	1.82	
335-67-1	Perfluorooctanoic acid (PFOA)	1.82	U	1.82	
375-95-1	Perfluorononanoic acid (PFNA)	1.82	U	1.82	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.82	U	1.82	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.82	U	1.82	
375-22-4	Perfluorobutanoic acid	1.82	U	1.82	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.82	U	1.82	
375-92-8	Perfluoroheptanesulfonic acid	1.82	U	1.82	
754-91-6	Perfluorooctanesulfonamide	9.11	U	9.11	
2706-90-3	Perfluoropentanoic acid	1.82	U	1.82	
335-76-2	Perfluorodecanoic acid	1.82	U	1.82	
307-55-1	Perfluorododecanoic acid	1.82	U	1.82	
307-24-4	Perfluorohexanoic acid	1.82	U	1.82	
376-06-7	Perfluorotetradecanoic acid	1.82	U	1.82	
39108-34-4	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	18.2	U	18.2	
72629-94-8	Perfluorotridecanoic acid	1.82	U	1.82	
27619-97-2	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	18.2	U	18.2	
2058-94-8	Perfluoroundecanoic acid	1.82	U	1.82	
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid	18.2	U	18.2	
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid	18.2	U	18.2	
335-77-3	Perfluorodecanesulfonic acid	1.82	U	1.82	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>Eurofins TestAmerica, Burlington</u>	Job No.: <u>200-54421-1</u>
SDG No.: <u>70137879</u>	
Client Sample ID: <u>EQUIPMENT BLANK</u>	Lab Sample ID: <u>200-54421-3</u>
Matrix: <u>Water</u>	Lab File ID: <u>PA200721A18.d</u>
Analysis Method: <u>25101:2009</u>	Date Collected: <u>07/08/2020 10:05</u>
Extraction Method: <u>25101:2009 SPE</u>	Date Extracted: <u>07/21/2020 12:30</u>
Sample wt/vol: <u>274.3 (mL)</u>	Date Analyzed: <u>07/21/2020 19:59</u>
Con. Extract Vol.: <u>10 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>20 (uL)</u>	GC Column: <u>C-18</u> ID: <u>4.6 (mm)</u>
% Moisture: <u></u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>157082</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00994	18O2 PFHxS	74		50-150
STL01892	13C4 PFHpA	61		50-150
STL00990	13C4 PFOA	94		70-130
STL00991	13C4 PFOS	81		70-130
STL00995	13C5 PFNA	92		50-150
STL02279	M2-6:2 FTS	92		50-150
STL02280	M2-8:2 FTS	90		50-150
STL02116	13C2 PFTeDA	67		50-150
STL02118	d3-NMeFOSAA	69		50-150
STL02117	d5-NEtFOSAA	73		50-150
STL00992	13C4 PFBA	101		50-150
STL00998	13C2 PFDoA	68		50-150
STL00993	13C2 PFHxA	96		50-150
STL00996	13C2 PFDA	89		50-150
STL00997	13C2 PFUnA	72		50-150
STL01056	13C8 FOSA	66		50-150
STL01893	13C5 PFPeA	104		50-150
STL02337	13C3 PFBS	98		50-150

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>Eurofins TestAmerica, Burlington</u>	Job No.: <u>200-54421-1</u>
SDG No.: <u>70137879</u>	
Client Sample ID: <u>FIELD BLANK</u>	Lab Sample ID: <u>200-54421-2</u>
Matrix: <u>Water</u>	Lab File ID: <u>PA200721A17.d</u>
Analysis Method: <u>25101:2009</u>	Date Collected: <u>07/08/2020 09:55</u>
Extraction Method: <u>25101:2009 SPE</u>	Date Extracted: <u>07/21/2020 12:30</u>
Sample wt/vol: <u>279.2 (mL)</u>	Date Analyzed: <u>07/21/2020 19:50</u>
Con. Extract Vol.: <u>10 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>20 (uL)</u>	GC Column: <u>C-18</u> ID: <u>4.6 (mm)</u>
% Moisture: _____	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>157082</u>	Units: <u>ng/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.79	U	1.79	
335-67-1	Perfluorooctanoic acid (PFOA)	1.79	U	1.79	
375-95-1	Perfluorononanoic acid (PFNA)	1.79	U	1.79	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.79	U	1.79	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.79	U	1.79	
375-22-4	Perfluorobutanoic acid	1.79	U	1.79	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.79	U	1.79	
375-92-8	Perfluoroheptanesulfonic acid	1.79	U	1.79	
754-91-6	Perfluorooctanesulfonamide	8.95	U	8.95	
2706-90-3	Perfluoropentanoic acid	1.79	U	1.79	
335-76-2	Perfluorodecanoic acid	1.79	U	1.79	
307-55-1	Perfluorododecanoic acid	1.79	U	1.79	
307-24-4	Perfluorohexanoic acid	1.79	U	1.79	
376-06-7	Perfluorotetradecanoic acid	1.79	U	1.79	
39108-34-4	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	17.9	U	17.9	
72629-94-8	Perfluorotridecanoic acid	1.79	U	1.79	
27619-97-2	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	17.9	U	17.9	
2058-94-8	Perfluoroundecanoic acid	1.79	U	1.79	
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid	17.9	U	17.9	
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid	17.9	U	17.9	
335-77-3	Perfluorodecanesulfonic acid	1.79	U	1.79	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>Eurofins TestAmerica, Burlington</u>	Job No.: <u>200-54421-1</u>
SDG No.: <u>70137879</u>	
Client Sample ID: <u>FIELD BLANK</u>	Lab Sample ID: <u>200-54421-2</u>
Matrix: <u>Water</u>	Lab File ID: <u>PA200721A17.d</u>
Analysis Method: <u>25101:2009</u>	Date Collected: <u>07/08/2020 09:55</u>
Extraction Method: <u>25101:2009 SPE</u>	Date Extracted: <u>07/21/2020 12:30</u>
Sample wt/vol: <u>279.2 (mL)</u>	Date Analyzed: <u>07/21/2020 19:50</u>
Con. Extract Vol.: <u>10 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>20 (uL)</u>	GC Column: <u>C-18</u> ID: <u>4.6 (mm)</u>
% Moisture: <u></u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>157082</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00994	18O2 PFHxS	83		50-150
STL01892	13C4 PFHpA	67		50-150
STL00990	13C4 PFOA	100		70-130
STL00991	13C4 PFOS	95		70-130
STL00995	13C5 PFNA	110		50-150
STL02279	M2-6:2 FTS	112		50-150
STL02280	M2-8:2 FTS	98		50-150
STL02116	13C2 PFTeDA	86		50-150
STL02118	d3-NMeFOSAA	85		50-150
STL02117	d5-NEtFOSAA	92		50-150
STL00992	13C4 PFBA	116		50-150
STL00998	13C2 PFDoA	81		50-150
STL00993	13C2 PFHxA	112		50-150
STL00996	13C2 PFDA	98		50-150
STL00997	13C2 PFUnA	91		50-150
STL01056	13C8 FOSA	78		50-150
STL01893	13C5 PFPeA	113		50-150
STL02337	13C3 PFBS	112		50-150

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>Eurofins TestAmerica, Burlington</u>	Job No.: <u>200-54421-1</u>
SDG No.: <u>70137879</u>	
Client Sample ID: <u>TRIP BLANK</u>	Lab Sample ID: <u>200-54421-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>PA200721A19.d</u>
Analysis Method: <u>25101:2009</u>	Date Collected: <u>07/08/2020 00:00</u>
Extraction Method: <u>25101:2009 SPE</u>	Date Extracted: <u>07/21/2020 12:30</u>
Sample wt/vol: <u>273.4 (mL)</u>	Date Analyzed: <u>07/21/2020 20:07</u>
Con. Extract Vol.: <u>10 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>20 (uL)</u>	GC Column: <u>C-18</u> ID: <u>4.6 (mm)</u>
% Moisture: <u></u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>157082</u>	Units: <u>ng/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.83	U	1.83	
335-67-1	Perfluorooctanoic acid (PFOA)	1.83	U	1.83	
375-95-1	Perfluorononanoic acid (PFNA)	1.83	U	1.83	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.83	U	1.83	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.83	U	1.83	
375-22-4	Perfluorobutanoic acid	1.83	U	1.83	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.83	U	1.83	
375-92-8	Perfluoroheptanesulfonic acid	1.83	U	1.83	
754-91-6	Perfluorooctanesulfonamide	9.14	U	9.14	
2706-90-3	Perfluoropentanoic acid	1.83	U	1.83	
335-76-2	Perfluorodecanoic acid	1.83	U	1.83	
307-55-1	Perfluorododecanoic acid	1.83	U	1.83	
307-24-4	Perfluorohexanoic acid	1.83	U	1.83	
376-06-7	Perfluorotetradecanoic acid	1.83	U	1.83	
39108-34-4	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	18.3	U	18.3	
72629-94-8	Perfluorotridecanoic acid	1.83	U	1.83	
27619-97-2	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	18.3	U	18.3	
2058-94-8	Perfluoroundecanoic acid	1.83	U	1.83	
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid	18.3	U	18.3	
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid	18.3	U	18.3	
335-77-3	Perfluorodecanesulfonic acid	1.83	U	1.83	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>Eurofins TestAmerica, Burlington</u>	Job No.: <u>200-54421-1</u>
SDG No.: <u>70137879</u>	
Client Sample ID: <u>TRIP BLANK</u>	Lab Sample ID: <u>200-54421-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>PA200721A19.d</u>
Analysis Method: <u>25101:2009</u>	Date Collected: <u>07/08/2020 00:00</u>
Extraction Method: <u>25101:2009 SPE</u>	Date Extracted: <u>07/21/2020 12:30</u>
Sample wt/vol: <u>273.4 (mL)</u>	Date Analyzed: <u>07/21/2020 20:07</u>
Con. Extract Vol.: <u>10 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>20 (uL)</u>	GC Column: <u>C-18</u> ID: <u>4.6 (mm)</u>
% Moisture: <u></u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>157082</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00994	18O2 PFHxS	81		50-150
STL01892	13C4 PFHpA	66		50-150
STL00990	13C4 PFOA	91		70-130
STL00991	13C4 PFOS	89		70-130
STL00995	13C5 PFNA	94		50-150
STL02279	M2-6:2 FTS	96		50-150
STL02280	M2-8:2 FTS	90		50-150
STL02116	13C2 PFTeDA	77		50-150
STL02118	d3-NMeFOSAA	84		50-150
STL02117	d5-NEtFOSAA	77		50-150
STL00992	13C4 PFBA	103		50-150
STL00998	13C2 PFDoA	82		50-150
STL00993	13C2 PFHxA	106		50-150
STL00996	13C2 PFDA	92		50-150
STL00997	13C2 PFUnA	80		50-150
STL01056	13C8 FOSA	73		50-150
STL01893	13C5 PFPeA	101		50-150
STL02337	13C3 PFBS	101		50-150

Attachment 3

Support Documentation

LMC UTICA
SDG 70137879

SAMPLE IDENTIFICATION

MW-18

COMPOUND

CIS-1,2-DICHLOROETHENE

COMPOUND AREA 267669

INTERNAL STANDARD AMOUNT (ng) 250

VOLUME WATER PURGED (ml) 5

DILUTION FACTOR 2

INTERNAL STANDARD AREA 180219

CONTINUING CALIBRATION RRF 0.44205

ml to μ l 1000

ng to μ g 1000

336.0 μ g/L

$(267669 \times 250\text{ng} \times 2 \times 1000\text{ml} \times 1\mu\text{g} / 180219 \times 0.44205 \times 5\text{ml} \times 1\text{L} \times 1000\text{ng})$

Pace Analytical Services, Inc.

SW846-8260C/EPA 624.1

Data file : \\v70wintarget\chem\70msv8.i\071720.b\P24982.D
Lab Smp Id: 70137879006 Client Smp ID: MW-18
Inj Date : 17-JUL-2020 20:19 MS Autotune Date: 07-JUL-2020 13:1
Operator : GKB Inst ID: 70msv8.i
Smp Info : 70137879006x2,
Misc Info : 9502,
Comment :
Method : \\v70wintarget\chem\70msv8.i\071720.b\070720_8260W.m
Meth Date : 20-Jul-2020 10:57 mferrari Quant Type: ISTD
Cal Date : 07-JUL-2020 19:31 Cal File: P24787.D
Als bottle: 9
Dil Factor: 2.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: RC10A
Processing Host: 70MSV5WS10B6

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	2.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS		
		QUANT SIG				ON-COLUMN	FINAL	
Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/L)	(ug/L)	REVIEW C
=====	=====	=====	=====	=====	=====	=====	=====	=====
1 Chlorodifluoromethane	51	Compound	Not	Detected.				
2 Dichlorotetrafluoroethane	135	Compound	Not	Detected.				
3 Dichlorodifluoromethane	85	Compound	Not	Detected.				
4 Chloromethane	50	Compound	Not	Detected.				
5 Vinyl chloride	62	Compound	Not	Detected.				
6 1,3-Butadiene	54	Compound	Not	Detected.				
7 Acetaldehyde	44	Compound	Not	Detected.				(D)
8 Bromomethane	94	Compound	Not	Detected.				
9 Chloroethane	64	Compound	Not	Detected.				
10 Dichlorofluoromethane	67	Compound	Not	Detected.				
11 Trichlorofluoromethane	101	Compound	Not	Detected.				
12 Ethanol	45	Compound	Not	Detected.				(D)
13 Diethyl ether (Ethyl ether)	59	Compound	Not	Detected.				
16 1,1,2-Trichlorotrifluoroethane	101	1.928	1.928	(0.522)	4477	3.54643	7.09	
14 Acrolein	56	Compound	Not	Detected.				
15 1,1-Dichloroethene	96	1.952	1.952	(0.529)	575	0.48258	0.965	
17 Acetone	43	Compound	Not	Detected.				
18 Iodomethane	142	Compound	Not	Detected.				
19 2-Propanol	45	Compound	Not	Detected.				
20 Carbon disulfide	76	Compound	Not	Detected.				
21 Allyl chloride	76	Compound	Not	Detected.				
22 Acetonitrile	41	Compound	Not	Detected.				

Compounds	QUANT SIG	CONCENTRATIONS						REVIEW C	
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN		FINAL
							(ug/L)		(ug/L)
=====	=====	=====	=====	=====	=====	=====	=====	=====	
23 Methyl acetate	43		Compound	Not	Detected.				
24 Methylene Chloride	84		Compound	Not	Detected.				
25 tert-Butyl Alcohol	59		Compound	Not	Detected.				
28 Methyl-tert-butyl ether	73		Compound	Not	Detected.				
27 trans-1,2-Dichloroethene	96		Compound	Not	Detected.				
26 Acrylonitrile	53		Compound	Not	Detected.				
30 n-Hexane	57		Compound	Not	Detected.				
29 Diisopropyl ether	45		Compound	Not	Detected.				
32 Vinyl acetate	43		Compound	Not	Detected.				
31 1,1-Dichloroethane	63	2.811	2.812	(0.762)	51344	20.7406	41.5		
33 Chloroprene	53		Compound	Not	Detected.				
34 Ethyl-tert-butyl ether	59		Compound	Not	Detected.				
36 2,2-Dichloropropane	77		Compound	Not	Detected.				
35 cis-1,2-Dichloroethene	96	3.257	3.257	(0.883)	267669	167.994	336		
39 Ethyl acetate	61		Compound	Not	Detected.			(D)	
37 2-Butanone (MEK)	43		Compound	Not	Detected.				
41 Bromochloromethane	128		Compound	Not	Detected.				
42 Tetrahydrofuran	42		Compound	Not	Detected.				
43 Chloroform	83		Compound	Not	Detected.				
38 Propionitrile	54		Compound	Not	Detected.				
46 Cyclohexane	56		Compound	Not	Detected.				
45 1,1,1-Trichloroethane	97		Compound	Not	Detected.				
* 44 Pentafluorobenzene (IS)	168	3.689	3.689	(1.000)	180219	50.0000			
48 Carbon tetrachloride	117		Compound	Not	Detected.			(D)	
47 1,1-Dichloropropene	75		Compound	Not	Detected.			(D)	
55 2,2,4-Trimethylpentane	57		Compound	Not	Detected.				
51 Benzene	78		Compound	Not	Detected.				
40 Methacrylonitrile	67		Compound	Not	Detected.				
\$ 50 1,2-Dichloroethane-d4 (S)	65	3.952	3.952	(0.915)	149375	52.8166	52.8		
56 tert-Amylmethyl ether	73		Compound	Not	Detected.				
52 1,2-Dichloroethane	62		Compound	Not	Detected.				
57 n-Heptane	43		Compound	Not	Detected.				
* 58 1,4-Difluorobenzene (IS)	114	4.317	4.311	(1.000)	374740	50.0000			
59 Trichloroethene	95	4.512	4.512	(1.045)	86989	46.0172	92.0		
60 Methylcyclohexane	83		Compound	Not	Detected.				
49 Isobutanol	43		Compound	Not	Detected.				
53 tert-Amyl Alcohol	59		Compound	Not	Detected.				
54 tert-Amyl ethyl ether	59		Compound	Not	Detected.				
61 1,2-Dichloropropane	63		Compound	Not	Detected.				
63 Methyl methacrylate	69		Compound	Not	Detected.				
64 1,4-Dioxane (p-Dioxane)	88		Compound	Not	Detected.				
62 Dibromomethane	93		Compound	Not	Detected.				
65 Bromodichloromethane	83		Compound	Not	Detected.				
66 2-Nitropropane	43		Compound	Not	Detected.				
67 2-Chloroethylvinyl ether	63		Compound	Not	Detected.				
68 cis-1,3-Dichloropropene	75		Compound	Not	Detected.				
69 4-Methyl-2-pentanone (MIBK)	43		Compound	Not	Detected.			(D)	
\$ 70 Toluene-d8 (S)	98	5.732	5.732	(0.771)	483369	47.9950	48.0		
71 Toluene	91		Compound	Not	Detected.				
72 Methyl isothiocyanate	73		Compound	Not	Detected.				
74 trans-1,3-Dichloropropene	75		Compound	Not	Detected.				
75 Ethyl methacrylate	69		Compound	Not	Detected.				
76 1,1,2-Trichloroethane	83		Compound	Not	Detected.			(D)	
77 Tetrachloroethene	166	6.366	6.366	(0.856)	95678	51.2230	102		
78 1,3-Dichloropropane	76		Compound	Not	Detected.				

						CONCENTRATIONS		
		QUANT SIG				ON-COLUMN	FINAL	
Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/L)	(ug/L)	REVIEW C
=====	=====	=====	=====	=====	=====	=====	=====	=====
79 2-Hexanone	43	Compound	Not	Detected.				
73 n-Octane	43	Compound	Not	Detected.				(D)
81 n-Butyl acetate	43	Compound	Not	Detected.				
80 Dibromochloromethane	129	Compound	Not	Detected.				
82 1,2-Dibromoethane (EDB)	107	Compound	Not	Detected.				
* 83 Chlorobenzene-d5 (IS)	82	7.439	7.433	(1.000)	202754	50.0000		
84 Chlorobenzene	112	Compound	Not	Detected.				
86 Ethylbenzene	106	Compound	Not	Detected.				
85 1,1,1,2-Tetrachloroethane	131	Compound	Not	Detected.				
88 n-Nonane	43	Compound	Not	Detected.				
87 m&p-Xylene	106	Compound	Not	Detected.				
89 o-Xylene	106	Compound	Not	Detected.				
90 Styrene	104	Compound	Not	Detected.				
91 Bromoform	173	Compound	Not	Detected.				
92 Isopropylbenzene (Cumene)	105	Compound	Not	Detected.				
\$ 93 4-Bromofluorobenzene (S)	95	9.030	9.030	(1.214)	190688	48.7670	48.8	
94 Bromobenzene	156	Compound	Not	Detected.				
95 1,1,2,2-Tetrachloroethane	83	Compound	Not	Detected.				
98 n-Propylbenzene	91	Compound	Not	Detected.				
96 1,2,3-Trichloropropane	110	Compound	Not	Detected.				
97 trans-1,4-Dichloro-2-butene	53	Compound	Not	Detected.				
103 n-Decane	43	Compound	Not	Detected.				
99 2-Chlorotoluene	91	Compound	Not	Detected.				
100 4-Ethyltoluene	105	Compound	Not	Detected.				
101 1,3,5-Trimethylbenzene	105	Compound	Not	Detected.				
102 4-Chlorotoluene	91	Compound	Not	Detected.				
104 tert-Butylbenzene	119	Compound	Not	Detected.				
105 Pentachloroethane	167	Compound	Not	Detected.				
106 1,2,4-Trimethylbenzene	105	Compound	Not	Detected.				
107 sec-Butylbenzene	105	Compound	Not	Detected.				
109 d-Limonene	136	Compound	Not	Detected.				
110 p-Isopropyltoluene	119	Compound	Not	Detected.				
108 1,3-Dichlorobenzene	146	Compound	Not	Detected.				
* 111 1,4-Dichlorobenzene-d4 (IS)	152	10.072	10.072	(1.000)	156984	50.0000		
112 1,4-Dichlorobenzene	146	Compound	Not	Detected.				
113 1,2,3-Trimethylbenzene	105	Compound	Not	Detected.				
114 Benzyl chloride	91	Compound	Not	Detected.				
115 trans-Decalin	138	Compound	Not	Detected.				
116 1,4-Diethylbenzene	119	Compound	Not	Detected.				
117 n-Butylbenzene	91	Compound	Not	Detected.				
119 n-Undecane	43	Compound	Not	Detected.				(D)
118 1,2-Dichlorobenzene	146	Compound	Not	Detected.				
120 cis-Decalin	138	Compound	Not	Detected.				
121 1,2,4,5-tetramethylbenzene	119	Compound	Not	Detected.				
122 1,2-Dibromo-3-chloropropane	75	Compound	Not	Detected.				
123 n-Dodecane	43	Compound	Not	Detected.				(D)
124 1,2,4-Trichlorobenzene	180	Compound	Not	Detected.				
125 Hexachloro-1,3-butadiene	225	Compound	Not	Detected.				
126 Naphthalene	128	Compound	Not	Detected.				
127 1,2,3-Trichlorobenzene	180	Compound	Not	Detected.				

Data File: \\v70wintarget\chem\70msv8.i\071720.b\P24982.D
Report Date: 22-Jul-2020 10:41

QC Flag Legend

D - User disabled compound identification.

Review Codes Legend

:

Data File: \\v70wintarget\chem\70msv8.i\071720.b\P24982.D
Report Date: 22-Jul-2020 10:41

Pace Analytical Services, Inc.

SW846-8260C/EPA 624.1
Data file : \\v70wintarget\chem\70msv8.i\071720.b\P24982.D
Lab Smp Id: 70137879006 Client Smp ID: MW-18
Inj Date : 17-JUL-2020 20:19 MS Autotune Date: 07-JUL-2020 13:1
Operator : GKB Inst ID: 70msv8.i
Smp Info : 70137879006x2,
Misc Info : 9502,
Comment :
Method : \\v70wintarget\chem\70msv8.i\071720.b\070720_8260W.m
Meth Date : 20-Jul-2020 10:57 mferrari Quant Type: ISTD
Cal Date : 07-JUL-2020 19:31 Cal File: P24787.D
Als bottle: 9
Dil Factor: 2.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: RC10A
Processing Host: 70MSV5WS10B6

- NO TENTATIVELY IDENTIFIED COMPOUNDS -

Data File: \\v70wintarget\chem\70msv8.i\071720.b\P24982.D

Date : 17-JUL-2020 20:19

Client ID: MW-18

Sample Info: 70137879006X2,

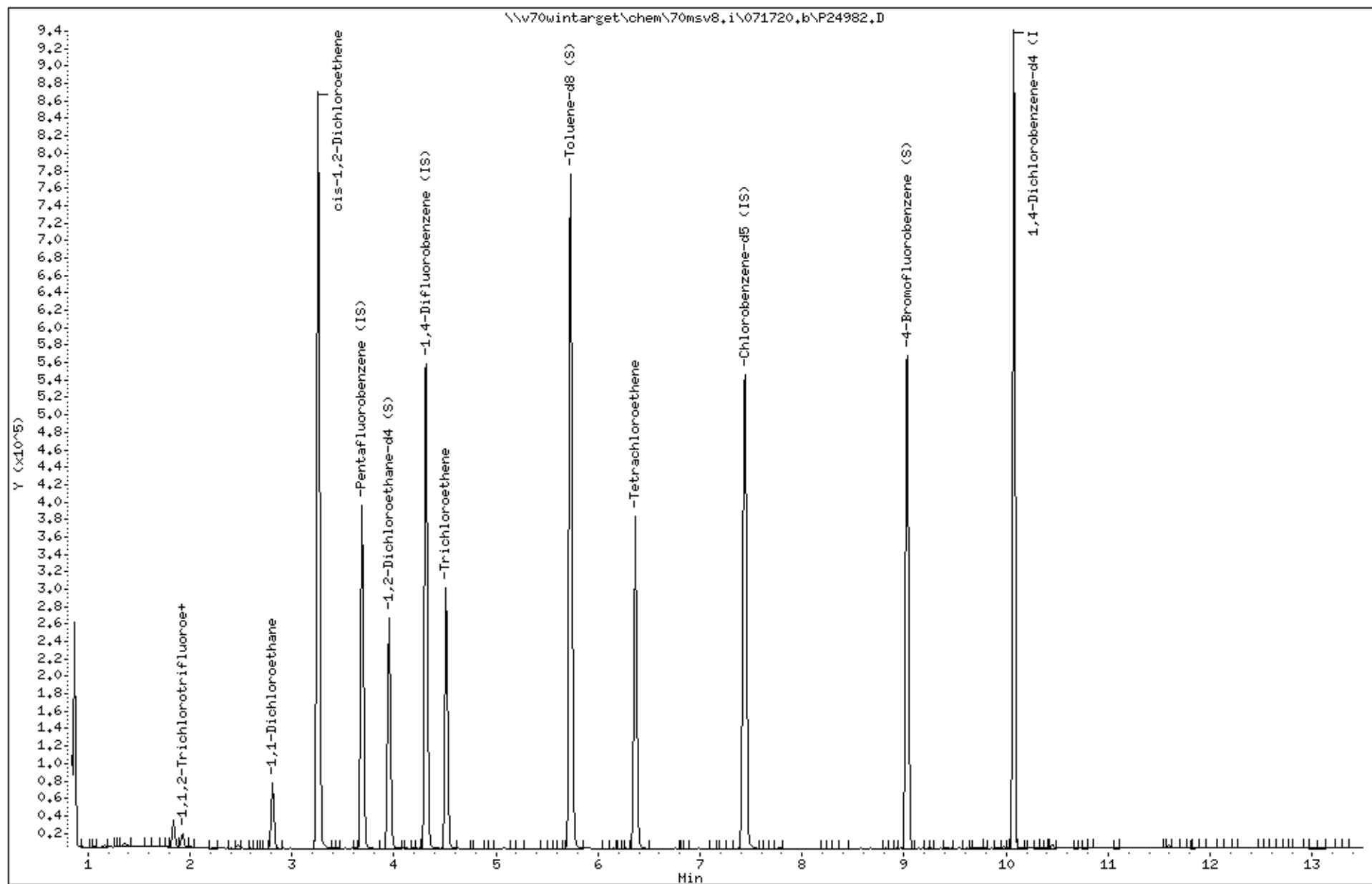
Purge Volume: 5.0

Column phase: RTX-624

Instrument: 70msv8.i

Operator: GKB

Column diameter: 0.18



LMC UTICA
SDG 70137879

SAMPLE IDENTIFICATION

AZ-PZ-1

COMPOUND

PENTADECAFLUOROOCTANOIC ACID (PFOA)

COMPOUND AREA 162544

INTERNAL STANDARD AMOUNT (ng/ml) 1.25

DILUTION FACTOR (10X but incorp. in result) 1

INTERNAL STANDARD AREA 907218

AVERAGE RRF 0.8736

SAMPLE VOLUME (ml) 275.1

VOLUME EXTRACT (ml) 10

ml to L 1000.00

CONCENTRATION = 9.32 ng/L

$162544 \times 1.25 \text{ ng/ml} \times 10 \text{ ml} \times 1000 \text{ ml} \times 1 / (907218 \times 0.8736 \times 275.1 \text{ ml} \times 1 \text{ L})$

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromfs\Burlington\ChromData\LC812\20200721-42065.b\PA200721A16.d
 Lims ID: 200-54421-A-1-A
 Client ID: AZ-PZ-1
 Sample Type: Client
 Inject. Date: 21-Jul-2020 19:42:42 ALS Bottle#: 13 Worklist Smp#: 16
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-54421-A-1-A
 Misc. Info.: 200-0042065-016 Plate: 1 Rack: 1
 Operator ID: lc812tech Instrument ID: LC812
 Method: \\chromfs\Burlington\ChromData\LC812\20200721-42065.b\PFC_LC812.m
 Limit Group: LC_25101_ICAL
 Last Update: 22-Jul-2020 13:06:58 Calib Date: 16-Jul-2020 14:39:30
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\chromfs\Burlington\ChromData\LC812\20200716-42004.b\PA200716ICAL12.d
 Column 1 : C-18 (4.60 mm) Det: EXP1
 Process Host: CTX1064

First Level Reviewer: manopan

Date: 22-Jul-2020 09:48:17

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.984	1.984	0.0	0.574	1202834	1.02		81.6	11897	
2 Perfluorobutanoic acid										M
212.90 > 169.00	1.991	1.991	0.0	1.004	581015	0.7550		67.1		M
D 3 13C5 PFPeA										
267.90 > 223.00	2.327	2.327	0.0	0.673	930649	1.08		86.2	1703	
4 Perfluoropentanoic acid										M
262.90 > 219.00	2.327	2.327	0.0	1.000	231461	0.3720		5.4		M
D 47 13C3 PFBS										
301.90 > 80.00	2.349	2.338	0.011	0.679	1218063	1.09		93.8	96070	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	2.349	2.349	0.0	1.000	30366	0.0344	Target=2.01	4.2		
298.90 > 99.00	2.349	2.349	0.0	1.000	17077		1.78(1.00-3.01)	4.3		
6 Perfluorohexanoic acid										M
313.00 > 269.00	2.704	2.704	0.0	1.000	184519	0.2697	Target=11.67	23.1		M
313.00 > 119.00	2.704	2.704	0.0	1.000	15904		11.60(5.83-17.50)	30.3		M
D 7 13C2 PFHxA										
315.00 > 270.00	2.704	2.704	0.0	0.782	1049204	1.21		96.8	4252	
D 11 18O2 PFHxS										
403.00 > 84.00	3.080	3.080	0.0	0.891	700973	0.8952		75.7	2541	
8 Perfluorohexanesulfonic acid										M
399.00 > 80.00	3.089	3.080	0.009	1.003	12099	0.0220	Target=4.63	10.7		M
399.00 > 99.00	3.080	3.080	0.0	1.000	2197		5.51(2.32-6.95)	2.3		M
D 9 13C4 PFHpA										
367.00 > 322.00	3.089	3.089	0.0	0.893	650423	0.8032		64.3	3441	
10 Perfluoroheptanoic acid										M
363.00 > 319.00	3.089	3.089	0.0	1.000	72910	0.1703	Target=3.44	13.0		M
363.00 > 169.00	3.089	3.089	0.0	1.000	21464		3.40(1.72-5.16)	46.3		

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
16 Perfluoroheptanesulfonic acid										M
449.00 > 80.00	3.445	3.438	0.007	0.913	1937	0.003598	Target=7.35	7.0		M
449.00 > 99.00	3.445	3.438	0.007	0.913	407		4.76(3.67-11.02)	1.4		M
D 12 M2-6:2 FTS										
429.00 > 81.00	3.451	3.445	0.006	0.998	130508	1.19		100	371	
13 1H,1H,2H,2H-perfluorooctanesulfo										M
427.00 > 407.00	3.445	3.445	0.0	0.998	594	0.008016		13.2		M
D 14 13C4 PFOA										
417.00 > 372.00	3.458	3.452	0.006	1.000	907218	1.11		89.2	2399	
* 62 13C2 PFOA										
415.00 > 370.00	3.458	3.452	0.006		1059581	1.25		4432		
15 Perfluorooctanoic acid										M
413.00 > 369.00	3.458	3.452	0.006	1.000	162544	0.2564	Target=2.34	26.2		M
413.00 > 169.00	3.458	3.452	0.006	1.000	81389		2.00(1.17-3.51)	150		M
D 18 13C4 PFOS										
503.00 > 80.00	3.772	3.772	0.0	1.091	679913	1.03		86.1	1417	
17 Perfluorooctanesulfonic acid										M
499.00 > 80.00	3.780	3.772	0.008	1.002	28838	0.0589	Target=7.05	25.3		M
499.00 > 99.00	3.780	3.772	0.008	1.002	2907		9.92(3.53-10.58)	4.9		M
20 Perfluorononanoic acid										M
463.00 > 419.00	3.796	3.788	0.008	1.000	13269	0.0230	Target=6.17	3.4		M
463.00 > 169.00	3.796	3.788	0.008	1.000	1565		8.48(3.09-9.26)	18.9		M
D 19 13C5 PFNA										
468.00 > 423.00	3.796	3.788	0.008	1.098	812273	1.18		94.7	5897	
D 23 13C2 PFDA										
515.00 > 470.00	4.093	4.093	0.0	1.183	746451	1.17		93.7	6003	
24 Perfluorodecanoic acid										M
513.00 > 469.00	4.093	4.093	0.0	1.000	1827	0.003866	Target=7.06	2.1		M
513.00 > 169.00	4.093	4.093	0.0	1.000	482		3.79(3.53-10.60)	4.2		M
25 1H,1H,2H,2H-perfluorodecanesulfo										M
527.00 > 507.00	4.075	4.102	-0.027	0.993	70	0.001897				M
D 26 M2-8:2 FTS										M
529.00 > 81.00	4.102	4.102	0.0	1.186	147677	1.15		96.4	533	M
22 Perfluorooctanesulfonamide										M
498.00 > 78.00	4.159	4.141	0.018	1.002	2089	0.003443		4.9		M
D 21 13C8 FOSA										
506.00 > 78.00	4.150	4.141	0.009	1.200	989711	0.9212		73.7	2909	
D 27 d3-NMeFOSAA										
573.00 > 419.00	4.236	4.236	0.0	1.225	35000	0.8927		71.4	409	
28 N-methylperfluorooctanesulfonami										M
570.00 > 419.00	4.244	4.236	0.008	1.002	366	0.0179		2.2		M
29 Perfluorodecanesulfonic acid										RM
599.00 > 80.00	4.322	4.323	-0.001	1.146	853	0.002741	Target=3.06	4.0		RM
599.00 > 99.00	4.332	4.323	0.009	1.148	115		7.42(1.53-4.59)	0.3		M
D 30 13C2 PFUnA										
565.00 > 520.00	4.359	4.359	0.0	1.260	515042	1.02		81.2	3989	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
31 Perfluoroundecanoic acid										RM
563.00 > 519.00	4.350	4.359	-0.009	0.998	2580	0.009612	Target=4.67		1.8	RM
563.00 > 169.00	4.368	4.359	0.009	1.002	355		7.27(2.34-7.01)		4.0	M
D 32 d5-NEtFOSAA										
589.00 > 419.00	4.368	4.368	0.0	1.263	38962	0.9386		75.1	385	
33 N-ethylperfluorooctanesulfonamid										M
584.00 > 419.00	4.386	4.368	0.018	1.004	236	0.0099			3.5	M
37 Perfluorododecanoic acid										RM
613.00 > 569.00	4.606	4.586	0.020	1.004	1968	0.006790	Target=5.53		1.1	RM
613.00 > 169.00	4.585	4.586	-0.001	1.000	55		35.78(2.77-8.30)		1.0	M
D 36 13C2 PFDaA										
615.00 > 570.00	4.585	4.586	-0.001	1.326	465418	0.8878		71.0	2454	
42 Perfluorotetradecanoic acid										RM
713.00 > 169.00	4.993	4.993	0.0	0.999	316	0.006257	Target=1.03		10.8	RM
713.00 > 219.00	5.000	4.993	0.007	1.000	177		1.79(0.51-1.54)		4.9	M
D 43 13C2 PFTeDA										
715.00 > 670.00	5.000	4.993	0.007	1.446	338253	0.8567		68.5	1976	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Eurofins TestAmerica, Burlington

Data File: \\chromfs\Burlington\ChromData\LC812\20200721-42065.b\PA200721A16.d

Injection Date: 21-Jul-2020 19:42:42

Instrument ID: LC812

Lims ID: 200-54421-A-1-A

Lab Sample ID: 200-54421-1

Client ID: AZ-PZ-1

Operator ID: lc812tech

ALS Bottle#: 13

Worklist Smp#: 16

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

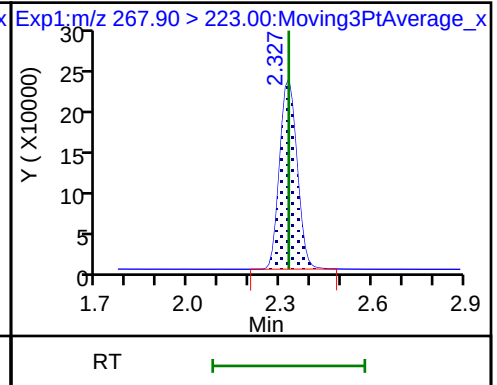
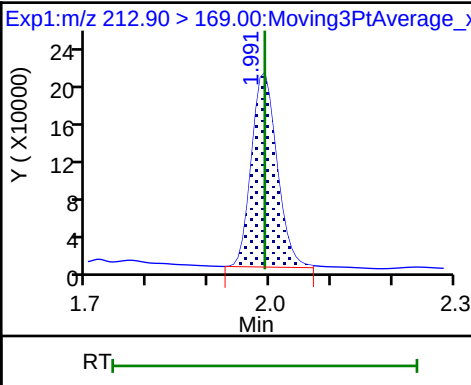
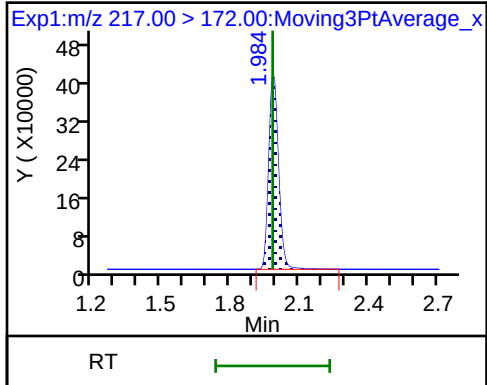
Method: PFC_LC812

Limit Group: LC_25101_ICAL

D 1 13C4 PFBA

2 Perfluorobutanoic acid (M)

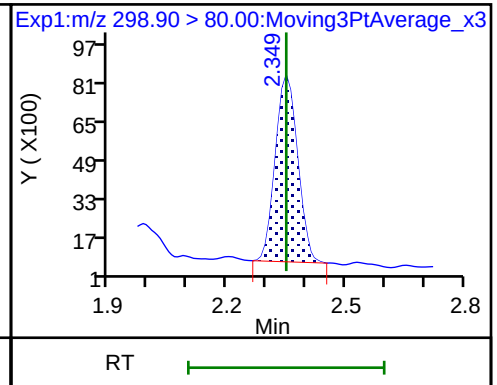
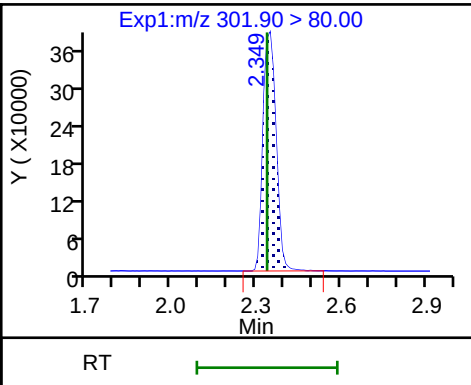
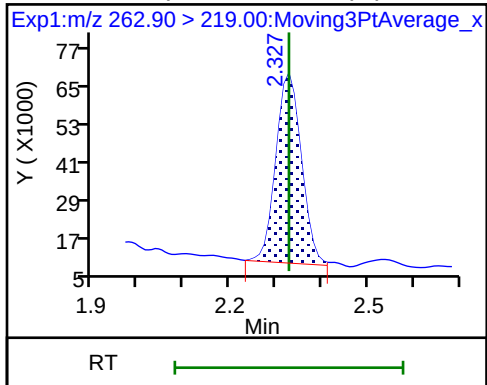
D 3 13C5 PFPeA



4 Perfluoropentanoic acid (M)

D 47 13C3 PFBS

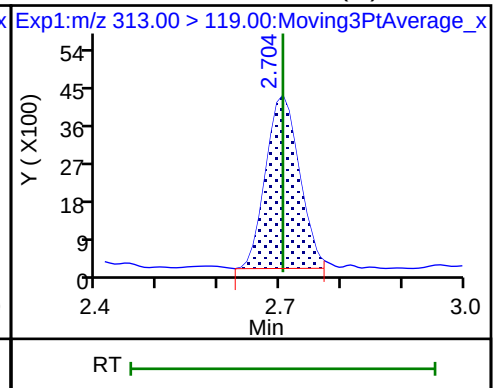
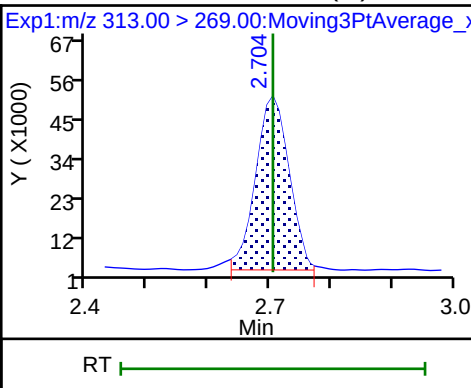
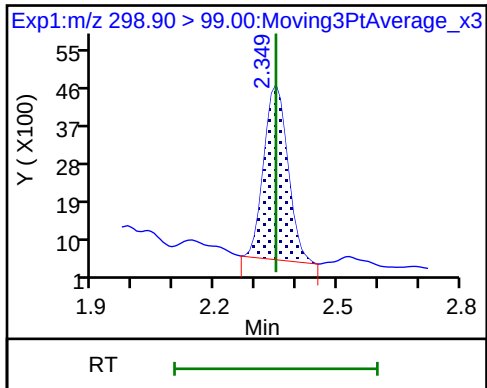
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

6 Perfluorohexanoic acid (M)

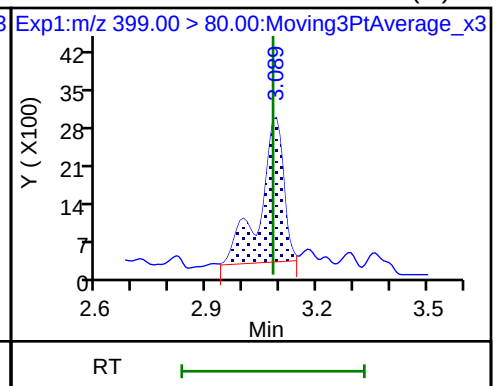
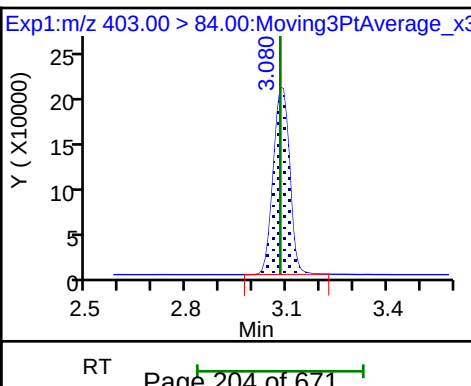
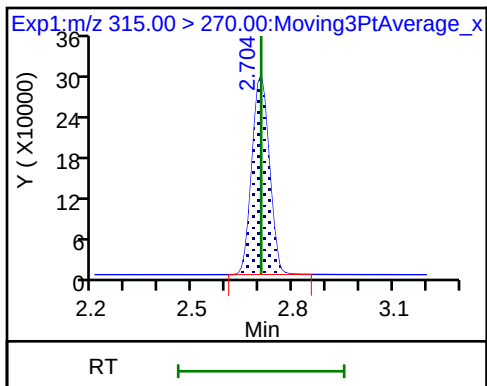
6 Perfluorohexanoic acid (M)

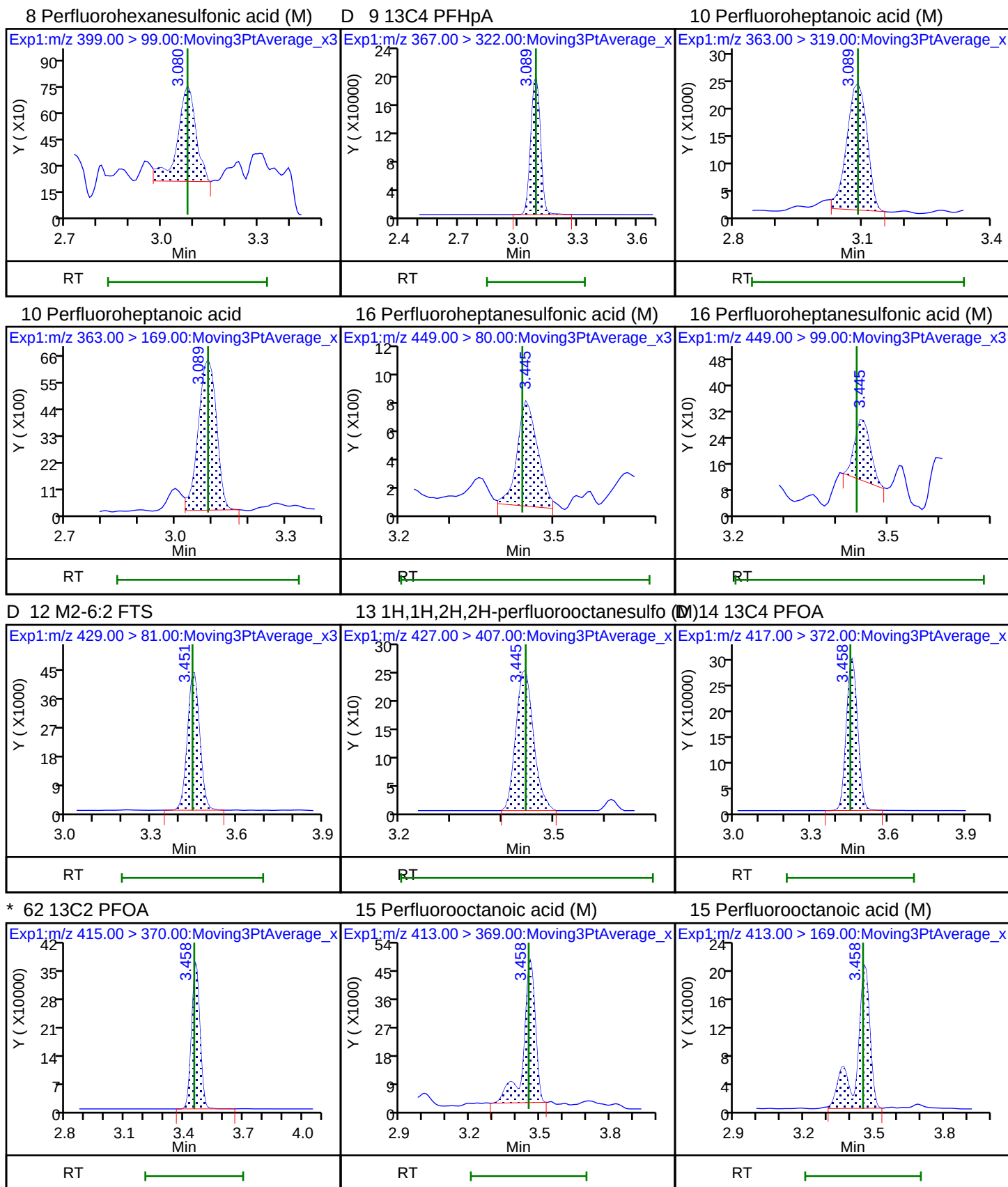


D 7 13C2 PFHxA

D 11 18O2 PFHxS

8 Perfluorohexanesulfonic acid (M)





D 18 13C4 PFOS

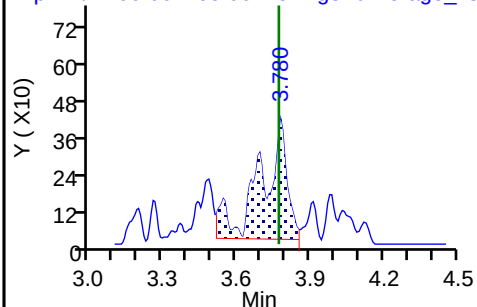
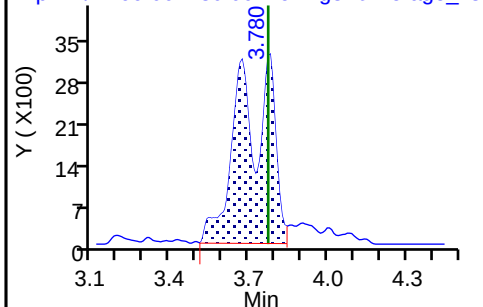
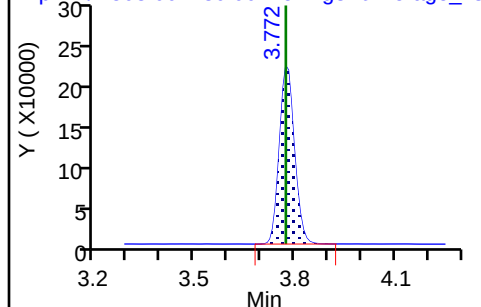
17 Perfluorooctanesulfonic acid (M)

17 Perfluorooctanesulfonic acid (M)

Exp1:m/z 503.00 > 80.00:Moving3PtAverage_x3

Exp1:m/z 499.00 > 80.00:Moving3PtAverage_x3

Exp1:m/z 499.00 > 99.00:Moving3PtAverage_x3



20 Perfluorononanoic acid (M)

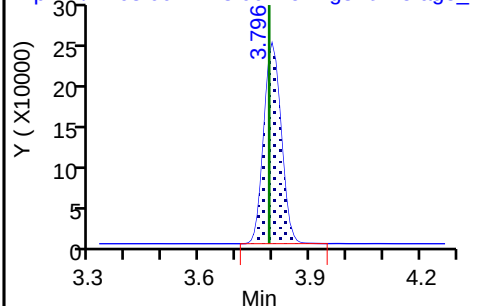
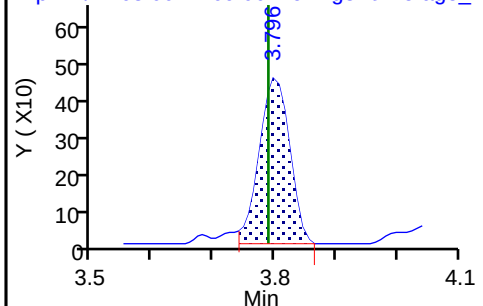
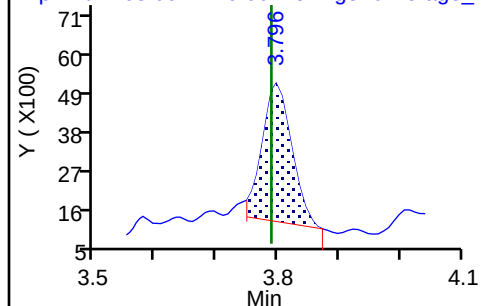
20 Perfluorononanoic acid (M)

D 19 13C5 PFNA

Exp1:m/z 463.00 > 419.00:Moving3PtAverage_x3

Exp1:m/z 463.00 > 169.00:Moving3PtAverage_x3

Exp1:m/z 468.00 > 423.00:Moving3PtAverage_x3



D 23 13C2 PFDA

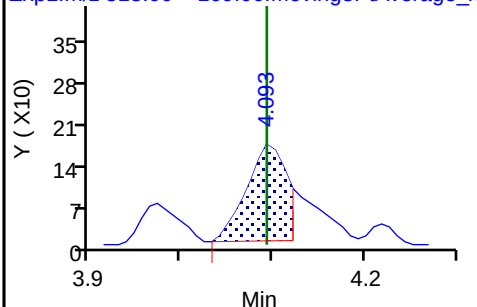
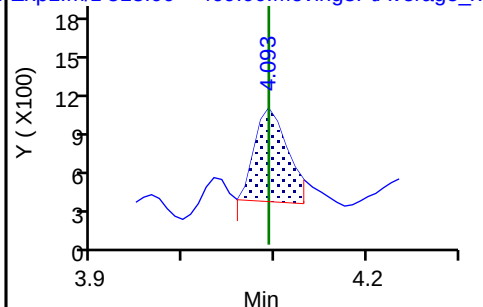
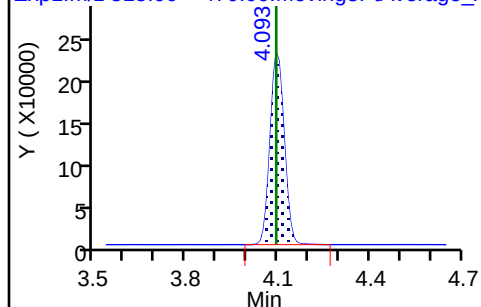
24 Perfluorodecanoic acid (M)

24 Perfluorodecanoic acid (M)

Exp1:m/z 515.00 > 470.00:Moving3PtAverage_x3

Exp1:m/z 513.00 > 469.00:Moving3PtAverage_x3

Exp1:m/z 513.00 > 169.00:Moving3PtAverage_x3



25 1H,1H,2H,2H-perfluorodecanesulfonamide (M)

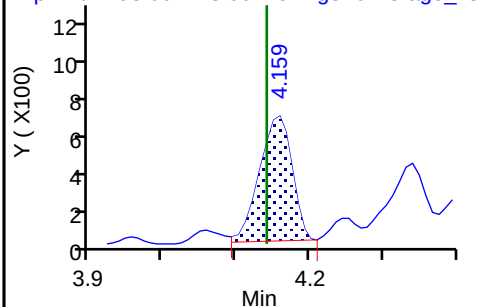
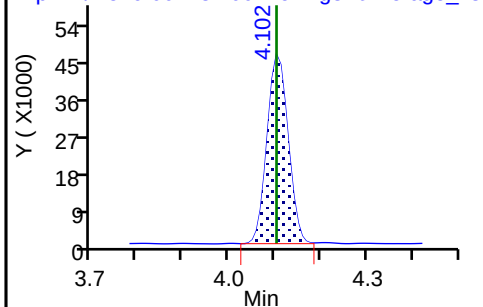
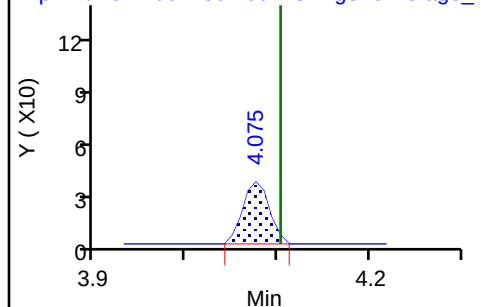
26 M2-8:2 FTS (M)

22 Perfluorooctanesulfonamide (M)

Exp1:m/z 527.00 > 507.00:Moving3PtAverage_x3

Exp1:m/z 529.00 > 81.00:Moving3PtAverage_x3

Exp1:m/z 498.00 > 78.00:Moving3PtAverage_x3

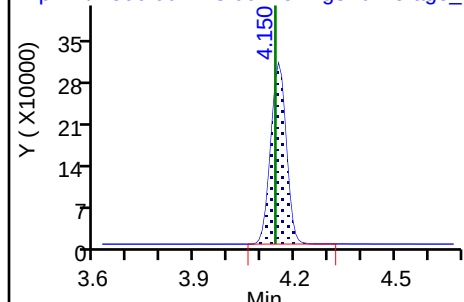


D 21 13C8 FOSA

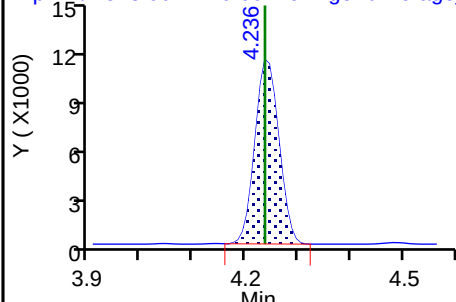
D 27 d3-NMeFOSAA

28 N-methylperfluorooctanesulfonami (M)

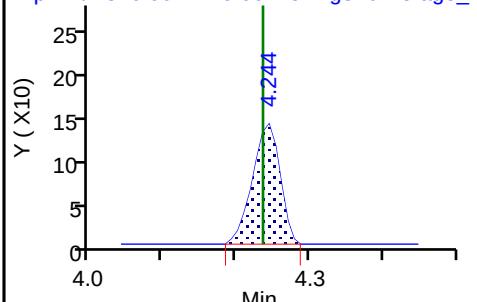
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Exp1:m/z 573.00 > 419.00:Moving3PtAverage_x



Exp1:m/z 570.00 > 419.00:Moving3PtAverage_x

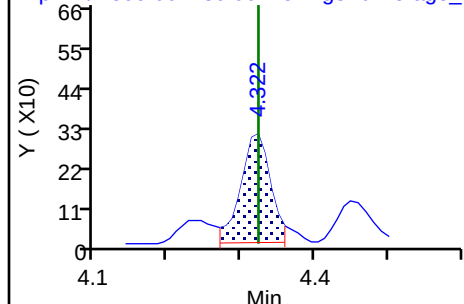


29 Perfluorodecanesulfonic acid (M)

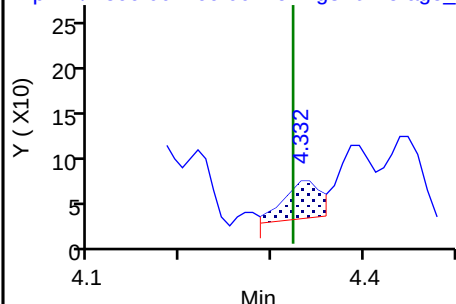
29 Perfluorodecanesulfonic acid (M)

D 30 13C2 PFUnA

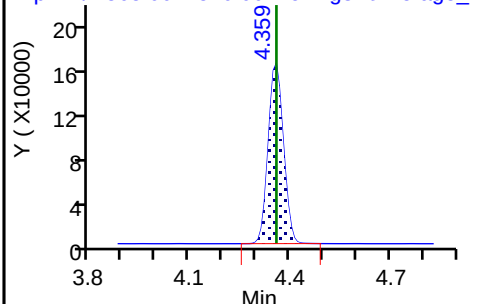
Exp1:m/z 599.00 > 80.00:Moving3PtAverage_x3



Exp1:m/z 599.00 > 99.00:Moving3PtAverage_x3



Exp1:m/z 565.00 > 520.00:Moving3PtAverage_x

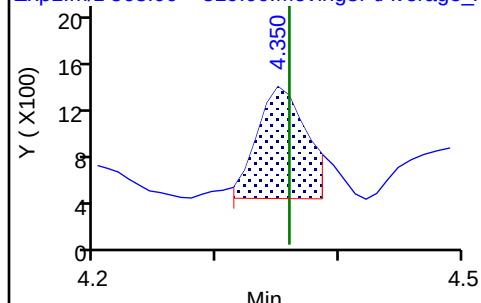


31 Perfluoroundecanoic acid (M)

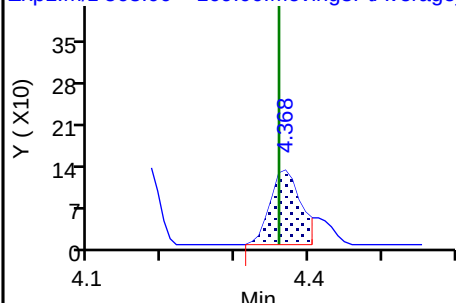
31 Perfluoroundecanoic acid (M)

D 32 d5-NEtFOSAA

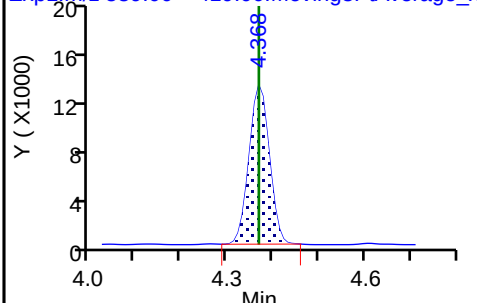
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Exp1:m/z 563.00 > 169.00:Moving3PtAverage_x



Exp1:m/z 589.00 > 419.00:Moving3PtAverage_x

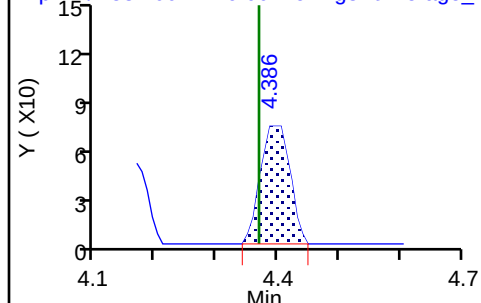


33 N-ethylperfluorooctanesulfonamid (M)

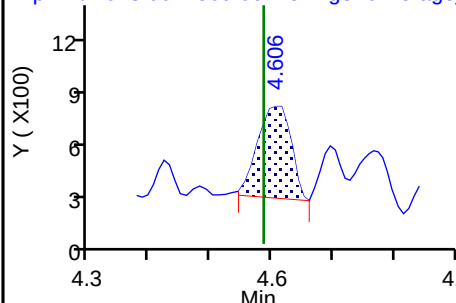
37 Perfluorododecanoic acid (M)

37 Perfluorododecanoic acid (M)

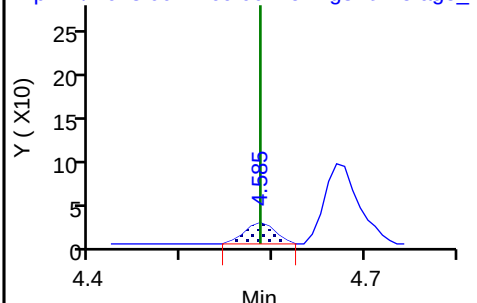
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Exp1:m/z 613.00 > 569.00:Moving3PtAverage_x



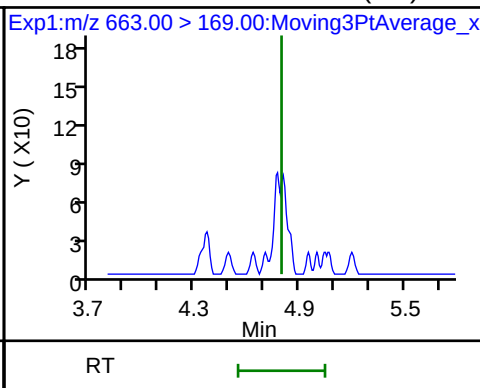
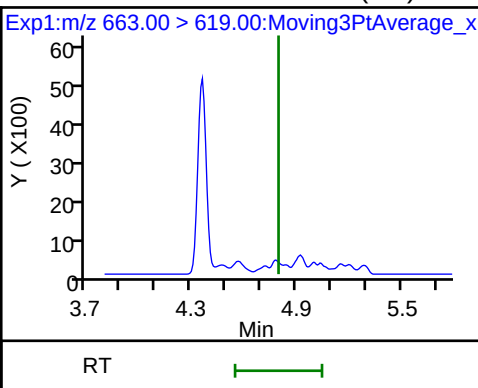
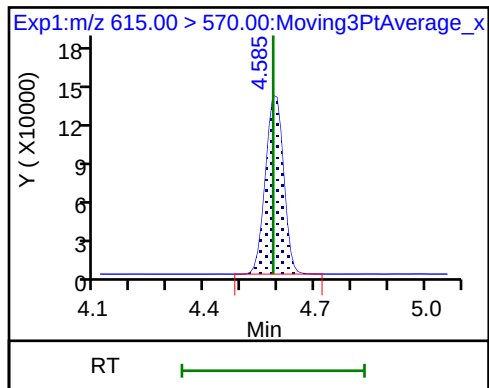
Exp1:m/z 613.00 > 169.00:Moving3PtAverage_x



D 36 13C2 PFDaA

41 Perfluorotridecanoic acid (ND)

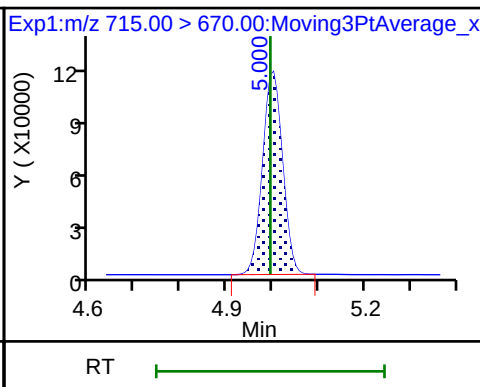
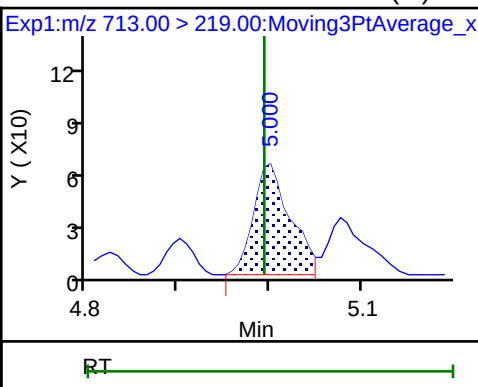
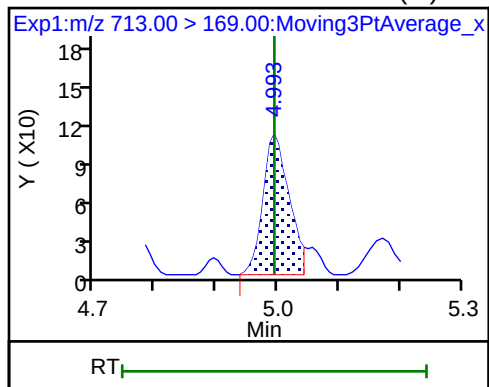
41 Perfluorotridecanoic acid (ND)



42 Perfluorotetradecanoic acid (M)

42 Perfluorotetradecanoic acid (M)

D 43 13C2 PFTeDA



WO#: 70137879



70137879

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section B		Section C	
Required Client Information:		Required Project Information:	
Company: Tetra Tech Inc.		Report To: Hanni Haynes	
Address: 3136 South Winton Rd		Copy To:	
Rochester, NY 14623		Purchase Order #:	
Email: hanni.haynes@tetratech.com		Project Name: LMC Ulica Annual	
Phone: (585)268-6961 Fax:		Pace Project Manager: devon.fox@pacelabs.com	
Requested Due Date: <u>std</u>		Project #:	
Invoice Information:		Attention:	
Company Name:		Address:	
Pace Quote:		Pace Profile #: 8557	
Regulatory Agency:		State / Location:	
NY			

Requested Due Date: 1/24										Requested Analysis Filtered (Y/N)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Other Tissue	CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Y/N											Residual Chlorine (Y/N)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
						START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other (Triizma)		Analyses Test	VOC by 8260	PFAS 537MS	PFAS by 537 Equipment Bla	1, 4 Dioxane by 8260 SIM	1, 4 Dioxane by 8260 SIM E																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Hanni Haynes / Ttr	7/9/20	2100	Alke Goff / Pace	7/10/20	900				
	Alke Goff / Pace	7/10/20	1700	Hanni Haynes / Pace	7/10/20	1100	60	40	4	4

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed:

7/9/20

TEMP in C

Received on

Ice

(Y/N)

Custody

Sealed

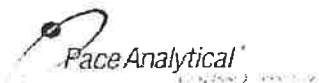
Cooler

(Y/N)

Samples

Intact

(Y/N)



Sample Condition Upon Receipt

Client Name: _____

Proc _____

WO#: 70137879

PM: KMM

Due Date: 07/27/20

CLIENT: TETRA

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #: 7709 2551 2641

Custody Seal on Cooler/Box Present: ☐ Yes ☐ No Seals intact: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Ziploc ☐ None ☐ Other

Thermometer Used: TH091 Correction Factor: +0.4

Cooler Temperature (°C): 100 Cooler Temperature Corrected (°C): 64

Temp should be above freezing to 6.0°C

USDA Regulated Soil (☐ N/A, water sample)

Date and Initials of person examining contents: HQR 7/1/20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☐ NO

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present:	☒ Yes ☐ No	1.
Chain of Custody Filled Out:	☒ Yes ☐ No	2.
Chain of Custody Relinquished:	☒ Yes ☐ No	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No	7.
Sufficient Volume: (Triple volume provided for MS/MSD)	☒ Yes ☐ No	8.
Correct Containers Used:	☒ Yes ☐ No	9.
-Pace Containers Used:	☒ Yes ☐ No	
Containers Intact:	☒ Yes ☐ No	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	☒ Yes ☐ No	12.
-Includes date/time/ID/Analysis Matrix SL WT OIL		
All containers needing preservation have been checked	☒ Yes ☐ No ☐ N/A	13. ☐ HNO ₃ ☐ H ₂ SO ₄ ☐ NaOH ☐ HCl
pH paper Lot #		Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl, NaOH>9 Sulfide, NAOH>12 Cyanide)	☐ Yes ☐ No ☐ N/A	
Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water).		
Per Method, VOA pH is checked after analysis		
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
KI starch test strips Lot #		
Residual chlorine strips Lot #		Positive for Res. Chlorine? Y N
Headspace in VOA Vials (>6mm):	☐ Yes ☒ No ☐ N/A	15.
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if applicable):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

August 17, 2020

Peter Rich
Tetra Tech
980 Awald Road
Suite 303
Annapolis, MD 21403

RE: Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Dear Peter Rich:

Enclosed are the analytical results for sample(s) received by the laboratory on July 11, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses were subcontracted outside of the Pace Network. The test report from the external subcontractor is attached to this report in its entirety.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Melville

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kimberley M. Mack
kimberley.mack@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Hanni Haynes, Tetra Tech
Glenn Netuschil, Tetra Tech Inc.



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Date: August 17, 2020

Revision 1: Report re-issued on 8/17/2020 to update EPA 8260C qualifiers.

DUP (Lab ID: 818455)

- 2-Chloroethylvinyl ether not reportable due to improper sample preservation.

MS (Lab ID: 818456)

- 2-Chloroethylvinyl ether not reportable due to improper sample preservation.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Method: EPA 8260C SIM/5030C

Description: 8260C SIM Volatile Organics

Client: Tetra Tech Inc.

Date: August 17, 2020

General Information:

4 samples were analyzed for EPA 8260C SIM/5030C by Pace Analytical Services Melville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Method: EPA 8260C/5030C

Description: 8260C Volatile Organics

Client: Tetra Tech Inc.

Date: August 17, 2020

General Information:

16 samples were analyzed for EPA 8260C/5030C by Pace Analytical Services Melville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

QC Batch: 169265

IC: The initial calibration for this compound was outside of method control limits. The result is estimated.

- A2-PZ-1 (Lab ID: 70137879001)
 - Acetone
- A2-PZ-2 (Lab ID: 70137879005)
 - Acetone
- BLANK (Lab ID: 818096)
 - Acetone
- DUP (Lab ID: 818455)
 - Acetone
- LCS (Lab ID: 818097)
 - Acetone
- MS (Lab ID: 818456)
 - Acetone
- MW-1 (Lab ID: 70137879008)
 - Acetone
- MW-10 (Lab ID: 70137879012)
 - Acetone
- MW-18 (Lab ID: 70137879006)
 - Acetone
- MW-2 (Lab ID: 70137879007)
 - Acetone
- MW-3 (Lab ID: 70137879009)
 - Acetone
- MW-4 (Lab ID: 70137879010)
 - Acetone
- MW-4-DUP (Lab ID: 70137879011)
 - Acetone
- PZ-11R (Lab ID: 70137879015)
 - Acetone
- PZ-13R (Lab ID: 70137879016)
 - Acetone
- TRIP BLANK (Lab ID: 70137879004)
 - Acetone

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Method: EPA 8260C/5030C

Description: 8260C Volatile Organics

Client: Tetra Tech Inc.

Date: August 17, 2020

QC Batch: 169265

IH: This analyte exceeded secondary source verification criteria high for the initial calibration. The reported results should be considered an estimated value.

- A2-PZ-1 (Lab ID: 70137879001)
 - Vinyl chloride
- A2-PZ-2 (Lab ID: 70137879005)
 - Vinyl chloride
- LCS (Lab ID: 818097)
 - Bromomethane
 - Ethanol
 - Vinyl chloride
- MS (Lab ID: 818456)
 - Bromomethane
 - Ethanol
 - Vinyl chloride
- MW-10 (Lab ID: 70137879012)
 - Vinyl chloride
- MW-18 (Lab ID: 70137879006)
 - Vinyl chloride
- MW-2 (Lab ID: 70137879007)
 - Vinyl chloride
- MW-3 (Lab ID: 70137879009)
 - Vinyl chloride
- MW-4 (Lab ID: 70137879010)
 - Vinyl chloride
- MW-4-DUP (Lab ID: 70137879011)
 - Vinyl chloride

IL: This analyte exceeded secondary source verification criteria low for the initial calibration. The reported results should be considered an estimated value.

- A2-PZ-1 (Lab ID: 70137879001)
 - 2-Butanone (MEK)
- A2-PZ-2 (Lab ID: 70137879005)
 - 2-Butanone (MEK)
- BLANK (Lab ID: 818096)
 - 2-Butanone (MEK)
- DUP (Lab ID: 818455)
 - 2-Butanone (MEK)
- LCS (Lab ID: 818097)
 - 2-Butanone (MEK)
- MS (Lab ID: 818456)
 - 2-Butanone (MEK)
- MW-1 (Lab ID: 70137879008)
 - 2-Butanone (MEK)
- MW-10 (Lab ID: 70137879012)
 - 2-Butanone (MEK)
- MW-18 (Lab ID: 70137879006)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Method: EPA 8260C/5030C

Description: 8260C Volatile Organics

Client: Tetra Tech Inc.

Date: August 17, 2020

QC Batch: 169265

IL: This analyte exceeded secondary source verification criteria low for the initial calibration. The reported results should be considered an estimated value.

- 2-Butanone (MEK)
- MW-2 (Lab ID: 70137879007)
 - 2-Butanone (MEK)
- MW-3 (Lab ID: 70137879009)
 - 2-Butanone (MEK)
- MW-4 (Lab ID: 70137879010)
 - 2-Butanone (MEK)
- MW-4-DUP (Lab ID: 70137879011)
 - 2-Butanone (MEK)
- PZ-11R (Lab ID: 70137879015)
 - 2-Butanone (MEK)
- PZ-13R (Lab ID: 70137879016)
 - 2-Butanone (MEK)
- TRIP BLANK (Lab ID: 70137879004)
 - 2-Butanone (MEK)

QC Batch: 169922

IH: This analyte exceeded secondary source verification criteria high for the initial calibration. The reported results should be considered an estimated value.

- LCS (Lab ID: 821357)
 - Vinyl chloride
- MS (Lab ID: 821504)
 - Vinyl chloride
- MSD (Lab ID: 821505)
 - Vinyl chloride
- MW-20 (Lab ID: 70137879017)
 - Vinyl chloride
- MW-21 (Lab ID: 70137879018)
 - Vinyl chloride

IL: This analyte exceeded secondary source verification criteria low for the initial calibration. The reported results should be considered an estimated value.

- BLANK (Lab ID: 821356)
 - 2-Butanone (MEK)
- LCS (Lab ID: 821357)
 - 2-Butanone (MEK)
- MS (Lab ID: 821504)
 - 2-Butanone (MEK)
- MSD (Lab ID: 821505)
 - 2-Butanone (MEK)
- MW-20 (Lab ID: 70137879017)
 - 2-Butanone (MEK)
- MW-21 (Lab ID: 70137879018)
 - 2-Butanone (MEK)
- PZ-5 (Lab ID: 70137879013)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Method: EPA 8260C/5030C

Description: 8260C Volatile Organics

Client: Tetra Tech Inc.

Date: August 17, 2020

QC Batch: 169922

IL: This analyte exceeded secondary source verification criteria low for the initial calibration. The reported results should be considered an estimated value.

- 2-Butanone (MEK)
- PZ-6 (Lab ID: 70137879014)
- 2-Butanone (MEK)

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 169265

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- DUP (Lab ID: 818455)
 - Acetone
- LCS (Lab ID: 818097)
 - Acetone
 - Bromomethane
- MS (Lab ID: 818456)
 - Acetone
 - Bromomethane
- PZ-11R (Lab ID: 70137879015)
 - Acetone

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- A2-PZ-1 (Lab ID: 70137879001)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane
- A2-PZ-2 (Lab ID: 70137879005)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane
- BLANK (Lab ID: 818096)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane
- DUP (Lab ID: 818455)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane
- LCS (Lab ID: 818097)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane
- MS (Lab ID: 818456)
 - Bromoform
 - Carbon tetrachloride

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Method: EPA 8260C/5030C

Description: 8260C Volatile Organics

Client: Tetra Tech Inc.

Date: August 17, 2020

QC Batch: 169265

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- Dichlorodifluoromethane
- MW-1 (Lab ID: 70137879008)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane
- MW-10 (Lab ID: 70137879012)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane
- MW-18 (Lab ID: 70137879006)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane
- MW-2 (Lab ID: 70137879007)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane
- MW-3 (Lab ID: 70137879009)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane
- MW-4 (Lab ID: 70137879010)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane
- MW-4-DUP (Lab ID: 70137879011)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane
- PZ-11R (Lab ID: 70137879015)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane
- PZ-13R (Lab ID: 70137879016)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane
- TRIP BLANK (Lab ID: 70137879004)
 - Bromoform
 - Carbon tetrachloride
 - Dichlorodifluoromethane

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Method: EPA 8260C/5030C

Description: 8260C Volatile Organics

Client: Tetra Tech Inc.

Date: August 17, 2020

QC Batch: 169922

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 821357)
 - Hexachloro-1,3-butadiene
 - Vinyl chloride
- MS (Lab ID: 821504)
 - Hexachloro-1,3-butadiene
 - Vinyl chloride
- MSD (Lab ID: 821505)
 - Hexachloro-1,3-butadiene
 - Vinyl chloride
- MW-20 (Lab ID: 70137879017)
 - Vinyl chloride
- MW-21 (Lab ID: 70137879018)
 - Vinyl chloride

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 821356)
 - 1,2,3-Trichlorobenzene
 - Methylene Chloride
 - Naphthalene
- LCS (Lab ID: 821357)
 - 1,2,3-Trichlorobenzene
 - Methylene Chloride
 - Naphthalene
- MS (Lab ID: 821504)
 - 1,2,3-Trichlorobenzene
 - Methylene Chloride
 - Naphthalene
- MSD (Lab ID: 821505)
 - 1,2,3-Trichlorobenzene
 - Methylene Chloride
 - Naphthalene
- MW-20 (Lab ID: 70137879017)
 - 1,2,3-Trichlorobenzene
 - Methylene Chloride
 - Naphthalene
- MW-21 (Lab ID: 70137879018)
 - 1,2,3-Trichlorobenzene
 - Methylene Chloride
 - Naphthalene
- PZ-5 (Lab ID: 70137879013)
 - 1,2,3-Trichlorobenzene
 - Methylene Chloride
 - Naphthalene
- PZ-6 (Lab ID: 70137879014)
 - 1,2,3-Trichlorobenzene

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Method: EPA 8260C/5030C

Description: 8260C Volatile Organics

Client: Tetra Tech Inc.

Date: August 17, 2020

QC Batch: 169922

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- Methylene Chloride
- Naphthalene

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 169922

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCS (Lab ID: 821357)
 - 1,1,1,2-Tetrachloroethane
 - Bromobenzene
 - cis-1,3-Dichloropropene
 - trans-1,4-Dichloro-2-butene

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 821357)
 - 1,2,3-Trichlorobenzene
 - Naphthalene

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 169265

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 70137840004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 818456)
 - 1,1,1,2-Tetrachloroethane
 - trans-1,3-Dichloropropene

QC Batch: 169922

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 70138071003

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 821504)
 - 1,2,3-Trichlorobenzene

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Method: EPA 8260C/5030C

Description: 8260C Volatile Organics

Client: Tetra Tech Inc.

Date: August 17, 2020

QC Batch: 169922

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 70138071003

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- Naphthalene
- trans-1,4-Dichloro-2-butene
- MSD (Lab ID: 821505)
- Bromobenzene
- trans-1,4-Dichloro-2-butene

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 821504)
- 1,1-Dichloroethane

R1: RPD value was outside control limits.

- MSD (Lab ID: 821505)
- 1,2,3-Trichlorobenzene
- Naphthalene

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 169265

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.

- DUP (Lab ID: 818455)
- Acetone

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
TNTC - Too Numerous To Count
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 70137879

[1] Revision 1: Report re-issued on 8/17/2020 to update EPA 8260C qualifiers.

SAMPLE QUALIFIERS

Sample: 818455

[1] 2-Chloroethylvinyl ether not reportable due to improper sample preservation.

Sample: 818456

[1] 2-Chloroethylvinyl ether not reportable due to improper sample preservation.

ANALYTE QUALIFIERS

CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
IC	The initial calibration for this compound was outside of method control limits. The result is estimated.
IH	This analyte exceeded secondary source verification criteria high for the initial calibration. The reported results should be considered an estimated value.
IL	This analyte exceeded secondary source verification criteria low for the initial calibration. The reported results should be considered an estimated value.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

ANALYTE QUALIFIERS

- | | |
|----|--|
| L2 | Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low. |
| M0 | Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits. |
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. |
| N3 | Accreditation is not offered by the relevant laboratory accrediting body for this parameter. |
| R1 | RPD value was outside control limits. |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LMC Utica Annual 7/8

Pace Project No.: 70137879

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70137879001	A2-PZ-1	EPA 8260C SIM/5030C	169761		
70137879002	FIELD BLANK	EPA 8260C SIM/5030C	169761		
70137879003	EQUIPMENT BLANK	EPA 8260C SIM/5030C	169761		
70137879004	TRIP BLANK	EPA 8260C SIM/5030C	169761		
70137879001	A2-PZ-1	EPA 8260C/5030C	169265		
70137879004	TRIP BLANK	EPA 8260C/5030C	169265		
70137879005	A2-PZ-2	EPA 8260C/5030C	169265		
70137879006	MW-18	EPA 8260C/5030C	169265		
70137879007	MW-2	EPA 8260C/5030C	169265		
70137879008	MW-1	EPA 8260C/5030C	169265		
70137879009	MW-3	EPA 8260C/5030C	169265		
70137879010	MW-4	EPA 8260C/5030C	169265		
70137879011	MW-4-DUP	EPA 8260C/5030C	169265		
70137879012	MW-10	EPA 8260C/5030C	169265		
70137879013	PZ-5	EPA 8260C/5030C	169922		
70137879014	PZ-6	EPA 8260C/5030C	169922		
70137879015	PZ-11R	EPA 8260C/5030C	169265		
70137879016	PZ-13R	EPA 8260C/5030C	169265		
70137879017	MW-20	EPA 8260C/5030C	169922		
70137879018	MW-21	EPA 8260C/5030C	169922		

REPORT OF LABORATORY ANALYSIS

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Case Narrative

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-54421-1
SDG: 70137879

Job ID: 200-54421-1

Laboratory: Eurofins TestAmerica, Burlington

Narrative

CASE NARRATIVE

Client: Pace Analytical Services, LLC

Project: PFAS, NY DW

Report Number: 200-54421-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 07/18/2020; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 2.1° C.

PERFLUORINATED HYDROCARBONS

Samples AZ-PZ-1, FIELD BLANK, EQUIPMENT BLANK and TRIP BLANK were analyzed for Perfluorinated Hydrocarbons in accordance with Method ISO 25101. The samples were prepared and analyzed on 07/21/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-54421-1
SDG: 70137879

Qualifiers

LCMS

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method Summary

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-54421-1
SDG: 70137879

Method	Method Description	Protocol	Laboratory
25101:2009	Fluorinated Alkyl Substances	ISO	TAL BUR
25101:2009 SPE	Solid-Phase Extraction (SPE)	ISO	TAL BUR

Protocol References:

ISO = International Organization for Standardization

Laboratory References:

TAL BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-54421-1
SDG: 70137879

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
200-54421-1	AZ-PZ-1	Water	07/08/20 10:15	07/18/20 10:00	
200-54421-2	FIELD BLANK	Water	07/08/20 09:55	07/18/20 10:00	
200-54421-3	EQUIPMENT BLANK	Water	07/08/20 10:05	07/18/20 10:00	
200-54421-4	TRIP BLANK	Water	07/08/20 00:00	07/18/20 10:00	

Chain of Custody

PASI New York Laboratory



Workorder: 70137879

Workorder Name: LMC Utica Annual 7/8

Results Requested By: 7/27/2020

Report / Invoice To		Subcontract To		Requested Analysis													
Kimberley M. Mack Pace Analytical Melville 575 Broad Hollow Road Melville, NY 11747 Phone (631)694-3040 Email: kimberley.mack@pacelabs.com		Eurofins TestAmerica, Burlington P.O. 70137879KMM 30 Community Drive Suite 11 South Burlington, VT 05403															
State of Sample Origin:				Preserved Containers								LAB USE ONLY					
Item	Sample ID	Collect Date/Time	Lab ID	Matrix	NA2S2O3												
1	AZ-PZ-1	7/8/2020 10:15	70137879001	Water													
2	FIELD BLANK	7/8/2020 09:55	70137879002	Water													
3	EQUIPMENT BLANK	7/8/2020 10:05	70137879003	Water													
4	TRIP BLANK	7/8/2020 00:00	70137879004	Water													
Comments																	
Transfers	Released By	Date/Time	Received By	Date/Time													
1	<i>Kimberley Mack</i>	7/17/20 18:30	<i>Taylor John TACM</i>	7/18/2020	PFAS, Standard List (21 analytes)												
2																	
3																	
Cooler Temperature on Receipt		2.1 °C	Custody Seal Y or N	Received on Ice Y or N	Samples Intact Y or N												



200-54421 Chain of Custody



Login Sample Receipt Checklist

Client: Pace Analytical Services, LLC

Job Number: 200-54421-1

SDG Number: 70137879

Login Number: 54421

List Number: 1

Creator: Mohn, Taylor J

List Source: Eurofins TestAmerica, Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1°C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

MSV - FORM II VOA-1
WATER VOLATILE SURROGATE RECOVERY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Instrument ID: 70MSV8

LAB SAMPLE ID	SAMPLE NAME	12D4	BFB	TOL8
818096	818096BLANK	103	97	96
818097	818097LCS	103	99	98
70137879001	AZ-PZ-1	105	98	97
70137879004	TRIP BLANK	105	96	98
70137879005	AZ-PZ-2	104	99	96
70137879006	MW-18	104	97	95
70137879007	MW-2	105	97	97
70137879008	MW-1	105	98	96
70137879009	MW-3	104	98	97
70137879010	MW-4	104	97	96
70137879011	MW-4-DUP	104	98	97
70137879012	MW-10	105	98	97
70137879015	PZ-11R	105	99	96
70137879016	PZ-13R	105	98	96

(12D4) = 1,2-Dichloroethane-d4 (S)

(BFB) = 4-Bromofluorobenzene (S)

(TOL8) = Toluene-d8 (S)

* Values outside of QC Limits

QC LIMITS

(68-153)

(79-124)

(69-124)

MSV - FORM II VOA-1
WATER VOLATILE SURROGATE RECOVERY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Instrument ID: 70MSV9

LAB SAMPLE ID	SAMPLE NAME	1DB4	BFB
820538	820538BLANK	84	110
820539	820539LCS	85	111
820749	820749DUP	90	110
820750	820750MS	85	82
70137879001	AZ-PZ-1	86	110
70137879002	FIELD BLANK	87	110
70137879003	EQUIPMENT BLANK	85	109
70137879004	TRIP BLANK	87	111

(1DB4) = 1,2-Dichlorobenzene-d4 (S)

(BFB) = 4-Bromofluorobenzene (S)

* Values outside of QC Limits

QC LIMITS

(60-140)

(79-124)

MSV - FORM II VOA-1
WATER VOLATILE SURROGATE RECOVERY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Instrument ID: 70MSV5

LAB SAMPLE ID	SAMPLE NAME	12D4	BFB	TOL8
821356	821356BLANK	107	93	98
821357	821357LCS	102	101	99
70137879013	PZ-5	105	95	98
70137879014	PZ-6	106	93	95
70137879017	MW-20	107	93	98
70137879018	MW-21	105	94	99

(12D4) = 1,2-Dichloroethane-d4 (S)

(BFB) = 4-Bromofluorobenzene (S)

(TOL8) = Toluene-d8 (S)

* Values outside of QC Limits

QC LIMITS

(68-153)

(79-124)

(69-124)

MSV - FORM VIII VOA-1
MSV INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Sample ID : 13608251CCV Date Analyzed: 07/21/2020

Instrument ID: 70MSV5 GC Column: Col 1 Time Analyzed: 14:29

Lab File ID: 072120.B\H27506.D

		AREA CBZ	RT	AREA DCB	RT	AREA DFB	RT	AREA PFB	RT
12 HOUR STD		228648	7.429	150568	9.717	435431	4.714	251488	4.06
UPPER LIMIT		457296	7.929	301136	10.217	870862	5.214	502976	4.56
LOWER LIMIT		114324	6.929	75284	9.217	217715.5	4.214	125744	3.56
LAB SAMPLE ID	SAMPLE NO.								
821356	821356BLANK	197624	7.43	121219	9.718	373939	4.716	225796	4.061
821357	821357LCS	202463	7.431	133893	9.719	388911	4.717	227880	4.062
70137879013	PZ-5	183991	7.432	110007	9.72	345290	4.717	213243	4.06
70137879013 DL 5	PZ-5	185231	7.435	114761	9.72	346577	4.718	212369	4.063
70137879014	PZ-6	183631	7.433	112639	9.72	334364	4.718	206773	4.063
70137879017	MW-20	184299	7.432	111720	9.72	344428	4.717	210235	4.063
70137879018	MW-21	183320	7.433	113893	9.721	357161	4.715	213359	4.061

CBZ = Chlorobenzene-D5 (IS)

DCB = 1,4-Dichlorobenzene-d4 (IS)

DFB = 1,4-Difluorobenzene (IS)

PFB = Pentafluorobenzene (IS)

AREA UPPER LIMIT = 200% of Internal Standard Area

AREA LOWER LIMIT = 50% of Internal Standard Area

RT UPPER LIMIT = +0.50 minutes of Internal Standard RT

RT LOWER LIMIT = -0.50 minutes of Internal Standard RT

* Values outside of QC Limits

MSV - FORM VIII VOA-1
MSV INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Sample ID : 13588256CCV Date Analyzed: 07/16/2020

Instrument ID: 70MSV8 GC Column: Col 1 Time Analyzed: 10:37

Lab File ID: 071620.B\IP24949.D

		AREA CBZ	RT	AREA DCB	RT	AREA DFB	RT	AREA PFB	RT
12 HOUR STD		202930	7.433	162241	10.073	388753	4.318	189703	3.69
UPPER LIMIT		405860	7.933	324482	10.573	777506	4.818	379406	4.19
LOWER LIMIT		101465	6.933	81120.5	9.573	194376.5	3.818	94851.5	3.19
LAB SAMPLE ID	SAMPLE NO.								
818096	818096BLANK	201744	7.433	155468	10.073	377967	4.318	186321	3.69
818097	818097LCS	203732	7.439	162898	10.073	388156	4.318	190907	3.69
70137879001	AZ-PZ-1	200605	7.439	156156	10.073	376527	4.318	184003	3.69
70137879004	TRIP BLANK	203907	7.433	153524	10.073	385666	4.312	190607	3.684
70137879005	AZ-PZ-2	202586	7.439	155643	10.073	381772	4.318	184212	3.69
70137879006	MW-18	205644	7.433	157931	10.073	381504	4.318	185296	3.69
70137879007	MW-2	202426	7.433	158552	10.073	383248	4.318	188525	3.69
70137879008	MW-1	202389	7.433	154816	10.073	377744	4.318	182962	3.69
70137879009	MW-3	202167	7.433	156570	10.073	379032	4.318	183776	3.69
70137879010	MW-4	201680	7.433	155816	10.073	375873	4.318	180493	3.69
70137879011	MW-4-DUP	201542	7.433	156292	10.073	376309	4.318	182137	3.69
70137879012	MW-10	200554	7.433	154061	10.073	375867	4.318	182271	3.69
70137879015	PZ-11R	202081	7.439	157250	10.073	376570	4.318	183095	3.69
70137879016	PZ-13R	202305	7.433	153657	10.073	378389	4.318	182227	3.69

CBZ = Chlorobenzene-D5 (IS)

DCB = 1,4-Dichlorobenzene-d4 (IS)

DFB = 1,4-Difluorobenzene (IS)

PFB = Pentafluorobenzene (IS)

AREA UPPER LIMIT = 200% of Internal Standard Area

AREA LOWER LIMIT = 50% of Internal Standard Area

RT UPPER LIMIT = +0.50 minutes of Internal Standard RT

RT LOWER LIMIT = -0.50 minutes of Internal Standard RT

* Values outside of QC Limits

MSV - FORM VIII VOA-1
MSV INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Sample ID : 13593680CCV Date Analyzed: 07/17/2020

Instrument ID: 70MSV8 GC Column: Col 1 Time Analyzed: 17:11

Lab File ID: 071720.B\P24975.D

		AREA CBZ	RT	AREA DCB	RT	AREA DFB	RT	AREA PFB	RT
12 HOUR STD		210630	7.433	164824	10.073	388412	4.312	187792	3.69
UPPER LIMIT		421260	7.933	329648	10.573	776824	4.812	375584	4.19
LOWER LIMIT		105315	6.933	82412	9.573	194206	3.812	93896	3.19
LAB SAMPLE ID	SAMPLE NO.								
70137879006	MW-18	202754	7.439	156984	10.073	374740	4.318	180219	3.69

CBZ = Chlorobenzene-D5 (IS)

DCB = 1,4-Dichlorobenzene-d4 (IS)

DFB = 1,4-Difluorobenzene (IS)

PFB = Pentafluorobenzene (IS)

AREA UPPER LIMIT = 200% of Internal Standard Area

AREA LOWER LIMIT = 50% of Internal Standard Area

RT UPPER LIMIT = +0.50 minutes of Internal Standard RT

RT LOWER LIMIT = -0.50 minutes of Internal Standard RT

* Values outside of QC Limits

MSV - FORM VIII VOA-1
MSV INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Sample ID : 13597958CCV Date Analyzed: 07/20/2020

Instrument ID: 70MSV9 GC Column: FULL Time Analyzed: 17:43

Lab File ID: 072020.B\B7775.D

		AREA FBZ	RT
12 HOUR STD		3121040	4.139
UPPER LIMIT		6242080	4.639
LOWER LIMIT		1560520	3.639
LAB SAMPLE ID	SAMPLE NO.		
820538	820538BLANK	3116707	4.139
820539	820539LCS	2998306	4.139
820749	820749DUP	3137514	4.139
820750	820750MS	3154117	4.139
70137879001	AZ-PZ-1	3183712	4.139
70137879002	FIELD BLANK	3152458	4.139
70137879003	EQUIPMENT BLANK	3169043	4.139
70137879004	TRIP BLANK	3098613	4.139

FBZ = Fluorobenzene (IS)

AREA UPPER LIMIT = 200% of Internal Standard Area

AREA LOWER LIMIT = 50% of Internal Standard Area

RT UPPER LIMIT = +0.50 minutes of Internal Standard RT

RT LOWER LIMIT = -0.50 minutes of Internal Standard RT

* Values outside of QC Limits

MSV - FORM IV VOA-1
VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

818096BLANK

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Instrument ID: 70MSV8 Matrix: Water Lab Sample ID: 818096

Lab File ID: 071620.B\P24950.D Date Analyzed: 07/16/2020 Time: 11:35

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	ANALYZED
818097LCS	818097	071620.B\P24951.D	07/16/2020 11:59
TRIP BLANK	70137879004	071620.B\P24952.D	07/16/2020 12:42
AZ-PZ-1	70137879001	071620.B\P24961.D	07/16/2020 16:06
AZ-PZ-2	70137879005	071620.B\P24962.D	07/16/2020 16:29
MW-18	70137879006	071620.B\P24963.D	07/16/2020 16:51
MW-2	70137879007	071620.B\P24964.D	07/16/2020 17:14
MW-1	70137879008	071620.B\P24965.D	07/16/2020 17:37
MW-3	70137879009	071620.B\P24966.D	07/16/2020 18:00
MW-4	70137879010	071620.B\P24967.D	07/16/2020 18:23
MW-4-DUP	70137879011	071620.B\P24968.D	07/16/2020 18:46
MW-10	70137879012	071620.B\P24969.D	07/16/2020 19:09
PZ-11R	70137879015	071620.B\P24970.D	07/16/2020 19:32
PZ-13R	70137879016	071620.B\P24971.D	07/16/2020 19:55
818455DUP	818455	071620.B\P24972.D	07/16/2020 20:18
MW-18	70137879006	071720.B\P24982.D	07/17/2020 20:19

MSV - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

BLANK

Lab Name: Pace Analytical - New York

Contract: LMC Utica Annual 7/8

Date Received: _____

Matrix: Water SDG No.: 70137879

Date Extracted: 07/16/2020 11:35

Lab Sample ID: 818096

Date Analyzed: 07/16/2020 11:35

Lab File ID: 071620.B\IP24950.D

Initial wt/vol: 5 mL Final wt/vol: 5 mL Dilution: 1

Instrument: 70MSV8 Percent Moisture: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
67-64-1	Acetone	<5.0	U
71-43-2	Benzene	<1.0	U
108-86-1	Bromobenzene	<1.0	U
74-97-5	Bromochloromethane	<1.0	U
75-27-4	Bromodichloromethane	<1.0	U
75-25-2	Bromoform	<1.0	U
74-83-9	Bromomethane	<1.0	U
78-93-3	2-Butanone (MEK)	<5.0	U
104-51-8	n-Butylbenzene	<1.0	U
135-98-8	sec-Butylbenzene	<1.0	U
98-06-6	tert-Butylbenzene	<1.0	U
75-15-0	Carbon disulfide	<1.0	U
56-23-5	Carbon tetrachloride	<1.0	U
108-90-7	Chlorobenzene	<1.0	U
75-45-6	Chlorodifluoromethane	<1.0	U
75-00-3	Chloroethane	<1.0	U
67-66-3	Chloroform	<1.0	U
74-87-3	Chloromethane	<1.0	U
95-49-8	2-Chlorotoluene	<1.0	U
106-43-4	4-Chlorotoluene	<1.0	U
124-48-1	Dibromochloromethane	<1.0	U
106-93-4	1,2-Dibromoethane (EDB)	<1.0	U
74-95-3	Dibromomethane	<1.0	U
95-50-1	1,2-Dichlorobenzene	<1.0	U
541-73-1	1,3-Dichlorobenzene	<1.0	U
106-46-7	1,4-Dichlorobenzene	<1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	<1.0	U
75-71-8	Dichlorodifluoromethane	<1.0	U
75-34-3	1,1-Dichloroethane	<1.0	U
107-06-2	1,2-Dichloroethane	<1.0	U
75-35-4	1,1-Dichloroethene	<1.0	U
156-59-2	cis-1,2-Dichloroethene	<1.0	U
156-60-5	trans-1,2-Dichloroethene	<1.0	U
78-87-5	1,2-Dichloropropane	<1.0	U
142-28-9	1,3-Dichloropropane	<1.0	U
594-20-7	2,2-Dichloropropane	<1.0	U
563-58-6	1,1-Dichloropropene	<1.0	U

08/17/2020 7:08

MSV - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

BLANK

Lab Name: Pace Analytical - New York
Date Received: _____
Date Extracted: 07/16/2020 11:35
Date Analyzed: 07/16/2020 11:35
Initial wt/vol: 5 mL Final wt/vol: 5 mL Dilution: 1

Contract: LMC Utica Annual 7/8
Matrix: Water SDG No.: 70137879
Lab Sample ID: 818096
Lab File ID: 071620.B\P24950.D
Instrument: 70MSV8 Percent Moisture: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
10061-01-5	cis-1,3-Dichloropropene	<1.0	U
10061-02-6	trans-1,3-Dichloropropene	<1.0	U
105-05-5	1,4-Diethylbenzene	<1.0	U
64-17-5	Ethanol	<250	U
100-41-4	Ethylbenzene	<1.0	U
87-68-3	Hexachloro-1,3-butadiene	<1.0	U
591-78-6	2-Hexanone	<5.0	U
98-82-8	Isopropylbenzene (Cumene)	<1.0	U
99-87-6	p-Isopropyltoluene	<1.0	U
75-09-2	Methylene Chloride	<1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	U
1634-04-4	Methyl-tert-butyl ether	<1.0	U
91-20-3	Naphthalene	<1.0	U
103-65-1	n-Propylbenzene	<1.0	U
100-42-5	Styrene	<1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	U
79-34-5	1,1,1,2-Tetrachloroethane	<1.0	U
127-18-4	Tetrachloroethene	<1.0	U
95-93-2	1,2,4,5-tetramethylbenzene	<1.0	U
108-88-3	Toluene	<1.0	U
87-61-6	1,2,3-Trichlorobenzene	<1.0	U
120-82-1	1,2,4-Trichlorobenzene	<1.0	U
71-55-6	1,1,1-Trichloroethane	<1.0	U
79-00-5	1,1,2-Trichloroethane	<1.0	U
79-01-6	Trichloroethene	<1.0	U
75-69-4	Trichlorofluoromethane	<1.0	U
96-18-4	1,2,3-Trichloropropane	<1.0	U
95-63-6	1,2,4-Trimethylbenzene	<1.0	U
108-67-8	1,3,5-Trimethylbenzene	<1.0	U
75-01-4	Vinyl chloride	<1.0	U
1330-20-7	Xylene (Total)	<3.0	U
179601-23-1	m&p-Xylene	<2.0	U
95-47-6	o-Xylene	<1.0	U

08/17/2020 7:08

MSV - FORM III VOA-1
WATER LABORATORY CONTROL SAMPLE RECOVERY

Lab Name: Pace Analytical - New York

Date Extracted: 07/16/2020

Instrument: 70MSV8

Lab File ID: 071620.B\P24951.D

Lab Sample ID: 818097LCS

Date Analyzed (1): 07/16/2020

LCS Lot No: 92979

SDG No.: 70137879

COMPOUND	AMOUNT ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS %REC	QC LIMITS REC.
Acetone	50.0	77.5	155	23-188
Benzene	50.0	48.9	98	73-119
Bromobenzene	50.0	46.0	92	72-102
Bromochloromethane	50.0	55.9	112	81-116
Bromodichloromethane	50.0	48.2	96	78-117
Bromoform	50.0	38.8	78	65-122
Bromomethane	50.0	64.3	129	52-147
2-Butanone (MEK)	50.0	58.9	118	44-162
n-Butylbenzene	50.0	50.5	101	73-107
sec-Butylbenzene	50.0	48.7	97	72-103
tert-Butylbenzene	50.0	47.0	94	68-100
Carbon disulfide	50.0	50.8	102	41-144
Carbon tetrachloride	50.0	42.8	86	59-120
Chlorobenzene	50.0	45.2	90	75-113
Chlorodifluoromethane	50.0	49.7	99	43-140
Chloroethane	50.0	56.1	112	49-151
Chloroform	50.0	55.8	112	72-122
Chloromethane	50.0	53.3	107	46-144
2-Chlorotoluene	50.0	48.9	98	74-101
4-Chlorotoluene	50.0	49.9	100	74-101
Dibromochloromethane	50.0	43.3	87	70-120
1,2-Dibromoethane (EDB)	50.0	48.3	97	83-115
Dibromomethane	50.0	50.5	101	75-125
1,2-Dichlorobenzene	50.0	48.3	97	74-113
1,3-Dichlorobenzene	50.0	47.7	95	71-112
1,4-Dichlorobenzene	50.0	47.1	94	71-113
trans-1,4-Dichloro-2-butene	50.0	44.4	89	71-121
Dichlorodifluoromethane	50.0	37.2	74	22-154
1,1-Dichloroethane	50.0	56.3	113	83-151
1,2-Dichloroethane	50.0	57.8	116	74-129
1,1-Dichloroethene	50.0	50.1	100	45-146
cis-1,2-Dichloroethene	50.0	55.9	112	72-121
trans-1,2-Dichloroethene	50.0	54.7	109	56-142
1,2-Dichloropropane	50.0	50.8	102	75-117
1,3-Dichloropropane	50.0	50.1	100	74-112
2,2-Dichloropropane	50.0	41.0	82	63-133
1,1-Dichloropropene	50.0	46.9	94	59-127
cis-1,3-Dichloropropene	50.0	45.3	91	78-116
trans-1,3-Dichloropropene	50.0	41.7	83	79-116
1,4-Diethylbenzene	50.0	48.3	97	56-130
Ethanol	1250	1340	107	10-151
Ethylbenzene	50.0	44.7	89	70-113
Hexachloro-1,3-butadiene	50.0	42.2	84	59-121
2-Hexanone	50.0	49.2	98	32-183
Isopropylbenzene (Cumene)	50.0	48.4	97	67-115
p-Isopropyltoluene	50.0	47.1	94	73-101
Methylene Chloride	50.0	56.6	113	61-142

08/17/2020 7:06

MSV - FORM III VOA-2
WATER LABORATORY CONTROL SAMPLE RECOVERY

Lab Name: Pace Analytical - New York
Date Extracted: 07/16/2020
Instrument: 70MSV8
Lab File ID: 071620.B\24951.D

Lab Sample ID: 818097LCS
Date Analyzed (1): 07/16/2020
LCS Lot No: 92979
SDG No.: 70137879

COMPOUND	AMOUNT ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS %REC	QC LIMITS REC.
4-Methyl-2-pentanone (MIBK)	50.0	53.3	107	69-132
Methyl-tert-butyl ether	50.0	56.4	113	72-131
Naphthalene	50.0	51.7	103	70-118
n-Propylbenzene	50.0	49.9	100	68-116
Styrene	50.0	46.4	93	72-118
1,1,1,2-Tetrachloroethane	50.0	41.5	83	74-113
1,1,2,2-Tetrachloroethane	50.0	54.4	109	74-121
Tetrachloroethene	50.0	39.8	80	60-128
1,2,4,5-tetramethylbenzene	50.0	48.6	97	66-103
Toluene	50.0	48.7	97	72-119
1,2,3-Trichlorobenzene	50.0	46.3	93	67-103
1,2,4-Trichlorobenzene	50.0	45.1	90	66-116
1,1,1-Trichloroethane	50.0	42.1	84	65-118
1,1,2-Trichloroethane	50.0	50.6	101	80-117
Trichloroethene	50.0	46.7	93	69-117
Trichlorofluoromethane	50.0	54.9	110	27-173
1,2,3-Trichloropropane	50.0	51.0	102	71-123
1,2,4-Trimethylbenzene	50.0	48.9	98	68-116
1,3,5-Trimethylbenzene	50.0	48.8	98	67-116
Vinyl chloride	50.0	56.4	113	43-143
Xylene (Total)	150	136	91	71-109
m&p-Xylene	100	90.5	90	72-115
o-Xylene	50.0	45.5	91	73-117

Spike Recovery: 0 out of 70 outside limits.

08/17/2020 7:06

SAMPLE NOT IN SDG

MSV - FORM III VOA-1
WATER VOLATILE SAMPLE/DUPLICATE RECOVERY

Lab Name: Pace Analytical - New York

Date Extracted: 07/16/2020

Instrument: 70MSV8

Lab Sample ID: 70137840003

Duplicate Sample No: 70137840003DUP

Date Analyzed: 07/16/2020

Lab File ID: 071620.B\24972.D

SDG No.: 70137879

COMPOUND	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD	RPD LIMITS
1,1,1,2-Tetrachloroethane	<1.0	<1.0		0-20
1,1,1-Trichloroethane	<1.0	<1.0		0-20
1,1,2,2-Tetrachloroethane	<1.0	<1.0		0-20
1,1,2-Trichloroethane	<1.0	<1.0		0-20
1,1-Dichloroethane	<1.0	<1.0		0-20
1,1-Dichloroethene	<1.0	<1.0		0-20
1,1-Dichloropropene	<1.0	<1.0		0-20
1,2,3-Trichlorobenzene	<1.0	<1.0		0-20
1,2,3-Trichloropropane	<1.0	<1.0		0-20
1,2,4,5-tetramethylbenzene	<1.0	<1.0		0-20
1,2,4-Trichlorobenzene	<1.0	<1.0		0-20
1,2,4-Trimethylbenzene	<1.0	<1.0		0-20
1,2-Dibromoethane (EDB)	<1.0	<1.0		0-20
1,2-Dichlorobenzene	<1.0	<1.0		0-20
1,2-Dichloroethane	<1.0	<1.0		0-20
1,2-Dichloropropane	<1.0	<1.0		0-20
1,3,5-Trimethylbenzene	<1.0	<1.0		0-20
1,3-Dichlorobenzene	<1.0	<1.0		0-20
1,3-Dichloropropane	<1.0	<1.0		0-20
1,4-Dichlorobenzene	<1.0	<1.0		0-20
1,4-Diethylbenzene	<1.0	<1.0		0-20
2,2-Dichloropropane	<1.0	<1.0		0-20
2-Butanone (MEK)	<5.0	<5.0		0-20
2-Chlorotoluene	<1.0	<1.0		0-20
2-Hexanone	<5.0	<5.0		0-20
4-Chlorotoluene	<1.0	<1.0		0-20
4-Methyl-2-pentanone (MIBK)	<5.0	<5.0		0-20
Acetone	10.1	13.3	27	0-20
Benzene	<1.0	<1.0		0-20
Bromobenzene	<1.0	<1.0		0-20
Bromochloromethane	<1.0	<1.0		0-20
Bromodichloromethane	<1.0	<1.0		0-20
Bromoform	<1.0	<1.0		0-20
Bromomethane	<1.0	<1.0		0-20
Carbon disulfide	<1.0	<1.0		0-20
Carbon tetrachloride	<1.0	<1.0		0-20
Chlorobenzene	<1.0	<1.0		0-20
Chlorodifluoromethane	<1.0	<1.0		0-20
Chloroethane	<1.0	<1.0		0-20
Chloroform	<1.0	<1.0		0-20
Chloromethane	<1.0	<1.0		0-20
Dibromochloromethane	<1.0	<1.0		0-20
Dibromomethane	<1.0	<1.0		0-20
Dichlorodifluoromethane	<1.0	<1.0		0-20
Ethanol	<250	<250		0-20
Ethylbenzene	<1.0	<1.0		0-20
Hexachloro-1,3-butadiene	<1.0	<1.0		0-20

08/17/2020 7:06

MSV - FORM III VOA-2
WATER VOLATILE SAMPLE/DUPLICATE RECOVERY

Lab Name: Pace Analytical - New York

Date Extracted: 07/16/2020

Instrument: 70MSV8

Lab Sample ID: 70137840003

Duplicate Sample No: 70137840003DUP

Date Analyzed: 07/16/2020

Lab File ID: 071620.B\24972.D

SDG No.: 70137879

COMPOUND	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD	RPD LIMITS
Isopropylbenzene (Cumene)	<1.0	<1.0		0-20
Methyl-tert-butyl ether	<1.0	<1.0		0-20
Methylene Chloride	<1.0	<1.0		0-20
Naphthalene	<1.0	<1.0		0-20
Styrene	<1.0	<1.0		0-20
Tetrachloroethene	<1.0	<1.0		0-20
Toluene	<1.0	<1.0		0-20
Trichloroethene	<1.0	<1.0		0-20
Trichlorofluoromethane	<1.0	<1.0		0-20
Vinyl chloride	<1.0	<1.0		0-20
Xylene (Total)	<3.0	<3.0		0-20
cis-1,2-Dichloroethene	<1.0	<1.0		0-20
cis-1,3-Dichloropropene	<1.0	<1.0		0-20
m&p-Xylene	<2.0	<2.0		0-20
n-Butylbenzene	<1.0	<1.0		0-20
n-Propylbenzene	<1.0	<1.0		0-20
o-Xylene	<1.0	<1.0		0-20
p-Isopropyltoluene	<1.0	<1.0		0-20
sec-Butylbenzene	<1.0	<1.0		0-20
tert-Butylbenzene	<1.0	<1.0		0-20
trans-1,2-Dichloroethene	<1.0	<1.0		0-20
trans-1,3-Dichloropropene	<1.0	<1.0		0-20
trans-1,4-Dichloro-2-butene	<1.0	<1.0		0-20

RPD: 1 out of 1 outside limits.

08/17/2020 7:06

SAMPLE NOT IN SDG

MSV - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Pace Analytical - New YorkMatrix Spike - Sample No: 818456MSDate Extracted: 07/16/2020Date Analyzed (1): 07/16/2020Instrument: 70MSV8Lab File ID: 071620.B\IP24973.DParent Sample ID: 70137840004SDG No.: 70137879

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS %REC	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	50.0	<1.0	36.4	73	74-113
1,1,1-Trichloroethane	50.0	<1.0	40.5	81	65-118
1,1,2,2-Tetrachloroethane	50.0	<1.0	48.7	97	74-121
1,1,2-Trichloroethane	50.0	<1.0	46.0	92	80-117
1,1-Dichloroethane	50.0	<1.0	55.3	111	83-151
1,1-Dichloroethene	50.0	<1.0	50.5	101	45-146
1,1-Dichloropropene	50.0	<1.0	48.0	96	59-127
1,2,3-Trichlorobenzene	50.0	<1.0	43.0	86	67-103
1,2,3-Trichloropropane	50.0	<1.0	45.6	91	71-123
1,2,4,5-tetramethylbenzene	50.0	<1.0	46.0	92	66-103
1,2,4-Trichlorobenzene	50.0	<1.0	41.6	83	66-116
1,2,4-Trimethylbenzene	50.0	<1.0	46.9	94	68-116
1,2-Dibromoethane (EDB)	50.0	<1.0	43.2	86	83-115
1,2-Dichlorobenzene	50.0	<1.0	44.7	89	74-113
1,2-Dichloroethane	50.0	<1.0	53.2	106	74-129
1,2-Dichloropropane	50.0	<1.0	47.0	94	75-117
1,3,5-Trimethylbenzene	50.0	<1.0	47.1	94	67-116
1,3-Dichlorobenzene	50.0	<1.0	44.8	90	71-112
1,3-Dichloropropane	50.0	<1.0	44.7	89	74-112
1,4-Dichlorobenzene	50.0	<1.0	44.1	88	71-113
1,4-Diethylbenzene	50.0	<1.0	46.9	94	56-130
2,2-Dichloropropane	50.0	<1.0	35.4	71	63-133
2-Butanone (MEK)	50.0	<5.0	50.7	101	44-162
2-Chlorotoluene	50.0	<1.0	47.1	94	74-101
2-Hexanone	50.0	<5.0	40.1	80	32-183
4-Chlorotoluene	50.0	<1.0	47.6	95	74-101
4-Methyl-2-pentanone (MIBK)	50.0	<5.0	45.4	91	69-132
Acetone	50.0	11.8	71.3	119	23-188
Benzene	50.0	<1.0	47.3	95	73-119
Bromobenzene	50.0	<1.0	42.0	84	72-102
Bromochloromethane	50.0	<1.0	50.8	102	81-116
Bromodichloromethane	50.0	<1.0	43.6	87	78-117
Bromoform	50.0	<1.0	33.0	66	65-122
Bromomethane	50.0	<1.0	48.1	96	52-147
Carbon disulfide	50.0	<1.0	48.6	97	41-144
Carbon tetrachloride	50.0	<1.0	42.4	85	59-120
Chlorobenzene	50.0	<1.0	42.1	84	75-113
Chlorodifluoromethane	50.0	<1.0	44.3	89	43-140
Chloroethane	50.0	<1.0	53.8	108	49-151
Chloroform	50.0	<1.0	53.9	108	72-122
Chloromethane	50.0	<1.0	45.7	91	46-144
Dibromochloromethane	50.0	<1.0	37.8	76	70-120
Dibromomethane	50.0	<1.0	45.7	91	75-125
Dichlorodifluoromethane	50.0	<1.0	31.1	62	22-154
Ethanol	1250	<250	1160	93	10-151
Ethylbenzene	50.0	<1.0	42.9	86	70-113
Hexachloro-1,3-butadiene	50.0	<1.0	42.1	84	59-121

08/17/2020 10:11

MSV - FORM III VOA-2
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Pace Analytical - New York
Date Extracted: 07/16/2020
Instrument: 70MSV8
Parent Sample ID: 70137840004

Matrix Spike - Sample No: 818456MS
Date Analyzed (1): 07/16/2020
Lab File ID: 071620.B\IP24973.D
SDG No.: 70137879

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS %REC	QC LIMITS REC.
Isopropylbenzene (Cumene)	50.0	<1.0	47.4	95	67-115
Methyl-tert-butyl ether	50.0	<1.0	50.3	101	72-131
Methylene Chloride	50.0	<1.0	53.8	108	61-142
Naphthalene	50.0	<1.0	46.4	93	70-118
Styrene	50.0	<1.0	42.4	85	72-118
Tetrachloroethene	50.0	<1.0	38.4	77	60-128
Toluene	50.0	<1.0	47.1	94	72-119
Trichloroethene	50.0	<1.0	45.5	91	69-117
Trichlorofluoromethane	50.0	<1.0	51.7	103	27-173
Vinyl chloride	50.0	<1.0	51.8	104	43-143
Xylene (Total)	150	<3.0	129	86	71-109
cis-1,2-Dichloroethene	50.0	<1.0	53.0	106	72-121
cis-1,3-Dichloropropene	50.0	<1.0	39.6	79	78-116
m&p-Xylene	100	<2.0	86.6	87	72-115
n-Butylbenzene	50.0	<1.0	50.6	101	73-107
n-Propylbenzene	50.0	<1.0	49.1	98	68-116
o-Xylene	50.0	<1.0	42.4	85	73-117
p-Isopropyltoluene	50.0	<1.0	46.2	92	73-101
sec-Butylbenzene	50.0	<1.0	48.7	97	72-103
tert-Butylbenzene	50.0	<1.0	46.3	93	68-100
trans-1,2-Dichloroethene	50.0	<1.0	53.3	107	56-142
trans-1,3-Dichloropropene	50.0	<1.0	34.8	70	79-116
trans-1,4-Dichloro-2-butene	50.0	<1.0	35.8	72	71-121

Spike Recovery: 2 out of 70 outside limits.

08/17/2020 10:11

MSV - FORM IV VOA-1
VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

820538BLANK

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Instrument ID: 70MSV9 Matrix: Water Lab Sample ID: 820538

Lab File ID: 072020.B\B7776.D Date Analyzed: 07/20/2020 Time: 18:07

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	ANALYZED
820539LCS	820539	072020.B\B7777.D	07/20/2020 18:34
TRIP BLANK	70137879004	072020.B\B7779.D	07/20/2020 19:28
EQUIPMENT BLANK	70137879003	072020.B\B7780.D	07/20/2020 19:54
FIELD BLANK	70137879002	072020.B\B7781.D	07/20/2020 20:21
AZ-PZ-1	70137879001	072020.B\B7782.D	07/20/2020 20:48
820749DUP	820749	072020.B\B7783.D	07/20/2020 21:13
820750MS	820750	072020.B\B7784.D	07/20/2020 21:39

MSV - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

BLANK

Lab Name: Pace Analytical - New York

Contract: LMC Utica Annual 7/8

Date Received: _____

Matrix: Water SDG No.: 70137879

Date Extracted: 07/20/2020 18:07

Lab Sample ID: 820538

Date Analyzed: 07/20/2020 18:07

Lab File ID: 072020.B\B7776.D

Initial wt/vol: 5 mL Final wt/vol: 5 mL Dilution: 1

Instrument: 70MSV9 Percent Moisture: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
123-91-1	1,4-Dioxane (p-Dioxane)	<0.20	U

08/17/2020 7:08

MSV - FORM III VOA-1
WATER LABORATORY CONTROL SAMPLE RECOVERY

Lab Name: Pace Analytical - New York
Date Extracted: 07/20/2020
Instrument: 70MSV9
Lab File ID: 072020.B\B7777.D

Lab Sample ID: 820539LCS
Date Analyzed (1): 07/20/2020
LCS Lot No: 88739
SDG No.: 70137879

COMPOUND	AMOUNT ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS %REC	QC LIMITS REC.
1,4-Dioxane (p-Dioxane)	2.5	2.3	93	60-140

Spike Recovery: 0 out of 1 outside limits.

08/17/2020 7:06

MSV - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Pace Analytical - New York
Date Extracted: 07/20/2020
Instrument: 70MSV9
Parent Sample ID: EQUIPMENT BLANK

Matrix Spike - Sample No: 820750MS
Date Analyzed (1): 07/20/2020
Lab File ID: 072020.B\B7784.D
SDG No.: 70137879

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS %REC	QC LIMITS REC.
1,4-Dioxane (p-Dioxane)	2.5	<0.20	2.6	103	60-140

Spike Recovery: 0 out of 1 outside limits.

08/17/2020 10:11

MSV - FORM III VOA-1
WATER VOLATILE SAMPLE/DUPLICATE RECOVERY

Lab Name: Pace Analytical - New York
Date Extracted: 07/20/2020
Instrument: 70MSV9
Lab Sample ID: AZ-PZ-1

Duplicate Sample No: 70137879001DUP
Date Analyzed: 07/20/2020
Lab File ID: 072020.B\B7783.D
SDG No.: 70137879

COMPOUND	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD	RPD LIMITS
1,4-Dioxane (p-Dioxane)	1.5	1.4	7	0-20

RPD: 0 out of 1 outside limits.

08/17/2020 7:07

MSV - FORM IV VOA-1
VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

821356BLANK

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Instrument ID: 70MSV5 Matrix: Water Lab Sample ID: 821356

Lab File ID: 072120.B\H27507.D Date Analyzed: 07/21/2020 Time: 15:15

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	ANALYZED
821357LCS	821357	072120.B\H27508.D	07/21/2020 15:34
PZ-5	70137879013	072120.B\H27509.D	07/21/2020 16:15
PZ-6	70137879014	072120.B\H27510.D	07/21/2020 16:34
MW-20	70137879017	072120.B\H27511.D	07/21/2020 16:53
MW-21	70137879018	072120.B\H27512.D	07/21/2020 17:13
PZ-5	70137879013	072120.B\H27513.D	07/21/2020 17:32

MSV - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

BLANK

Lab Name: Pace Analytical - New York

Contract: LMC Utica Annual 7/8

Date Received: _____

Matrix: Water SDG No.: 70137879

Date Extracted: 07/21/2020 15:15

Lab Sample ID: 821356

Date Analyzed: 07/21/2020 15:15

Lab File ID: 072120.B\H27507.D

Initial wt/vol: 5 mL Final wt/vol: 5 mL Dilution: 1

Instrument: 70MSV5 Percent Moisture: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
67-64-1	Acetone	<5.0	U
71-43-2	Benzene	<1.0	U
108-86-1	Bromobenzene	<1.0	U
74-97-5	Bromochloromethane	<1.0	U
75-27-4	Bromodichloromethane	<1.0	U
75-25-2	Bromoform	<1.0	U
74-83-9	Bromomethane	<1.0	U
78-93-3	2-Butanone (MEK)	<5.0	U
104-51-8	n-Butylbenzene	<1.0	U
135-98-8	sec-Butylbenzene	<1.0	U
98-06-6	tert-Butylbenzene	<1.0	U
75-15-0	Carbon disulfide	<1.0	U
56-23-5	Carbon tetrachloride	<1.0	U
108-90-7	Chlorobenzene	<1.0	U
75-45-6	Chlorodifluoromethane	<1.0	U
75-00-3	Chloroethane	<1.0	U
67-66-3	Chloroform	<1.0	U
74-87-3	Chloromethane	<1.0	U
95-49-8	2-Chlorotoluene	<1.0	U
106-43-4	4-Chlorotoluene	<1.0	U
124-48-1	Dibromochloromethane	<1.0	U
106-93-4	1,2-Dibromoethane (EDB)	<1.0	U
74-95-3	Dibromomethane	<1.0	U
95-50-1	1,2-Dichlorobenzene	<1.0	U
541-73-1	1,3-Dichlorobenzene	<1.0	U
106-46-7	1,4-Dichlorobenzene	<1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	<1.0	U
75-71-8	Dichlorodifluoromethane	<1.0	U
75-34-3	1,1-Dichloroethane	<1.0	U
107-06-2	1,2-Dichloroethane	<1.0	U
75-35-4	1,1-Dichloroethene	<1.0	U
156-59-2	cis-1,2-Dichloroethene	<1.0	U
156-60-5	trans-1,2-Dichloroethene	<1.0	U
78-87-5	1,2-Dichloropropane	<1.0	U
142-28-9	1,3-Dichloropropane	<1.0	U
594-20-7	2,2-Dichloropropane	<1.0	U
563-58-6	1,1-Dichloropropene	<1.0	U

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MSV - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

BLANK

Lab Name: Pace Analytical - New York
Date Received: _____
Date Extracted: 07/21/2020 15:15
Date Analyzed: 07/21/2020 15:15
Initial wt/vol: 5 mL Final wt/vol: 5 mL Dilution: 1

Contract: LMC Utica Annual 7/8
Matrix: Water SDG No.: 70137879
Lab Sample ID: 821356
Lab File ID: 072120.B\H27507.D
Instrument: 70MSV5 Percent Moisture: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
10061-01-5	cis-1,3-Dichloropropene	<1.0	U
10061-02-6	trans-1,3-Dichloropropene	<1.0	U
105-05-5	1,4-Diethylbenzene	<1.0	U
64-17-5	Ethanol	<250	U
100-41-4	Ethylbenzene	<1.0	U
87-68-3	Hexachloro-1,3-butadiene	<1.0	U
591-78-6	2-Hexanone	<5.0	U
98-82-8	Isopropylbenzene (Cumene)	<1.0	U
99-87-6	p-Isopropyltoluene	<1.0	U
75-09-2	Methylene Chloride	<1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	U
1634-04-4	Methyl-tert-butyl ether	<1.0	U
91-20-3	Naphthalene	<1.0	U
103-65-1	n-Propylbenzene	<1.0	U
100-42-5	Styrene	<1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	U
127-18-4	Tetrachloroethene	<1.0	U
95-93-2	1,2,4,5-tetramethylbenzene	<1.0	U
108-88-3	Toluene	<1.0	U
87-61-6	1,2,3-Trichlorobenzene	<1.0	U
120-82-1	1,2,4-Trichlorobenzene	<1.0	U
71-55-6	1,1,1-Trichloroethane	<1.0	U
79-00-5	1,1,2-Trichloroethane	<1.0	U
79-01-6	Trichloroethene	<1.0	U
75-69-4	Trichlorofluoromethane	<1.0	U
96-18-4	1,2,3-Trichloropropane	<1.0	U
95-63-6	1,2,4-Trimethylbenzene	<1.0	U
108-67-8	1,3,5-Trimethylbenzene	<1.0	U
75-01-4	Vinyl chloride	<1.0	U
1330-20-7	Xylene (Total)	<3.0	U
179601-23-1	m&p-Xylene	<2.0	U
95-47-6	o-Xylene	<1.0	U

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MSV - FORM III VOA-1
WATER LABORATORY CONTROL SAMPLE RECOVERY

Lab Name: Pace Analytical - New York

Date Extracted: 07/21/2020

Instrument: 70MSV5

Lab File ID: 072120.B\H27508.D

Lab Sample ID: 821357LCS

Date Analyzed (1): 07/21/2020

LCS Lot No: 94350

SDG No.: 70137879

COMPOUND	AMOUNT ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS %REC	QC LIMITS REC.
Acetone	50.0	41.3	83	23-188
Benzene	50.0	47.1	94	73-119
Bromobenzene	50.0	53.6	107	72-102
Bromochloromethane	50.0	44.9	90	81-116
Bromodichloromethane	50.0	56.4	113	78-117
Bromoform	50.0	54.5	109	65-122
Bromomethane	50.0	52.3	105	52-147
2-Butanone (MEK)	50.0	47.2	94	44-162
n-Butylbenzene	50.0	45.4	91	73-107
sec-Butylbenzene	50.0	44.8	90	72-103
tert-Butylbenzene	50.0	46.2	92	68-100
Carbon disulfide	50.0	36.4	73	41-144
Carbon tetrachloride	50.0	58.6	117	59-120
Chlorobenzene	50.0	51.1	102	75-113
Chlorodifluoromethane	50.0	49.4	99	43-140
Chloroethane	50.0	41.8	84	49-151
Chloroform	50.0	45.8	92	72-122
Chloromethane	50.0	51.7	103	46-144
2-Chlorotoluene	50.0	46.4	93	74-101
4-Chlorotoluene	50.0	47.0	94	74-101
Dibromochloromethane	50.0	53.4	107	70-120
1,2-Dibromoethane (EDB)	50.0	57.3	115	83-115
Dibromomethane	50.0	53.5	107	75-125
1,2-Dichlorobenzene	50.0	47.7	95	74-113
1,3-Dichlorobenzene	50.0	49.0	98	71-112
1,4-Dichlorobenzene	50.0	49.0	98	71-113
trans-1,4-Dichloro-2-butene	50.0	62.0	124	71-121
Dichlorodifluoromethane	50.0	56.2	112	22-154
1,1-Dichloroethane	50.0	41.8	84	83-151
1,2-Dichloroethane	50.0	45.8	92	74-129
1,1-Dichloroethene	50.0	37.1	74	45-146
cis-1,2-Dichloroethene	50.0	42.2	84	72-121
trans-1,2-Dichloroethene	50.0	44.6	89	56-142
1,2-Dichloropropane	50.0	51.2	102	75-117
1,3-Dichloropropane	50.0	51.5	103	74-112
2,2-Dichloropropane	50.0	50.7	101	63-133
1,1-Dichloropropene	50.0	50.2	100	59-127
cis-1,3-Dichloropropene	50.0	60.4	121	78-116
trans-1,3-Dichloropropene	50.0	52.4	105	79-116
1,4-Diethylbenzene	50.0	46.1	92	56-130
Ethanol	1250	1100	88	10-151
Ethylbenzene	50.0	50.6	101	70-113
Hexachloro-1,3-butadiene	50.0	52.0	104	59-121
2-Hexanone	50.0	54.9	110	32-183
Isopropylbenzene (Cumene)	50.0	47.1	94	67-115
p-Isopropyltoluene	50.0	47.2	94	73-101
Methylene Chloride	50.0	40.5	81	61-142

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MSV - FORM III VOA-2
WATER LABORATORY CONTROL SAMPLE RECOVERY

Lab Name: Pace Analytical - New York
Date Extracted: 07/21/2020
Instrument: 70MSV5
Lab File ID: 072120.B\H27508.D

Lab Sample ID: 821357LCS
Date Analyzed (1): 07/21/2020
LCS Lot No: 94350
SDG No.: 70137879

COMPOUND	AMOUNT ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS %REC	QC LIMITS REC.
4-Methyl-2-pentanone (MIBK)	50.0	57.4	115	69-132
Methyl-tert-butyl ether	50.0	43.4	87	72-131
Naphthalene	50.0	34.0	68	70-118
n-Propylbenzene	50.0	46.0	92	68-116
Styrene	50.0	55.1	110	72-118
1,1,1,2-Tetrachloroethane	50.0	61.2	122	74-113
1,1,2,2-Tetrachloroethane	50.0	46.5	93	74-121
Tetrachloroethene	50.0	55.4	111	60-128
1,2,4,5-tetramethylbenzene	50.0	46.8	94	66-103
Toluene	50.0	50.8	102	72-119
1,2,3-Trichlorobenzene	50.0	33.2	66	67-103
1,2,4-Trichlorobenzene	50.0	42.4	85	66-116
1,1,1-Trichloroethane	50.0	57.5	115	65-118
1,1,2-Trichloroethane	50.0	52.6	105	80-117
Trichloroethene	50.0	48.8	98	69-117
Trichlorofluoromethane	50.0	43.0	86	27-173
1,2,3-Trichloropropane	50.0	47.6	95	71-123
1,2,4-Trimethylbenzene	50.0	47.1	94	68-116
1,3,5-Trimethylbenzene	50.0	47.0	94	67-116
Vinyl chloride	50.0	57.1	114	43-143
Xylene (Total)	150	156	104	71-109
m&p-Xylene	100	104	104	72-115
o-Xylene	50.0	51.8	104	73-117

Spike Recovery: 6 out of 70 outside limits.

08/17/2020 7:06

SAMPLE NOT IN SDG

MSV - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Pace Analytical - New YorkMatrix Spike - Sample No: 821504MSDate Extracted: 07/21/2020Date Analyzed (1): 07/21/2020Instrument: 70MSV5Lab File ID: 072120.B\H27529.DParent Sample ID: 70138071003SDG No.: 70137879

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS %REC	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	50.0	<1.0	48.3	97	74-113
1,1,1-Trichloroethane	50.0	<1.0	51.9	104	65-118
1,1,2,2-Tetrachloroethane	50.0	<1.0	41.1	82	74-121
1,1,2-Trichloroethane	50.0	<1.0	46.6	93	80-117
1,1-Dichloroethane	50.0	<1.0	40.1	80	83-151
1,1-Dichloroethene	50.0	<1.0	37.9	76	45-146
1,1-Dichloropropene	50.0	<1.0	48.3	97	59-127
1,2,3-Trichlorobenzene	50.0	<1.0	26.7	53	67-103
1,2,3-Trichloropropane	50.0	<1.0	42.0	84	71-123
1,2,4,5-tetramethylbenzene	50.0	1.2	43.2	84	66-103
1,2,4-Trichlorobenzene	50.0	<1.0	36.3	73	66-116
1,2,4-Trimethylbenzene	50.0	<1.0	43.0	86	68-116
1,2-Dibromoethane (EDB)	50.0	<1.0	48.9	98	83-115
1,2-Dichlorobenzene	50.0	<1.0	41.7	83	74-113
1,2-Dichloroethane	50.0	<1.0	42.7	85	74-129
1,2-Dichloropropane	50.0	<1.0	46.3	93	75-117
1,3,5-Trimethylbenzene	50.0	<1.0	43.4	87	67-116
1,3-Dichlorobenzene	50.0	<1.0	44.0	88	71-112
1,3-Dichloropropane	50.0	<1.0	43.9	88	74-112
1,4-Dichlorobenzene	50.0	<1.0	44.0	88	71-113
1,4-Diethylbenzene	50.0	2.5	42.4	80	56-130
2,2-Dichloropropane	50.0	<1.0	43.8	88	63-133
2-Butanone (MEK)	50.0	<5.0	42.1	82	44-162
2-Chlorotoluene	50.0	<1.0	43.0	86	74-101
2-Hexanone	50.0	<5.0	71.1	142	32-183
4-Chlorotoluene	50.0	<1.0	43.9	88	74-101
4-Methyl-2-pentanone (MIBK)	50.0	<5.0	48.5	97	69-132
Acetone	50.0	<5.0	43.0	86	23-188
Benzene	50.0	9.8	53.9	88	73-119
Bromobenzene	50.0	<1.0	48.1	96	72-102
Bromochloromethane	50.0	<1.0	41.3	83	81-116
Bromodichloromethane	50.0	<1.0	48.0	96	78-117
Bromoform	50.0	<1.0	37.0	74	65-122
Bromomethane	50.0	<1.0	32.2	64	52-147
Carbon disulfide	50.0	<1.0	39.4	79	41-144
Carbon tetrachloride	50.0	<1.0	50.7	101	59-120
Chlorobenzene	50.0	<1.0	44.0	88	75-113
Chlorodifluoromethane	50.0	<1.0	50.6	101	43-140
Chloroethane	50.0	<1.0	41.1	82	49-151
Chloroform	50.0	<1.0	40.6	81	72-122
Chloromethane	50.0	<1.0	50.9	102	46-144
Dibromochloromethane	50.0	<1.0	40.6	81	70-120
Dibromomethane	50.0	<1.0	44.1	88	75-125
Dichlorodifluoromethane	50.0	<1.0	54.8	110	22-154
Ethanol	1250	<250	1110	89	10-151
Ethylbenzene	50.0	<1.0	44.6	89	70-113
Hexachloro-1,3-butadiene	50.0	<1.0	37.9	76	59-121

08/17/2020 10:11

MSV - FORM III VOA-2
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Pace Analytical - New York
Date Extracted: 07/21/2020
Instrument: 70MSV5
Parent Sample ID: 70138071003

Matrix Spike - Sample No: 821504MS
Date Analyzed (1): 07/21/2020
Lab File ID: 072120.B\H27529.D
SDG No.: 70137879

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS %REC	QC LIMITS REC.
Isopropylbenzene (Cumene)	50.0	<1.0	44.5	89	67-115
Methyl-tert-butyl ether	50.0	84.2	123	77	72-131
Methylene Chloride	50.0	<1.0	37.9	76	61-142
Naphthalene	50.0	<1.0	30.1	60	70-118
Styrene	50.0	<1.0	47.3	95	72-118
Tetrachloroethene	50.0	<1.0	47.9	96	60-128
Toluene	50.0	<1.0	46.0	92	72-119
Trichloroethene	50.0	<1.0	46.6	93	69-117
Trichlorofluoromethane	50.0	<1.0	36.0	72	27-173
Vinyl chloride	50.0	<1.0	57.2	114	43-143
Xylene (Total)	150	<3.0	135	90	71-109
cis-1,2-Dichloroethene	50.0	<1.0	40.2	80	72-121
cis-1,3-Dichloropropene	50.0	<1.0	49.0	98	78-116
m&p-Xylene	100	<2.0	89.4	89	72-115
n-Butylbenzene	50.0	<1.0	39.4	79	73-107
n-Propylbenzene	50.0	<1.0	43.5	87	68-116
o-Xylene	50.0	<1.0	45.6	91	73-117
p-Isopropyltoluene	50.0	<1.0	41.9	84	73-101
sec-Butylbenzene	50.0	<1.0	40.9	82	72-103
tert-Butylbenzene	50.0	<1.0	42.7	85	68-100
trans-1,2-Dichloroethene	50.0	<1.0	40.3	81	56-142
trans-1,3-Dichloropropene	50.0	<1.0	40.2	80	79-116
trans-1,4-Dichloro-2-butene	50.0	<1.0	12.6	25	71-121

Spike Recovery: 4 out of 70 outside limits.

08/17/2020 10:11

MSV - FORM III VOA-3
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Instrument (2): 70MSV5

Matrix Spike Duplicate - Sample No: 821505MSD

Lab File ID (2): 072120.B\H27530.D

Date Analyzed (2): 07/21/2020

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD %REC	%RPD	QC LIMITS	
					RPD	REC.
1,1,1,2-Tetrachloroethane	50.0	54.1	108	11	0-20	74-113
1,1,1-Trichloroethane	50.0	58.4	117	12	0-20	65-118
1,1,2,2-Tetrachloroethane	50.0	43.0	86	5	0-20	74-121
1,1,2-Trichloroethane	50.0	50.5	101	8	0-20	80-117
1,1-Dichloroethane	50.0	41.8	84	4	0-20	83-151
1,1-Dichloroethene	50.0	38.5	77	2	0-20	45-146
1,1-Dichloropropene	50.0	53.0	106	9	0-20	59-127
1,2,3-Trichlorobenzene	50.0	36.0	72	29	0-20	67-103
1,2,3-Trichloropropane	50.0	43.8	88	4	0-20	71-123
1,2,4,5-tetramethylbenzene	50.0	45.6	89	5	0-20	66-103
1,2,4-Trichlorobenzene	50.0	40.0	80	10	0-20	66-116
1,2,4-Trimethylbenzene	50.0	46.0	92	7	0-20	68-116
1,2-Dibromoethane (EDB)	50.0	52.6	105	7	0-20	83-115
1,2-Dichlorobenzene	50.0	45.3	91	8	0-20	74-113
1,2-Dichloroethane	50.0	42.9	86	0	0-20	74-129
1,2-Dichloropropane	50.0	50.1	100	8	0-20	75-117
1,3,5-Trimethylbenzene	50.0	46.3	93	6	0-20	67-116
1,3-Dichlorobenzene	50.0	47.0	94	6	0-20	71-112
1,3-Dichloropropane	50.0	47.0	94	7	0-20	74-112
1,4-Dichlorobenzene	50.0	46.7	93	6	0-20	71-113
1,4-Diethylbenzene	50.0	45.4	86	7	0-20	56-130
2,2-Dichloropropane	50.0	48.7	97	11	0-20	63-133
2-Butanone (MEK)	50.0	42.9	84	2	0-20	44-162
2-Chlorotoluene	50.0	45.7	91	6	0-20	74-101
2-Hexanone	50.0	73.7	147	4	0-20	32-183
4-Chlorotoluene	50.0	46.7	93	6	0-20	74-101
4-Methyl-2-pentanone (MIBK)	50.0	51.5	103	6	0-20	69-132
Acetone	50.0	44.1	88	2	0-20	23-188
Benzene	50.0	57.7	96	7	0-20	73-119
Bromobenzene	50.0	51.5	103	7	0-20	72-102
Bromochloromethane	50.0	41.9	84	1	0-20	81-116
Bromodichloromethane	50.0	53.0	106	10	0-20	78-117
Bromoform	50.0	40.7	81	10	0-20	65-122
Bromomethane	50.0	35.3	71	9	0-20	52-147
Carbon disulfide	50.0	41.1	82	4	0-20	41-144
Carbon tetrachloride	50.0	58.1	116	14	0-20	59-120
Chlorobenzene	50.0	47.8	96	8	0-20	75-113
Chlorodifluoromethane	50.0	52.9	106	4	0-20	43-140
Chloroethane	50.0	43.0	86	5	0-20	49-151
Chloroform	50.0	42.1	84	4	0-20	72-122
Chloromethane	50.0	51.9	104	2	0-20	46-144
Dibromochloromethane	50.0	43.2	86	6	0-20	70-120
Dibromomethane	50.0	46.1	92	4	0-20	75-125
Dichlorodifluoromethane	50.0	56.4	113	3	0-20	22-154
Ethanol	1250	1190	95	7	0-20	10-151
Ethylbenzene	50.0	49.0	98	9	0-20	70-113
Hexachloro-1,3-butadiene	50.0	42.1	84	10	0-20	59-121
Isopropylbenzene (Cumene)	50.0	47.1	94	6	0-20	67-115
Methyl-tert-butyl ether	50.0	132	96	7	0-20	72-131

08/17/2020 10:11

MSV - FORM III VOA-4
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Instrument (2): 70MSV5 Matrix Spike Duplicate - Sample No: 821505MSD
Lab File ID (2): 072120.B\H27530.D Date Analyzed (2): 07/21/2020

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD %REC	%RPD	QC LIMITS	
					RPD	REC.
Methylene Chloride	50.0	41.6	83	9	0-20	61-142
Naphthalene	50.0	37.8	76	23	0-20	70-118
Styrene	50.0	50.5	101	6	0-20	72-118
Tetrachloroethene	50.0	52.8	106	10	0-20	60-128
Toluene	50.0	49.5	99	7	0-20	72-119
Trichloroethene	50.0	50.6	101	8	0-20	69-117
Trichlorofluoromethane	50.0	39.0	78	8	0-20	27-173
Vinyl chloride	50.0	60.2	120	5	0-20	43-143
Xylene (Total)	150	147	98	9	0-20	71-109
cis-1,2-Dichloroethene	50.0	41.2	82	3	0-20	72-121
cis-1,3-Dichloropropene	50.0	53.3	107	8	0-20	78-116
m&p-Xylene	100	98.7	99	10	0-20	72-115
n-Butylbenzene	50.0	41.7	83	6	0-20	73-107
n-Propylbenzene	50.0	46.0	92	6	0-20	68-116
o-Xylene	50.0	48.6	97	6	0-20	73-117
p-Isopropyltoluene	50.0	44.4	89	6	0-20	73-101
sec-Butylbenzene	50.0	43.7	87	7	0-20	72-103
tert-Butylbenzene	50.0	45.4	91	6	0-20	68-100
trans-1,2-Dichloroethene	50.0	45.4	91	12	0-20	56-142
trans-1,3-Dichloropropene	50.0	43.9	88	9	0-20	79-116
trans-1,4-Dichloro-2-butene	50.0	12.0	24	5	0-20	71-121

RPD: 2 out of 70 outside limits.

Spike Recovery: 2 out of 70 outside limits.

08/17/2020 10:11

MSV - FORM V VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8
Lab File ID: 062620.B\H27100.D BFB Injection Date 06/26/2020
Instrument ID: 70MSV5 BFB Injection Time 16:53

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.00 - 40.00% of mass 95	15.86
75	30.00 - 60.00% of mass 95	47.20
95	Base Peak, 100.00% relative	100.00
96	5.00 - 9.00% of mass 95	6.85
173	Less than 2.00% of mass 174	0.00
174	50.00 - 100.00% of mass 95	56.09
175	5.00 - 9.00% of mass 174	4.34 (7.74) ¹
176	95.00 - 101.00% of mass 174	54.46 (97.10) ¹
177	5.00 - 9.00% of mass 176	3.65 (6.71) ²

1 - Value is % mass 174

2 - Value is % mass 176

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
13495337CAL2	13495337CAL2	062620.B\H27102.D	06/26/2020	17:38
13495341CAL3	13495341CAL3	062620.B\H27103.D	06/26/2020	17:58
13495338CAL4	13495338CAL4	062620.B\H27104.D	06/26/2020	18:54
13495336CAL5	13495336CAL5	062620.B\H27105.D	06/26/2020	19:13
13495340CAL6	13495340CAL6	062620.B\H27106.D	06/26/2020	19:33
13495343CAL7	13495343CAL7	062620.B\H27107.D	06/26/2020	19:52
13495342CAL8	13495342CAL8	062620.B\H27108.D	06/26/2020	20:13
13495339CAL1	13495339CAL1	062620.B\H27109.D	06/26/2020	21:15
13495664ICV	13495664ICV	062620.B\H27111.D	06/26/2020	21:53

MSV - FORM VI VOA-1
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D
CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D
CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6
Acetone	Averaged			0.25758	0.23845	0.21613	0.19998
Benzene	Averaged	2.63727	2.23083	2.12960	2.09339	2.11993	2.07076
Bromobenzene	Averaged		1.20887	1.25809	1.25319	1.25184	1.31015
Bromochloromethane	Averaged		0.35651	0.35606	0.36552	0.34477	0.33497
Bromodichloromethane	Averaged		0.41992	0.44727	0.51213	0.52116	0.55318
Bromoform	Linear		0.15891	0.14500	0.18556	0.19734	0.24497
Bromomethane	Averaged		0.43603	0.34297	0.43635	0.44038	0.43822
2-Butanone (MEK)	Averaged		0.84089	0.78686	0.97579	0.93584	0.95449
n-Butylbenzene	Averaged		4.07611	4.70347	4.65465	4.80341	4.91855
sec-Butylbenzene	Averaged		5.38330	5.60934	5.40392	5.59716	5.73108
tert-Butylbenzene	Averaged		3.79048	4.00780	3.72850	3.86401	3.96219
Carbon disulfide	Averaged		2.75830	2.27454	2.40812	2.63698	2.49820
Carbon tetrachloride	Averaged		0.39013	0.35356	0.37070	0.39672	0.42780
Chlorobenzene	Averaged		2.46098	2.37077	2.32613	2.33392	2.36344
Chlorodifluoromethane	Averaged		1.05190	0.92311	0.93812	1.00925	1.08196
Chloroethane	Averaged		0.93442	0.82440	0.81091	0.80682	0.80025
Chloroform	Averaged		1.66302	1.54362	1.56214	1.55130	1.54753
Chloromethane	Averaged		0.98480	0.99456	0.98090	0.98647	1.00986
2-Chlorotoluene	Averaged		5.45450	5.40740	5.19907	5.29430	5.32212
4-Chlorotoluene	Averaged		4.47583	4.77098	4.63152	4.79329	4.87416
Dibromochloromethane	Linear		0.38684	0.38900	0.49688	0.50522	0.58653
1,2-Dibromoethane (EDB)	Averaged	0.30890	0.29921	0.30542	0.34962	0.34442	0.34985
Dibromomethane	Averaged		0.23592	0.24396	0.25019	0.25320	0.24265
1,2-Dichlorobenzene	Averaged		2.11189	2.03081	1.95714	1.98560	1.99842
1,3-Dichlorobenzene	Averaged		2.25228	2.29958	2.16048	2.16544	2.24987
1,4-Dichlorobenzene	Averaged		2.23164	2.22675	2.15501	2.21751	2.24604
trans-1,4-Dichloro-2-butene	Linear		0.07930	0.07834	0.10491	0.13576	0.18736
Dichlorodifluoromethane	Averaged		0.93171	0.97905	0.91022	0.98920	1.01207
1,1-Dichloroethane	Averaged		1.67341	1.66332	1.65423	2.20219	1.70137
1,2-Dichloroethane	Averaged	1.47479	1.16599	1.07805	1.11906	1.07998	1.08737
1,1-Dichloroethene	Averaged	0.71814	0.92696	0.76564	0.79353	0.82030	0.77297
cis-1,2-Dichloroethene	Averaged		1.02908	1.02275	1.02466	1.02267	1.02852
trans-1,2-Dichloroethene	Linear		1.29770	0.87139	0.83691	1.20381	0.85322
1,2-Dichloropropane	Averaged		0.53668	0.52653	0.53740	0.55057	0.52948
1,3-Dichloropropane	Averaged		1.46032	1.42408	1.46922	1.42878	1.44504

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

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MSV - FORM VI VOA-2
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D
CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D
CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6
2,2-Dichloropropane	Averaged		0.91296	0.85248	0.88729	0.93992	1.03388
1,1-Dichloropropene	Averaged		0.72044	0.70393	0.66609	0.70683	0.69566
cis-1,3-Dichloropropene	Averaged	0.45422	0.48416	0.54144	0.59775	0.65506	0.72647
trans-1,3-Dichloropropene	Linear	0.30696	0.30639	0.37732	0.46432	0.50742	0.58313
1,4-Diethylbenzene	Averaged		1.98971	2.33294	2.28439	2.38152	2.47812
Ethanol	Averaged			0.00535	0.00487	0.00491	0.00477
Ethylbenzene	Averaged		1.47384	1.34609	1.33142	1.38163	1.40963
Hexachloro-1,3-butadiene	Averaged		0.27552	0.29090	0.26828	0.31599	0.32690
2-Hexanone	Averaged			0.29842	0.41961	0.39183	0.43826
Isopropylbenzene (Cumene)	Averaged		6.77261	6.80356	6.50453	6.74032	6.71285
p-Isopropyltoluene	Averaged		3.86816	4.38206	4.37384	4.41895	4.54765
Methylene Chloride	Averaged		1.24393	0.89284	0.85578	1.13601	0.83022
4-Methyl-2-pentanone (MIBK)	Averaged		0.25865	0.26574	0.34098	0.33229	0.35594
Methyl-tert-butyl ether	Averaged		3.03392	2.46160	2.58382	3.32918	2.51837
Naphthalene	Averaged		1.49977	1.46780	1.71575	1.78907	2.11843
n-Propylbenzene	Averaged		7.62384	7.72538	7.47470	7.73957	7.78063
Styrene	Averaged		2.32057	2.27949	2.65008	2.67224	2.77938
1,1,1,2-Tetrachloroethane	Averaged		0.51895	0.49759	0.56137	0.57079	0.65517
1,1,2,2-Tetrachloroethane	Averaged		1.33551	1.23723	1.31994	1.22140	1.31580
Tetrachloroethene	Averaged		0.84816	0.77882	0.77371	0.87974	0.80834
1,2,4,5-tetramethylbenzene	Averaged		2.21263	2.74056	2.86110	3.14824	3.59039
Toluene	Averaged		2.28539	2.27087	2.22029	2.23909	2.19718
1,2,3-Trichlorobenzene	Averaged		0.59999	0.51075	0.53081	0.56266	0.63141
1,2,4-Trichlorobenzene	Averaged		0.73188	0.69144	0.69993	0.72725	0.82340
1,1,1-Trichloroethane	Averaged		0.50271	0.54193	0.56128	0.59207	0.60694
1,1,2-Trichloroethane	Averaged		0.32409	0.35322	0.35671	0.36100	0.35321
Trichloroethene	Averaged		0.55259	0.51507	0.50446	0.50232	0.49661
Trichlorofluoromethane	Averaged		1.49019	1.42299	1.38281	1.41156	1.28324
1,2,3-Trichloropropane	Averaged	0.52692	0.41510	0.35851	0.38503	0.36690	0.37475
1,2,4-Trimethylbenzene	Averaged		4.36012	4.78328	4.76875	4.78933	4.85395
1,3,5-Trimethylbenzene	Averaged		4.42607	4.93099	4.80969	4.89292	4.92203
Vinyl chloride	Averaged		0.86054	0.80110	0.92688	0.93367	0.97782
m&p-Xylene	Averaged	1.59085	1.70699	1.66271	1.67796	1.68799	1.68623
o-Xylene	Averaged		1.53740	1.55258	1.57009	1.60184	1.61209
4-Bromofluorobenzene (S)	Averaged	0.77764	0.78486	0.77906	0.80084	0.80260	0.80808

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

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MSV - FORM VI VOA-3
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D
CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D
CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6
1,2-Dichloroethane-d4 (S)	Averaged	0.39744	0.33288	0.33419	0.33094	0.32823	0.31940
Toluene-d8 (S)	Averaged	2.25170	2.29439	2.27895	2.28577	2.26920	2.33893

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:07

MSV - FORM VI VOA-4
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D
CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D
CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	CAL7	CAL8
Acetone	Averaged	0.20946	0.20588
Benzene	Averaged	2.03918	1.85346
Bromobenzene	Averaged	1.33387	1.24748
Bromochloromethane	Averaged	0.32665	0.30720
Bromodichloromethane	Averaged	0.57917	0.57026
Bromoform	Linear	0.27330	0.28292
Bromomethane	Averaged	0.48081	0.49450
2-Butanone (MEK)	Averaged	0.96199	0.94746
n-Butylbenzene	Averaged	4.78771	4.71226
sec-Butylbenzene	Averaged	5.56119	5.18462
tert-Butylbenzene	Averaged	3.86321	3.60186
Carbon disulfide	Averaged	2.81556	2.63666
Carbon tetrachloride	Averaged	0.46964	0.47477
Chlorobenzene	Averaged	2.31681	2.22129
Chlorodifluoromethane	Averaged	1.02030	0.91845
Chloroethane	Averaged	0.82707	0.74841
Chloroform	Averaged	1.57830	1.38792
Chloromethane	Averaged	1.02748	0.90663
2-Chlorotoluene	Averaged	5.24663	4.79124
4-Chlorotoluene	Averaged	4.78915	4.49050
Dibromochloromethane	Linear	0.63511	0.65062
1,2-Dibromoethane (EDB)	Averaged	0.35014	0.32479
Dibromomethane	Averaged	0.24375	0.21176
1,2-Dichlorobenzene	Averaged	1.96187	1.94573
1,3-Dichlorobenzene	Averaged	2.21780	2.13463
1,4-Dichlorobenzene	Averaged	2.22997	2.15741
trans-1,4-Dichloro-2-butene	Linear	0.23798	0.25393
Dichlorodifluoromethane	Averaged	0.97868	0.82545
1,1-Dichloroethane	Averaged	1.68656	1.46156
1,2-Dichloroethane	Averaged	1.09270	0.99300
1,1-Dichloroethene	Averaged	0.77410	0.70140
cis-1,2-Dichloroethene	Averaged	1.01480	0.89171
trans-1,2-Dichloroethene	Linear	0.86560	0.75043
1,2-Dichloropropane	Averaged	0.54750	0.51870
1,3-Dichloropropane	Averaged	1.45779	1.42505

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:07

MSV - FORM VI VOA-5
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D
CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D
CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	CAL7	CAL8
2,2-Dichloropropane	Averaged	1.12831	1.11058
1,1-Dichloropropene	Averaged	0.71675	0.68376
cis-1,3-Dichloropropene	Averaged	0.76586	0.74598
trans-1,3-Dichloropropene	Linear	0.62135	0.61370
1,4-Diethylbenzene	Averaged	2.41240	2.38054
Ethanol	Averaged	0.00601	0.00605
Ethylbenzene	Averaged	1.38153	1.28376
Hexachloro-1,3-butadiene	Averaged	0.35055	0.38080
2-Hexanone	Averaged	0.46453	0.46724
Isopropylbenzene (Cumene)	Averaged	6.73814	5.69953
p-Isopropyltoluene	Averaged	4.33634	4.11425
Methylene Chloride	Averaged	0.82957	0.97466
4-Methyl-2-pentanone (MIBK)	Averaged	0.35954	0.34927
Methyl-tert-butyl ether	Averaged	2.56452	2.46710
Naphthalene	Averaged	2.22301	2.43630
n-Propylbenzene	Averaged	7.61993	6.73626
Styrene	Averaged	2.68329	2.44808
1,1,1,2-Tetrachloroethane	Averaged	0.68120	0.67827
1,1,2,2-Tetrachloroethane	Averaged	1.31923	1.24097
Tetrachloroethene	Averaged	0.84513	0.85115
1,2,4,5-tetramethylbenzene	Averaged	3.40907	3.54151
Toluene	Averaged	2.13159	1.88257
1,2,3-Trichlorobenzene	Averaged	0.67480	0.74104
1,2,4-Trichlorobenzene	Averaged	0.87324	0.95508
1,1,1-Trichloroethane	Averaged	0.64416	0.62828
1,1,2-Trichloroethane	Averaged	0.34683	0.32270
Trichloroethene	Averaged	0.50636	0.47561
Trichlorofluoromethane	Averaged	1.33036	1.15114
1,2,3-Trichloropropane	Averaged	0.38211	0.35574
1,2,4-Trimethylbenzene	Averaged	4.69295	4.33877
1,3,5-Trimethylbenzene	Averaged	4.82008	4.45400
Vinyl chloride	Averaged	0.94977	0.90520
m&p-Xylene	Averaged	1.60945	1.43810
o-Xylene	Averaged	1.56436	1.43507
4-Bromofluorobenzene (S)	Averaged	0.76381	0.73602

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:07

MSV - FORM VI VOA-6
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D
CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D
CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	CAL7	CAL8
1,2-Dichloroethane-d4 (S)	Averaged	0.31683	0.31674
Toluene-d8 (S)	Averaged	2.32301	2.47947

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:07

MSV - FORM VI VOA-6
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D
CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D
CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	CAL7	CAL8
1,2-Dichloroethane-d4 (S)	Averaged	0.31683	0.31674
Toluene-d8 (S)	Averaged	2.32301	2.47947

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:07

MSV - FORM VI VOA-7
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D
CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D
CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	%RSD	R2	A1	A2	A3
Acetone	Averaged	10.04383			0.22125	
Benzene	Averaged	10.48863			2.14680	
Bromobenzene	Averaged	3.31769			1.26621	
Bromochloromethane	Averaged	5.93223			0.34167	
Bromodichloromethane	Averaged	11.84477			0.51473	
Bromoform	Linear		0.99891	-0.0213910	0.28621	
Bromomethane	Averaged	11.04226			0.43847	
2-Butanone (MEK)	Averaged	7.84059			0.91476	
n-Butylbenzene	Averaged	5.86457			4.66516	
sec-Butylbenzene	Averaged	3.32809			5.49580	
tert-Butylbenzene	Averaged	3.61759			3.83115	
Carbon disulfide	Averaged	7.48763			2.57548	
Carbon tetrachloride	Averaged	11.44978			0.41190	
Chlorobenzene	Averaged	3.06766			2.34191	
Chlorodifluoromethane	Averaged	6.61593			0.99187	
Chloroethane	Averaged	6.83192			0.82175	
Chloroform	Averaged	5.27586			1.54769	
Chloromethane	Averaged	3.86206			0.98438	
2-Chlorotoluene	Averaged	4.16732			5.24504	
4-Chlorotoluene	Averaged	3.37241			4.68935	
Dibromochloromethane	Linear		0.99943	-0.0364177	0.65642	
1,2-Dibromoethane (EDB)	Averaged	6.70804			0.32904	
Dibromomethane	Averaged	5.71034			0.24020	
1,2-Dichlorobenzene	Averaged	2.88160			1.99878	
1,3-Dichlorobenzene	Averaged	2.71107			2.21144	
1,4-Dichlorobenzene	Averaged	1.68242			2.20919	
trans-1,4-Dichloro-2-butene	Linear		0.99624	-0.0324151	0.25832	
Dichlorodifluoromethane	Averaged	6.73727			0.94662	
1,1-Dichloroethane	Averaged	13.22244			1.72038	
1,2-Dichloroethane	Averaged	12.75888			1.13637	
1,1-Dichloroethene	Averaged	8.83075			0.78413	
cis-1,2-Dichloroethene	Averaged	4.98869			1.00488	
trans-1,2-Dichloroethene	Linear		0.99267	0.07608175	0.75300	
1,2-Dichloropropane	Averaged	2.12276			0.53527	
1,3-Dichloropropane	Averaged	1.28923			1.44433	

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:07

MSV - FORM VI VOA-8
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D
CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D
CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	%RSD	R2	A1	A2	A3
2,2-Dichloropropane	Averaged	11.23913			0.98078	
1,1-Dichloropropene	Averaged	2.73094			0.69907	
cis-1,3-Dichloropropene	Averaged	19.45539			0.62137	
trans-1,3-Dichloropropene	Linear		0.99961	-0.0204363	0.61997	
1,4-Diethylbenzene	Averaged	6.84010			2.32280	
Ethanol	Averaged	10.90333			0.00533	
Ethylbenzene	Averaged	4.41901			1.37256	
Hexachloro-1,3-butadiene	Averaged	12.97293			0.31556	
2-Hexanone	Averaged	15.24699			0.41332	
Isopropylbenzene (Cumene)	Averaged	6.01169			6.56736	
p-Isopropyltoluene	Averaged	5.29203			4.29161	
Methylene Chloride	Averaged	16.94313			0.96615	
4-Methyl-2-pentanone (MIBK)	Averaged	13.21167			0.32320	
Methyl-tert-butyl ether	Averaged	12.45563			2.70836	
Naphthalene	Averaged	19.67905			1.89288	
n-Propylbenzene	Averaged	4.83455			7.52862	
Styrene	Averaged	7.71025			2.54759	
1,1,1,2-Tetrachloroethane	Averaged	12.83667			0.59476	
1,1,2,2-Tetrachloroethane	Averaged	3.78194			1.28430	
Tetrachloroethene	Averaged	4.85216			0.82643	
1,2,4,5-tetramethylbenzene	Averaged	16.28430			3.07193	
Toluene	Averaged	6.37620			2.17528	
1,2,3-Trichlorobenzene	Averaged	13.48398			0.60735	
1,2,4-Trichlorobenzene	Averaged	12.75692			0.78603	
1,1,1-Trichloroethane	Averaged	8.59838			0.58248	
1,1,2-Trichloroethane	Averaged	4.52373			0.34540	
Trichloroethene	Averaged	4.59503			0.50757	
Trichlorofluoromethane	Averaged	8.21604			1.35318	
1,2,3-Trichloropropane	Averaged	14.21537			0.39563	
1,2,4-Trimethylbenzene	Averaged	4.60227			4.65531	
1,3,5-Trimethylbenzene	Averaged	4.57781			4.75083	
Vinyl chloride	Averaged	6.56643			0.90785	
m&p-Xylene	Averaged	5.40740			1.63253	
o-Xylene	Averaged	3.75821			1.55335	
4-Bromofluorobenzene (S)	Averaged	3.03498			0.78161	

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:07

MSV - FORM VI VOA-9
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D
CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D
CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	%RSD	R2	A1	A2	A3
1,2-Dichloroethane-d4 (S)	Averaged	7.88490			0.33458	
Toluene-d8 (S)	Averaged	3.11342			2.31518	

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:07

MSV - FORM VII VOA-1
MSV INITIAL CALIBRATION DATA

13495664ICV

Lab Name: Pace Analytical - New YorkCalibration Date: 06/26/2020 Time: 21:53Instrument ID: 70MSV5 GC Column: Col 1Init. Calib. Date(s): 06/26/2020 06/26/2020Lab File ID: 062620.B\H27111.DInit. Calib. Time(s): 17:38 21:15SDG No.: 70137879

COMPOUND	CURVE	R _{RF} or Amount	R _{RF} or Amount	MIN R _{RF}	%D	MAX %D
Acetone	Averaged	0.22125	0.27670	0.1000	25.0659	30.0000
Benzene	Averaged	2.14680	2.22903	0.5000	3.8304	30.0000
Bromobenzene	Averaged	1.26621	1.29169	0.0100	2.0119	30.0000
Bromochloromethane	Averaged	0.34167	0.31875	0.0100	-6.7074	30.0000
Bromodichloromethane	Averaged	0.51473	0.52966	0.2000	2.9016	30.0000
Bromoform	Linear	50	43.88373	0.1000	-12.2325	30.0000
Bromomethane	Averaged	0.43847	0.54588	0.1000	24.4967	30.0000
2-Butanone (MEK)	Averaged	0.91476	0.46252	0.1000	-49.4386	30.0000
n-Butylbenzene	Averaged	4.66516	4.94343	0.0100	5.9647	30.0000
sec-Butylbenzene	Averaged	5.49580	5.77423	0.0100	5.0662	30.0000
tert-Butylbenzene	Averaged	3.83115	3.97552	0.0100	3.7683	30.0000
Carbon disulfide	Averaged	2.57548	2.71011	0.1000	5.2272	30.0000
Carbon tetrachloride	Averaged	0.41190	0.45812	0.1000	11.2214	30.0000
Chlorobenzene	Averaged	2.34191	2.32568	0.5000	-0.6927	30.0000
Chlorodifluoromethane	Averaged	0.99187	1.08967	0.0100	9.8597	30.0000
Chloroethane	Averaged	0.82175	0.91379	0.1000	11.2005	30.0000
Chloroform	Averaged	1.54769	1.57288	0.2000	1.6274	30.0000
Chloromethane	Averaged	0.98438	1.21354	0.1000	23.2794	30.0000
2-Chlorotoluene	Averaged	5.24504	5.39873	0.0100	2.9303	30.0000
4-Chlorotoluene	Averaged	4.68935	4.74869	0.0100	1.2655	30.0000
Dibromochloromethane	Linear	50	46.54776	0.1000	-6.9045	30.0000
1,2-Dibromoethane (EDB)	Averaged	0.32904	0.35129	0.1000	6.7616	30.0000
Dibromomethane	Averaged	0.24020	0.24702	0.0100	2.8375	30.0000
1,2-Dichlorobenzene	Averaged	1.99878	1.98100	0.4000	-0.8897	30.0000
1,3-Dichlorobenzene	Averaged	2.21144	2.26554	0.6000	2.4465	30.0000
1,4-Dichlorobenzene	Averaged	2.20919	2.24029	0.5000	1.4077	30.0000
trans-1,4-Dichloro-2-butene	Linear	50	39.10698	0.0100	-21.7860	30.0000
Dichlorodifluoromethane	Averaged	0.94662	0.93879	0.1000	-0.8273	30.0000
1,1-Dichloroethane	Averaged	1.72038	1.79438	0.2000	4.3017	30.0000
1,2-Dichloroethane	Averaged	1.13637	1.08199	0.1000	-4.7852	30.0000
1,1-Dichloroethene	Averaged	0.78413	0.89723	0.1000	14.4235	30.0000
cis-1,2-Dichloroethene	Averaged	1.00488	1.03951	0.1000	3.4460	30.0000
trans-1,2-Dichloroethene	Linear	50	58.10793	0.1000	16.2159	30.0000
1,2-Dichloropropane	Averaged	0.53527	0.55311	0.1000	3.3330	30.0000
1,3-Dichloropropane	Averaged	1.44433	1.44546	0.0100	0.0785	30.0000
2,2-Dichloropropane	Averaged	0.98078	1.18078	0.0100	20.3921	30.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:09

MSV - FORM VII VOA-2
MSV INITIAL CALIBRATION DATA

SAMPLE NO.

13495664ICV

Lab Name: Pace Analytical - New York

Calibration Date: 06/26/2020 Time: 21:53

Instrument ID: 70MSV5 GC Column: Col 1

Init. Calib. Date(s): 06/26/2020 06/26/2020

Lab File ID: 062620.B\H27111.D

Init. Calib. Time(s): 17:38 21:15

SDG No.: 70137879

COMPOUND	CURVE	RRF or Amount	RRF or Amount	MIN RRF	%D	MAX %D
1,1-Dichloropropene	Averaged	0.69907	0.73187	0.0100	4.6931	30.0000
cis-1,3-Dichloropropene	Averaged	0.62137	0.76227	0.2000	22.6771	30.0000
trans-1,3-Dichloropropene	Linear	50	50.75524	0.1000	1.5105	30.0000
1,4-Diethylbenzene	Averaged	2.32280	2.55268	0.0100	9.8965	30.0000
Ethanol	Averaged	0.00533	0.00577	0.0100	8.3659	30.0000
Ethylbenzene	Averaged	1.37256	1.36269	0.1000	-0.7189	30.0000
Hexachloro-1,3-butadiene	Averaged	0.31556	0.32264	0.0100	2.2418	30.0000
2-Hexanone	Averaged	0.41332	0.45772	0.1000	10.7446	30.0000
Isopropylbenzene (Cumene)	Averaged	6.56736	6.83849	0.1000	4.1284	30.0000
p-Isopropyltoluene	Averaged	4.29161	4.51291	0.0100	5.1566	30.0000
Methylene Chloride	Averaged	0.96615	0.83195	0.1000	-13.8898	30.0000
4-Methyl-2-pentanone (MIBK)	Averaged	0.32320	0.32781	0.1000	1.4269	30.0000
Methyl-tert-butyl ether	Averaged	2.70836	2.53960	0.1000	-6.2310	30.0000
Naphthalene	Averaged	1.89288	1.99332	0.0100	5.3062	30.0000
n-Propylbenzene	Averaged	7.52862	7.67306	0.0100	1.9187	30.0000
Styrene	Averaged	2.54759	2.69909	0.3000	5.9469	30.0000
1,1,1,2-Tetrachloroethane	Averaged	0.59476	0.64755	0.0100	8.8750	30.0000
1,1,2,2-Tetrachloroethane	Averaged	1.28430	1.24837	0.3000	-2.7973	30.0000
Tetrachloroethene	Averaged	0.82643	0.83008	0.2000	0.4407	30.0000
1,2,4,5-tetramethylbenzene	Averaged	3.07193	3.38743	0.0100	10.2706	30.0000
Toluene	Averaged	2.17528	2.16150	0.4000	-0.6337	30.0000
1,2,3-Trichlorobenzene	Averaged	0.60735	0.61951	0.0100	2.0024	30.0000
1,2,4-Trichlorobenzene	Averaged	0.78603	0.81023	0.2000	3.0787	30.0000
1,1,1-Trichloroethane	Averaged	0.58248	0.63835	0.1000	9.5915	30.0000
1,1,2-Trichloroethane	Averaged	0.34540	0.34780	0.1000	0.6953	30.0000
Trichloroethene	Averaged	0.50757	0.50000	0.2000	-1.4910	30.0000
Trichlorofluoromethane	Averaged	1.35318	1.52693	0.1000	12.8396	30.0000
1,2,3-Trichloropropane	Averaged	0.39563	0.35709	0.0100	-9.7424	30.0000
1,2,4-Trimethylbenzene	Averaged	4.65531	4.75452	0.0100	2.1311	30.0000
1,3,5-Trimethylbenzene	Averaged	4.75083	4.87465	0.0100	2.6063	30.0000
Vinyl chloride	Averaged	0.90785	1.23494	0.1000	36.0284	30.0000
m&p-Xylene	Averaged	1.63253	1.63836	0.1000	0.3566	30.0000
o-Xylene	Averaged	1.55335	1.58685	0.3000	2.1569	30.0000
4-Bromofluorobenzene (S)	Averaged	0.78161	0.80610	0.0100	3.1325	30.0000
1,2-Dichloroethane-d4 (S)	Averaged	0.33458	0.32221	0.0100	-3.6973	30.0000
Toluene-d8 (S)	Averaged	2.31518	2.28918	0.0100	-1.1229	30.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:09

MSV - FORM V VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8
Lab File ID: 072120.B\H27505.D BFB Injection Date 07/21/2020
Instrument ID: 70MSV5 BFB Injection Time 13:56

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.00 - 40.00% of mass 95	17.54
75	30.00 - 60.00% of mass 95	48.95
95	Base Peak, 100.00% relative	100.00
96	5.00 - 9.00% of mass 95	7.02
173	Less than 2.00% of mass 174	0.00
174	50.00 - 100.00% of mass 95	72.68
175	5.00 - 9.00% of mass 174	5.76 (7.92) ¹
176	95.00 - 101.00% of mass 174	69.97 (96.28) ¹
177	5.00 - 9.00% of mass 176	4.68 (6.68) ²

1 - Value is % mass 174

2 - Value is % mass 176

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
13608251CCV	13608251CCV	072120.B\H27506.D	07/21/2020	14:29
821356BLANK	821356BLANK	072120.B\H27507.D	07/21/2020	15:15
821357LCS	821357LCS	072120.B\H27508.D	07/21/2020	15:34
PZ-5	70137879013	072120.B\H27509.D	07/21/2020	16:15
PZ-6	70137879014	072120.B\H27510.D	07/21/2020	16:34
MW-20	70137879017	072120.B\H27511.D	07/21/2020	16:53
MW-21	70137879018	072120.B\H27512.D	07/21/2020	17:13
PZ-5	70137879013	072120.B\H27513.D	07/21/2020	17:32

MSV - FORM VII VOA-1
MSV CONTINUING CALIBRATION DATA

SAMPLE NO.

13608251CCV

Lab Name: Pace Analytical - New York

Calibration Date: 07/21/2020 Time: 14:29

Instrument ID: 70MSV5 GC Column: Col 1

Init. Calib. Date(s): 06/26/2020 06/26/2020

Lab File ID: 072120.B\H27506.D

Init. Calib. Time(s): 17:38 21:15

SDG No.: 70137879

COMPOUND	CURVE	RRF or Amount	RRF or Amount	MIN RRF	%D	MAX %D
Acetone	Averaged	0.22125	0.17806	0.1000	-19.5179	20.0000
Benzene	Averaged	2.14680	1.92738	0.5000	-10.2209	20.0000
Bromobenzene	Averaged	1.26621	1.29001	0.0100	1.8792	20.0000
Bromochloromethane	Averaged	0.34167	0.28364	0.0100	-16.9839	20.0000
Bromodichloromethane	Averaged	0.51473	0.53585	0.2000	4.1046	20.0000
Bromoform	Linear	50	49.97941	0.1000	-0.0412	20.0000
Bromomethane	Averaged	0.43847	0.49576	0.1000	13.0668	20.0000
2-Butanone (MEK)	Averaged	0.91476	0.80281	0.1000	-12.2387	20.0000
n-Butylbenzene	Averaged	4.66516	4.51766	0.0100	-3.1618	20.0000
sec-Butylbenzene	Averaged	5.49580	5.10211	0.0100	-7.1634	20.0000
tert-Butylbenzene	Averaged	3.83115	3.52139	0.0100	-8.0852	20.0000
Carbon disulfide	Averaged	2.57548	2.09272	0.1000	-18.7446	20.0000
Carbon tetrachloride	Averaged	0.41190	0.47539	0.1000	15.4137	20.0000
Chlorobenzene	Averaged	2.34191	2.27783	0.5000	-2.7362	20.0000
Chlorodifluoromethane	Averaged	0.99187	1.08291	0.0100	9.1786	20.0000
Chloroethane	Averaged	0.82175	0.72381	0.1000	-11.9187	20.0000
Chloroform	Averaged	1.54769	1.35632	0.2000	-12.3651	20.0000
Chloromethane	Averaged	0.98438	1.07174	0.1000	8.8738	20.0000
2-Chlorotoluene	Averaged	5.24504	4.72439	0.0100	-9.9265	20.0000
4-Chlorotoluene	Averaged	4.68935	4.25547	0.0100	-9.2525	20.0000
Dibromochloromethane	Linear	50	48.68342	0.1000	-2.6332	20.0000
1,2-Dibromoethane (EDB)	Averaged	0.32904	0.34673	0.1000	5.3753	20.0000
Dibromomethane	Averaged	0.24020	0.23598	0.0100	-1.7571	20.0000
1,2-Dichlorobenzene	Averaged	1.99878	1.80624	0.4000	-9.6329	20.0000
1,3-Dichlorobenzene	Averaged	2.21144	2.09989	0.6000	-5.0442	20.0000
1,4-Dichlorobenzene	Averaged	2.20919	2.11582	0.5000	-4.2264	20.0000
trans-1,4-Dichloro-2-butene	Linear	50	55.56132	0.0100	11.1226	20.0000
Dichlorodifluoromethane	Averaged	0.94662	1.11583	0.1000	17.8743	20.0000
1,1-Dichloroethane	Averaged	1.72038	1.46068	0.2000	-15.0952	20.0000
1,2-Dichloroethane	Averaged	1.13637	0.97615	0.1000	-14.0991	20.0000
1,1-Dichloroethene	Averaged	0.78413	0.63867	0.1000	-18.5499	20.0000
cis-1,2-Dichloroethene	Averaged	1.00488	0.82584	0.1000	-17.8170	20.0000
trans-1,2-Dichloroethene	Linear	50	42.57232	0.1000	-14.8554	20.0000
1,2-Dichloropropane	Averaged	0.53527	0.51226	0.1000	-4.2985	20.0000
1,3-Dichloropropane	Averaged	1.44433	1.35814	0.0100	-5.9672	20.0000
2,2-Dichloropropane	Averaged	0.98078	1.03249	0.0100	5.2729	20.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:09

MSV - FORM VII VOA-2
MSV CONTINUING CALIBRATION DATA

SAMPLE NO.

13608251CCV

Lab Name: Pace Analytical - New York

Calibration Date: 07/21/2020 Time: 14:29

Instrument ID: 70MSV5 GC Column: Col 1

Init. Calib. Date(s): 06/26/2020 06/26/2020

Lab File ID: 072120.B\H27506.D

Init. Calib. Time(s): 17:38 21:15

SDG No.: 70137879

COMPOUND	CURVE	RRF or Amount	RRF or Amount	MIN RRF	%D	MAX %D
1,1-Dichloropropene	Averaged	0.69907	0.69265	0.0100	-0.9181	20.0000
cis-1,3-Dichloropropene	Averaged	0.62137	0.71111	0.2000	14.4424	20.0000
trans-1,3-Dichloropropene	Linear	50	48.74360	0.1000	-2.5128	20.0000
1,4-Diethylbenzene	Averaged	2.32280	2.25116	0.0100	-3.0844	20.0000
Ethanol	Averaged	0.00533	0.00480	0.0100	-9.8922	20.0000
Ethylbenzene	Averaged	1.37256	1.34963	0.1000	-1.6705	20.0000
Hexachloro-1,3-butadiene	Averaged	0.31556	0.46454	0.0100	47.2105	20.0000
2-Hexanone	Averaged	0.41332	0.40474	0.1000	-2.0748	20.0000
Isopropylbenzene (Cumene)	Averaged	6.56736	6.10850	0.1000	-6.9871	20.0000
p-Isopropyltoluene	Averaged	4.29161	4.13186	0.0100	-3.7223	20.0000
Methylene Chloride	Averaged	0.96615	0.73079	0.1000	-24.3606	20.0000
4-Methyl-2-pentanone (MIBK)	Averaged	0.32320	0.33070	0.1000	2.3206	20.0000
Methyl-tert-butyl ether	Averaged	2.70836	2.26940	0.1000	-16.2077	20.0000
Naphthalene	Averaged	1.89288	1.20791	0.0100	-36.1867	20.0000
n-Propylbenzene	Averaged	7.52862	6.88871	0.0100	-8.4997	20.0000
Styrene	Averaged	2.54759	2.66014	0.3000	4.4178	20.0000
1,1,1,2-Tetrachloroethane	Averaged	0.59476	0.68374	0.0100	14.9603	20.0000
1,1,2,2-Tetrachloroethane	Averaged	1.28430	1.07231	0.3000	-16.5063	20.0000
Tetrachloroethene	Averaged	0.82643	0.91245	0.2000	10.4086	20.0000
1,2,4,5-tetramethylbenzene	Averaged	3.07193	2.97533	0.0100	-3.1447	20.0000
Toluene	Averaged	2.17528	2.12757	0.4000	-2.1933	20.0000
1,2,3-Trichlorobenzene	Averaged	0.60735	0.41946	0.0100	-30.9364	20.0000
1,2,4-Trichlorobenzene	Averaged	0.78603	0.69626	0.2000	-11.4204	20.0000
1,1,1-Trichloroethane	Averaged	0.58248	0.64329	0.1000	10.4401	20.0000
1,1,2-Trichloroethane	Averaged	0.34540	0.34272	0.1000	-0.7758	20.0000
Trichloroethene	Averaged	0.50757	0.48848	0.2000	-3.7617	20.0000
Trichlorofluoromethane	Averaged	1.35318	1.24623	0.1000	-7.9038	20.0000
1,2,3-Trichloropropane	Averaged	0.39563	0.34510	0.0100	-12.7726	20.0000
1,2,4-Trimethylbenzene	Averaged	4.65531	4.30742	0.0100	-7.4729	20.0000
1,3,5-Trimethylbenzene	Averaged	4.75083	4.40520	0.0100	-7.2751	20.0000
Vinyl chloride	Averaged	0.90785	1.14127	0.1000	25.7104	20.0000
m&p-Xylene	Averaged	1.63253	1.62823	0.1000	-0.2634	20.0000
o-Xylene	Averaged	1.55335	1.54883	0.3000	-0.2909	20.0000
4-Bromofluorobenzene (S)	Averaged	0.78161	0.77750	0.0100	-0.5268	20.0000
1,2-Dichloroethane-d4 (S)	Averaged	0.33458	0.34295	0.0100	2.5025	20.0000
Toluene-d8 (S)	Averaged	2.31518	2.30831	0.0100	-0.2965	20.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:09

MSV - FORM V VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8
Lab File ID: 070720.B\IP24779.D BFB Injection Date: 07/07/2020
Instrument ID: 70MSV8 BFB Injection Time: 16:24

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.00 - 40.00% of mass 95	18.29
75	30.00 - 60.00% of mass 95	50.86
95	Base Peak, 100.00% relative	100.00
96	5.00 - 9.00% of mass 95	6.42
173	Less than 2.00% of mass 174	0.66 (1.04) ¹
174	50.00 - 100.00% of mass 95	63.69
175	5.00 - 9.00% of mass 174	4.66 (7.32) ¹
176	95.00 - 101.00% of mass 174	60.83 (95.50) ¹
177	5.00 - 9.00% of mass 176	4.03 (6.62) ²

1 - Value is % mass 174

2 - Value is % mass 176

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
13542498CAL1	13542498CAL1	070720.B\IP24780.D	07/07/2020	16:50
13542500CAL2	13542500CAL2	070720.B\IP24781.D	07/07/2020	17:13
13542495CAL3	13542495CAL3	070720.B\IP24782.D	07/07/2020	17:36
13542499CAL4	13542499CAL4	070720.B\IP24783.D	07/07/2020	17:59
13542501CAL5	13542501CAL5	070720.B\IP24784.D	07/07/2020	18:22
13542497CAL6	13542497CAL6	070720.B\IP24785.D	07/07/2020	18:45
13542496CAL7	13542496CAL7	070720.B\IP24786.D	07/07/2020	19:08
13542502CAL8	13542502CAL8	070720.B\IP24787.D	07/07/2020	19:31
13542697ICV	13542697ICV	070720.B\IP24790.D	07/07/2020	20:40

MSV - FORM VI VOA-1
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\P24780.D CAL2 = 070720.B\P24781.D CAL3 = 070720.B\P24782.D
CAL4 = 070720.B\P24783.D CAL5 = 070720.B\P24784.D CAL6 = 070720.B\P24785.D
CAL7 = 070720.B\P24786.D CAL8 = 070720.B\P24787.D

COMPOUND	CURVE TYPE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6
Acetone	Linear		0.00000	0.14953	0.10636	0.09386	0.08187
Benzene	Averaged	0.96794	0.90005	0.86311	0.86301	0.86207	0.88507
Bromobenzene	Averaged		0.57689	0.60098	0.59531	0.59352	0.60160
Bromochloromethane	Averaged		0.17748	0.20064	0.19989	0.19493	0.19487
Bromodichloromethane	Averaged		0.32554	0.31875	0.31018	0.30924	0.31790
Bromoform	Averaged		0.19464	0.19584	0.21138	0.20668	0.22448
Bromomethane	Quadratic		0.04604	0.05879	0.03929	0.04365	0.04908
2-Butanone (MEK)	Averaged		0.34914	0.36689	0.37336	0.37511	0.38105
n-Butylbenzene	Averaged		2.60551	2.61887	2.66409	2.72791	2.85781
sec-Butylbenzene	Averaged		2.81010	2.86874	2.86427	2.89774	3.06273
tert-Butylbenzene	Averaged		1.83751	1.95435	1.94020	1.96939	2.02108
Carbon disulfide	Averaged		1.15219	1.00660	0.98043	0.93961	0.97352
Carbon tetrachloride	Averaged		0.47036	0.31615	0.32334	0.30582	0.36100
Chlorobenzene	Averaged		1.24715	1.25883	1.28541	1.27433	1.30486
Chlorodifluoromethane	Averaged		0.44225	0.39499	0.37656	0.37851	0.38605
Chloroethane	Averaged		0.25019	0.24562	0.23734	0.22673	0.23895
Chloroform	Averaged		0.71744	0.72135	0.70498	0.69137	0.71245
Chloromethane	Averaged		0.28268	0.23916	0.23144	0.24760	0.25205
2-Chlorotoluene	Averaged		2.05257	1.98436	1.98808	1.97167	2.01440
4-Chlorotoluene	Averaged		2.29930	2.25650	2.24289	2.24469	2.27998
Dibromochloromethane	Averaged		0.37997	0.39222	0.40025	0.40390	0.42656
1,2-Dibromoethane (EDB)	Averaged	0.19742	0.19654	0.19740	0.19107	0.19067	0.19747
Dibromomethane	Averaged		0.14589	0.14145	0.13621	0.13549	0.13589
1,2-Dichlorobenzene	Averaged		0.99710	1.03256	1.07116	1.05343	1.08787
1,3-Dichlorobenzene	Averaged		1.04308	1.12286	1.12783	1.13995	1.16892
1,4-Dichlorobenzene	Averaged		1.09871	1.16088	1.16259	1.16225	1.18702
trans-1,4-Dichloro-2-butene	Averaged		0.21258	0.14831	0.14497	0.13747	0.14971
Dichlorodifluoromethane	Averaged		0.39580	0.37076	0.37721	0.36822	0.39092
1,1-Dichloroethane	Averaged		0.69931	0.68717	0.67329	0.67259	0.68428
1,2-Dichloroethane	Averaged		0.55204	0.56928	0.55428	0.53759	0.56035
1,1-Dichloroethene	Averaged	0.49145	0.30018	0.32218	0.29927	0.31865	0.30114
cis-1,2-Dichloroethene	Averaged		0.41538	0.45520	0.43474	0.43600	0.44301
trans-1,2-Dichloroethene	Averaged		0.38538	0.36451	0.36103	0.36594	0.37151
1,2-Dichloropropane	Averaged		0.23387	0.23129	0.22215	0.22077	0.22504
1,3-Dichloropropane	Averaged		0.64626	0.64674	0.67821	0.65728	0.67151

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:06

MSV - FORM VI VOA-2
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\IP24780.D CAL2 = 070720.B\IP24781.D CAL3 = 070720.B\IP24782.D
CAL4 = 070720.B\IP24783.D CAL5 = 070720.B\IP24784.D CAL6 = 070720.B\IP24785.D
CAL7 = 070720.B\IP24786.D CAL8 = 070720.B\IP24787.D

COMPOUND	CURVE TYPE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6
2,2-Dichloropropane	Averaged		0.70619	0.65373	0.60736	0.60508	0.62724
1,1-Dichloropropene	Averaged		0.34552	0.32559	0.31288	0.30979	0.31755
cis-1,3-Dichloropropene	Averaged	0.38347	0.36953	0.38480	0.36560	0.37045	0.37920
trans-1,3-Dichloropropene	Averaged	0.38885	0.33030	0.32812	0.33622	0.32930	0.34274
1,4-Diethylbenzene	Averaged		1.28155	1.31064	1.36169	1.38297	1.43082
Ethanol	Averaged			0.00252	0.00197	0.00182	0.00180
Ethylbenzene	Averaged		0.73654	0.74475	0.76264	0.75578	0.77327
Hexachloro-1,3-butadiene	Averaged		0.18477	0.20196	0.21205	0.21708	0.23352
2-Hexanone	Averaged		0.24838	0.21358	0.22446	0.21724	0.22130
Isopropylbenzene (Cumene)	Averaged		2.81093	2.78052	2.77017	2.75596	2.83718
p-Isopropyltoluene	Averaged		2.41523	2.50617	2.47901	2.50008	2.54264
Methylene Chloride	Averaged		0.39726	0.40626	0.37319	0.36716	0.36893
4-Methyl-2-pentanone (MIBK)	Averaged		0.17026	0.15842	0.15463	0.15905	0.16805
Methyl-tert-butyl ether	Averaged		1.12698	1.15740	1.16649	1.13307	1.15990
Naphthalene	Averaged		1.21849	1.20023	1.22031	1.22091	1.28147
n-Propylbenzene	Averaged		3.25399	3.30185	3.31768	3.31949	3.42697
Styrene	Averaged		1.42101	1.41012	1.48180	1.49228	1.53310
1,1,1,2-Tetrachloroethane	Averaged		0.39884	0.42200	0.42262	0.42543	0.44483
1,1,2,2-Tetrachloroethane	Averaged		0.54247	0.53709	0.52140	0.52296	0.53339
Tetrachloroethene	Averaged		0.43705	0.44289	0.46273	0.46374	0.46990
1,2,4,5-tetramethylbenzene	Averaged		1.88460	1.99224	2.02218	2.05979	2.14702
Toluene	Averaged		1.06663	1.04816	1.02888	1.02482	1.04525
1,2,3-Trichlorobenzene	Averaged		0.35770	0.39169	0.39802	0.40298	0.43057
1,2,4-Trichlorobenzene	Averaged		0.46977	0.51199	0.53533	0.52966	0.56671
1,1,1-Trichloroethane	Averaged		0.39652	0.36463	0.35845	0.36677	0.37366
1,1,2-Trichloroethane	Averaged		0.19000	0.17220	0.17857	0.16602	0.17137
Trichloroethene	Averaged		0.24576	0.25649	0.24792	0.24833	0.25386
Trichlorofluoromethane	Averaged		0.48975	0.55600	0.54632	0.54206	0.57365
1,2,3-Trichloropropane	Averaged	0.15053	0.19000	0.14941	0.16191	0.15136	0.16204
1,2,4-Trimethylbenzene	Averaged		2.20072	2.24806	2.30306	2.29999	2.36062
1,3,5-Trimethylbenzene	Averaged		2.17181	2.30690	2.29875	2.31960	2.37563
Vinyl chloride	Averaged		0.29206	0.28731	0.26271	0.27914	0.29929
m&p-Xylene	Averaged	0.88292	0.91040	0.90402	0.92352	0.92197	0.94782
o-Xylene	Averaged		0.85261	0.86934	0.89886	0.89176	0.90464
4-Bromofluorobenzene (S)	Averaged	0.96257	0.95842	0.95917	0.97183	0.96709	0.96911

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:06

MSV - FORM VI VOA-3
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\IP24780.D CAL2 = 070720.B\IP24781.D CAL3 = 070720.B\IP24782.D
CAL4 = 070720.B\IP24783.D CAL5 = 070720.B\IP24784.D CAL6 = 070720.B\IP24785.D
CAL7 = 070720.B\IP24786.D CAL8 = 070720.B\IP24787.D

COMPOUND	CURVE TYPE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6
1,2-Dichloroethane-d4 (S)	Averaged	0.38295	0.37806	0.38440	0.37672	0.37788	0.37630
Toluene-d8 (S)	Averaged	2.44997	2.48914	2.46124	2.52144	2.50341	2.49767

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:06

MSV - FORM VI VOA-4
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\IP24780.D CAL2 = 070720.B\IP24781.D CAL3 = 070720.B\IP24782.D
CAL4 = 070720.B\IP24783.D CAL5 = 070720.B\IP24784.D CAL6 = 070720.B\IP24785.D
CAL7 = 070720.B\IP24786.D CAL8 = 070720.B\IP24787.D

COMPOUND	CURVE TYPE	CAL7	CAL8
Acetone	Linear	0.07488	0.07567
Benzene	Averaged	0.91304	0.90873
Bromobenzene	Averaged	0.63313	0.61987
Bromochloromethane	Averaged	0.19606	0.17322
Bromodichloromethane	Averaged	0.32658	0.33013
Bromoform	Averaged	0.23821	0.24119
Bromomethane	Quadratic	0.06378	0.10284
2-Butanone (MEK)	Averaged	0.37932	0.38856
n-Butylbenzene	Averaged	3.06479	3.03843
sec-Butylbenzene	Averaged	3.24578	3.19071
tert-Butylbenzene	Averaged	2.13599	2.09591
Carbon disulfide	Averaged	0.99059	0.99155
Carbon tetrachloride	Averaged	0.34433	0.32837
Chlorobenzene	Averaged	1.33964	1.32820
Chlorodifluoromethane	Averaged	0.39857	0.39567
Chloroethane	Averaged	0.22984	0.22489
Chloroform	Averaged	0.72241	0.72556
Chloromethane	Averaged	0.26986	0.28503
2-Chlorotoluene	Averaged	2.13932	2.12332
4-Chlorotoluene	Averaged	2.41215	2.42265
Dibromochloromethane	Averaged	0.44185	0.44236
1,2-Dibromoethane (EDB)	Averaged	0.20254	0.20263
Dibromomethane	Averaged	0.14093	0.14070
1,2-Dichlorobenzene	Averaged	1.12181	1.10359
1,3-Dichlorobenzene	Averaged	1.23161	1.20642
1,4-Dichlorobenzene	Averaged	1.23126	1.22246
trans-1,4-Dichloro-2-butene	Averaged	0.15726	0.16169
Dichlorodifluoromethane	Averaged	0.39375	0.38797
1,1-Dichloroethane	Averaged	0.69686	0.69417
1,2-Dichloroethane	Averaged	0.56112	0.56160
1,1-Dichloroethene	Averaged	0.30473	0.30701
cis-1,2-Dichloroethene	Averaged	0.45372	0.45631
trans-1,2-Dichloroethene	Averaged	0.37889	0.37964
1,2-Dichloropropane	Averaged	0.23272	0.23075
1,3-Dichloropropane	Averaged	0.68707	0.67896

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:06

MSV - FORM VI VOA-5
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\P24780.D CAL2 = 070720.B\P24781.D CAL3 = 070720.B\P24782.D
CAL4 = 070720.B\P24783.D CAL5 = 070720.B\P24784.D CAL6 = 070720.B\P24785.D
CAL7 = 070720.B\P24786.D CAL8 = 070720.B\P24787.D

COMPOUND	CURVE TYPE	CAL7	CAL8
2,2-Dichloropropane	Averaged	0.63722	0.63519
1,1-Dichloropropene	Averaged	0.32656	0.32551
cis-1,3-Dichloropropene	Averaged	0.38939	0.39314
trans-1,3-Dichloropropene	Averaged	0.35170	0.35646
1,4-Diethylbenzene	Averaged	1.52628	1.51242
Ethanol	Averaged	0.00169	0.00157
Ethylbenzene	Averaged	0.80312	0.78562
Hexachloro-1,3-butadiene	Averaged	0.25276	0.25430
2-Hexanone	Averaged	0.22214	0.22123
Isopropylbenzene (Cumene)	Averaged	2.97456	2.92312
p-Isopropyltoluene	Averaged	2.70990	2.65593
Methylene Chloride	Averaged	0.37388	0.37536
4-Methyl-2-pentanone (MIBK)	Averaged	0.16704	0.16407
Methyl-tert-butyl ether	Averaged	1.17963	1.18834
Naphthalene	Averaged	1.34965	1.36557
n-Propylbenzene	Averaged	3.62134	3.60035
Styrene	Averaged	1.58035	1.56561
1,1,1,2-Tetrachloroethane	Averaged	0.45795	0.45031
1,1,2,2-Tetrachloroethane	Averaged	0.54852	0.54997
Tetrachloroethene	Averaged	0.48182	0.46626
1,2,4,5-tetramethylbenzene	Averaged	2.30169	2.28469
Toluene	Averaged	1.08233	1.08313
1,2,3-Trichlorobenzene	Averaged	0.45882	0.46568
1,2,4-Trichlorobenzene	Averaged	0.60181	0.60780
1,1,1-Trichloroethane	Averaged	0.38661	0.38352
1,1,2-Trichloroethane	Averaged	0.17466	0.17484
Trichloroethene	Averaged	0.25856	0.25463
Trichlorofluoromethane	Averaged	0.57998	0.57242
1,2,3-Trichloropropane	Averaged	0.15975	0.16229
1,2,4-Trimethylbenzene	Averaged	2.51233	2.49322
1,3,5-Trimethylbenzene	Averaged	2.51385	2.48447
Vinyl chloride	Averaged	0.31456	0.32330
m&p-Xylene	Averaged	0.97364	0.95463
o-Xylene	Averaged	0.93004	0.92015
4-Bromofluorobenzene (S)	Averaged	0.96138	0.96457

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:06

MSV - FORM VI VOA-6
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\P24780.D CAL2 = 070720.B\P24781.D CAL3 = 070720.B\P24782.D
CAL4 = 070720.B\P24783.D CAL5 = 070720.B\P24784.D CAL6 = 070720.B\P24785.D
CAL7 = 070720.B\P24786.D CAL8 = 070720.B\P24787.D

COMPOUND	CURVE TYPE	CAL7	CAL8
1,2-Dichloroethane-d4 (S)	Averaged	0.36966	0.37285
Toluene-d8 (S)	Averaged	2.49037	2.45563

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:06

MSV - FORM VI VOA-7
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\IP24780.D CAL2 = 070720.B\IP24781.D CAL3 = 070720.B\IP24782.D
CAL4 = 070720.B\IP24783.D CAL5 = 070720.B\IP24784.D CAL6 = 070720.B\IP24785.D
CAL7 = 070720.B\IP24786.D CAL8 = 070720.B\IP24787.D

COMPOUND	CURVE TYPE	%RSD	R2	A1	A2	A3
Acetone	Linear		0.99960	0.00657777	0.07365	
Benzene	Averaged	4.02286			0.89538	
Bromobenzene	Averaged	3.04967			0.60304	
Bromochloromethane	Averaged	5.76293			0.19101	
Bromodichloromethane	Averaged	2.53521			0.31976	
Bromoform	Averaged	8.80216			0.21606	
Bromomethane	Quadratic		0.99987	0.00242152	0.02522	0.01923
2-Butanone (MEK)	Averaged	3.38370			0.37335	
n-Butylbenzene	Averaged	6.91692			2.79677	
sec-Butylbenzene	Averaged	5.82799			2.99144	
tert-Butylbenzene	Averaged	5.05126			1.99349	
Carbon disulfide	Averaged	6.78890			1.00493	
Carbon tetrachloride	Averaged	16.04634			0.34991	
Chlorobenzene	Averaged	2.68455			1.29120	
Chlorodifluoromethane	Averaged	5.57930			0.39608	
Chloroethane	Averaged	4.05713			0.23622	
Chloroform	Averaged	1.68273			0.71365	
Chloromethane	Averaged	8.18936			0.25826	
2-Chlorotoluene	Averaged	3.35462			2.03910	
4-Chlorotoluene	Averaged	3.34404			2.30831	
Dibromochloromethane	Averaged	5.97518			0.41244	
1,2-Dibromoethane (EDB)	Averaged	2.25684			0.19697	
Dibromomethane	Averaged	2.74619			0.13951	
1,2-Dichlorobenzene	Averaged	4.02319			1.06679	
1,3-Dichlorobenzene	Averaged	5.38414			1.14867	
1,4-Dichlorobenzene	Averaged	3.78973			1.17502	
trans-1,4-Dichloro-2-butene	Averaged	15.72040			0.15886	
Dichlorodifluoromethane	Averaged	2.94761			0.38352	
1,1-Dichloroethane	Averaged	1.57608			0.68681	
1,2-Dichloroethane	Averaged	1.80838			0.55661	
1,1-Dichloroethene	Averaged	19.83214			0.33058	
cis-1,2-Dichloroethene	Averaged	3.34852			0.44205	
trans-1,2-Dichloroethene	Averaged	2.44400			0.37241	
1,2-Dichloropropane	Averaged	2.33624			0.22808	
1,3-Dichloropropane	Averaged	2.46948			0.66658	

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:06

MSV - FORM VI VOA-8
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\IP24780.D CAL2 = 070720.B\IP24781.D CAL3 = 070720.B\IP24782.D
CAL4 = 070720.B\IP24783.D CAL5 = 070720.B\IP24784.D CAL6 = 070720.B\IP24785.D
CAL7 = 070720.B\IP24786.D CAL8 = 070720.B\IP24787.D

COMPOUND	CURVE TYPE	%RSD	R2	A1	A2	A3
2,2-Dichloropropane	Averaged	5.36116			0.63886	
1,1-Dichloropropene	Averaged	3.65584			0.32334	
cis-1,3-Dichloropropene	Averaged	2.63898			0.37945	
trans-1,3-Dichloropropene	Averaged	5.91959			0.34546	
1,4-Diethylbenzene	Averaged	6.72799			1.40091	
Ethanol	Averaged	17.60798			0.00190	
Ethylbenzene	Averaged	3.03920			0.76596	
Hexachloro-1,3-butadiene	Averaged	11.65836			0.22235	
2-Hexanone	Averaged	5.04698			0.22405	
Isopropylbenzene (Cumene)	Averaged	2.92306			2.83606	
p-Isopropyltoluene	Averaged	4.06647			2.54414	
Methylene Chloride	Averaged	3.98718			0.38029	
4-Methyl-2-pentanone (MIBK)	Averaged	3.56016			0.16307	
Methyl-tert-butyl ether	Averaged	1.94347			1.15883	
Naphthalene	Averaged	5.38466			1.26523	
n-Propylbenzene	Averaged	4.38478			3.40595	
Styrene	Averaged	4.43974			1.49775	
1,1,1,2-Tetrachloroethane	Averaged	4.73133			0.43171	
1,1,2,2-Tetrachloroethane	Averaged	2.12889			0.53654	
Tetrachloroethene	Averaged	3.37655			0.46063	
1,2,4,5-tetramethylbenzene	Averaged	7.34693			2.09889	
Toluene	Averaged	2.25944			1.05417	
1,2,3-Trichlorobenzene	Averaged	9.32610			0.41507	
1,2,4-Trichlorobenzene	Averaged	9.06602			0.54615	
1,1,1-Trichloroethane	Averaged	3.63262			0.37574	
1,1,2-Trichloroethane	Averaged	4.28291			0.17538	
Trichloroethene	Averaged	1.93091			0.25222	
Trichlorofluoromethane	Averaged	5.58386			0.55146	
1,2,3-Trichloropropane	Averaged	8.07875			0.16091	
1,2,4-Trimethylbenzene	Averaged	5.05111			2.34543	
1,3,5-Trimethylbenzene	Averaged	4.98905			2.35300	
Vinyl chloride	Averaged	7.02078			0.29405	
m&p-Xylene	Averaged	3.19769			0.92736	
o-Xylene	Averaged	3.03611			0.89534	
4-Bromofluorobenzene (S)	Averaged	0.49600			0.96427	

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:06

MSV - FORM VI VOA-9
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879
Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\P24780.D CAL2 = 070720.B\P24781.D CAL3 = 070720.B\P24782.D
CAL4 = 070720.B\P24783.D CAL5 = 070720.B\P24784.D CAL6 = 070720.B\P24785.D
CAL7 = 070720.B\P24786.D CAL8 = 070720.B\P24787.D

COMPOUND	CURVE TYPE	%RSD	R2	A1	A2	A3
1,2-Dichloroethane-d4 (S)	Averaged	1.27718			0.37735	
Toluene-d8 (S)	Averaged	1.02220			2.48361	

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:06

NO SAMPLES ASSOCIATED

MSV - FORM VII VOA-1
MSV INITIAL CALIBRATION DATA

SAMPLE NO.

13542697ICV

Lab Name: Pace Analytical - New YorkCalibration Date: 07/07/2020 Time: 20:40Instrument ID: 70MSV8 GC Column: Col 1Init. Calib. Date(s): 07/07/2020 07/07/2020Lab File ID: 070720.B\P24790.DInit. Calib. Time(s): 16:50 19:31SDG No.: 70137879

COMPOUND	CURVE	RRF or Amount	RRF or Amount	MIN RRF	%D	MAX %D
Acetone	Linear	50	56.65316	0.1000	13.3063	30.0000
Benzene	Averaged	0.89538	0.95904	0.5000	7.1102	30.0000
Bromobenzene	Averaged	0.60304	0.61566	0.0100	2.0918	30.0000
Bromochloromethane	Averaged	0.19101	0.20509	0.0100	7.3684	30.0000
Bromodichloromethane	Averaged	0.31976	0.31611	0.2000	-1.1422	30.0000
Bromoform	Averaged	0.21606	0.22982	0.1000	6.3684	30.0000
Bromomethane	Quadratic	50	90.63080	0.1000	81.2616	30.0000
2-Butanone (MEK)	Averaged	0.37335	0.17279	0.1000	-53.7197	30.0000
n-Butylbenzene	Averaged	2.79677	2.90133	0.0100	3.7384	30.0000
sec-Butylbenzene	Averaged	2.99144	3.02716	0.0100	1.1940	30.0000
tert-Butylbenzene	Averaged	1.99349	2.05684	0.0100	3.1780	30.0000
Carbon disulfide	Averaged	1.00493	1.01036	0.1000	0.5404	30.0000
Carbon tetrachloride	Averaged	0.34991	0.37003	0.1000	5.7507	30.0000
Chlorobenzene	Averaged	1.29120	1.34929	0.5000	4.4988	30.0000
Chlorodifluoromethane	Averaged	0.39608	0.40411	0.0100	2.0252	30.0000
Chloroethane	Averaged	0.23622	0.24112	0.1000	2.0738	30.0000
Chloroform	Averaged	0.71365	0.72886	0.2000	2.1316	30.0000
Chloromethane	Averaged	0.25826	0.32012	0.1000	23.9500	30.0000
2-Chlorotoluene	Averaged	2.03910	2.08518	0.0100	2.2597	30.0000
4-Chlorotoluene	Averaged	2.30831	2.33023	0.0100	0.9499	30.0000
Dibromochloromethane	Averaged	0.41244	0.44446	0.1000	7.7619	30.0000
1,2-Dibromoethane (EDB)	Averaged	0.19697	0.20738	0.1000	5.2875	30.0000
Dibromomethane	Averaged	0.13951	0.14629	0.0100	4.8642	30.0000
1,2-Dichlorobenzene	Averaged	1.06679	1.13789	0.4000	6.6648	30.0000
1,3-Dichlorobenzene	Averaged	1.14867	1.22400	0.6000	6.5584	30.0000
1,4-Dichlorobenzene	Averaged	1.17502	1.23093	0.5000	4.7580	30.0000
trans-1,4-Dichloro-2-butene	Averaged	0.15886	0.15004	0.0100	-5.5532	30.0000
Dichlorodifluoromethane	Averaged	0.38352	0.39659	0.1000	3.4079	30.0000
1,1-Dichloroethane	Averaged	0.68681	0.70678	0.2000	2.9082	30.0000
1,2-Dichloroethane	Averaged	0.55661	0.57157	0.1000	2.6879	30.0000
1,1-Dichloroethene	Averaged	0.33058	0.33541	0.1000	1.4631	30.0000
cis-1,2-Dichloroethene	Averaged	0.44205	0.45494	0.1000	2.9151	30.0000
trans-1,2-Dichloroethene	Averaged	0.37241	0.40208	0.1000	7.9647	30.0000
1,2-Dichloropropane	Averaged	0.22808	0.23277	0.1000	2.0545	30.0000
1,3-Dichloropropane	Averaged	0.66658	0.70301	0.0100	5.4655	30.0000
2,2-Dichloropropane	Averaged	0.63886	0.64525	0.0100	1.0010	30.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:09

MSV - FORM VII VOA-2
MSV INITIAL CALIBRATION DATA

SAMPLE NO.

13542697ICV

Lab Name: Pace Analytical - New York

Calibration Date: 07/07/2020 Time: 20:40

Instrument ID: 70MSV8 GC Column: Col 1

Init. Calib. Date(s): 07/07/2020 07/07/2020

Lab File ID: 070720.B\24790.D

Init. Calib. Time(s): 16:50 19:31

SDG No.: 70137879

COMPOUND	CURVE	RRF or Amount	RRF or Amount	MIN RRF	%D	MAX %D
1,1-Dichloropropene	Averaged	0.32334	0.32281	0.0100	-0.1656	30.0000
cis-1,3-Dichloropropene	Averaged	0.37945	0.40244	0.2000	6.0596	30.0000
trans-1,3-Dichloropropene	Averaged	0.34546	0.36635	0.1000	6.0463	30.0000
1,4-Diethylbenzene	Averaged	1.40091	1.53041	0.0100	9.2440	30.0000
Ethanol	Averaged	0.00190	0.00176	0.0100	470.0794	30.0000
Ethylbenzene	Averaged	0.76596	0.76767	0.1000	0.2236	30.0000
Hexachloro-1,3-butadiene	Averaged	0.22235	0.25288	0.0100	13.7325	30.0000
2-Hexanone	Averaged	0.22405	0.21841	0.1000	-2.5184	30.0000
Isopropylbenzene (Cumene)	Averaged	2.83606	2.87137	0.1000	1.2450	30.0000
p-Isopropyltoluene	Averaged	2.54414	2.60549	0.0100	2.4114	30.0000
Methylene Chloride	Averaged	0.38029	0.37806	0.1000	-0.5881	30.0000
4-Methyl-2-pentanone (MIBK)	Averaged	0.16307	0.16837	0.1000	3.2485	30.0000
Methyl-tert-butyl ether	Averaged	1.15883	1.19476	0.1000	3.1005	30.0000
Naphthalene	Averaged	1.26523	1.39282	0.0100	10.0839	30.0000
n-Propylbenzene	Averaged	3.40595	3.36852	0.0100	-1.0988	30.0000
Styrene	Averaged	1.49775	1.52900	0.3000	2.0863	30.0000
1,1,1,2-Tetrachloroethane	Averaged	0.43171	0.45219	0.0100	4.7442	30.0000
1,1,2,2-Tetrachloroethane	Averaged	0.53654	0.56461	0.3000	5.2320	30.0000
Tetrachloroethene	Averaged	0.46063	0.48142	0.2000	4.5152	30.0000
1,2,4,5-tetramethylbenzene	Averaged	2.09889	2.25193	0.0100	7.2919	30.0000
Toluene	Averaged	1.05417	1.07690	0.4000	2.1560	30.0000
1,2,3-Trichlorobenzene	Averaged	0.41507	0.46135	0.0100	11.1503	30.0000
1,2,4-Trichlorobenzene	Averaged	0.54615	0.58987	0.2000	8.0042	30.0000
1,1,1-Trichloroethane	Averaged	0.37574	0.38087	0.1000	1.3661	30.0000
1,1,2-Trichloroethane	Averaged	0.17538	0.17941	0.1000	2.2959	30.0000
Trichloroethene	Averaged	0.25222	0.25563	0.2000	1.3519	30.0000
Trichlorofluoromethane	Averaged	0.55146	0.64050	0.1000	16.1472	30.0000
1,2,3-Trichloropropane	Averaged	0.16091	0.16599	0.0100	3.1577	30.0000
1,2,4-Trimethylbenzene	Averaged	2.34543	2.39611	0.0100	2.1607	30.0000
1,3,5-Trimethylbenzene	Averaged	2.35300	2.41116	0.0100	2.4718	30.0000
Vinyl chloride	Averaged	0.29405	0.39231	0.1000	33.4153	30.0000
m&p-Xylene	Averaged	0.92736	0.94199	0.1000	1.5773	30.0000
o-Xylene	Averaged	0.89534	0.91441	0.3000	2.1294	30.0000
4-Bromofluorobenzene (S)	Averaged	0.96427	0.95829	0.0100	-0.6202	30.0000
1,2-Dichloroethane-d4 (S)	Averaged	0.37735	0.37733	0.0100	-0.0058	30.0000
Toluene-d8 (S)	Averaged	2.48361	2.48406	0.0100	0.0183	30.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:09

MSV - FORM V VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8
Lab File ID: 071620.B\P24947.D BFB Injection Date 07/16/2020
Instrument ID: 70MSV8 BFB Injection Time 08:49

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.00 - 40.00% of mass 95	18.06
75	30.00 - 60.00% of mass 95	50.65
95	Base Peak, 100.00% relative	100.00
96	5.00 - 9.00% of mass 95	6.50
173	Less than 2.00% of mass 174	0.69 (1.11) ¹
174	50.00 - 100.00% of mass 95	62.30
175	5.00 - 9.00% of mass 174	4.57 (7.34) ¹
176	95.00 - 101.00% of mass 174	59.89 (96.13) ¹
177	5.00 - 9.00% of mass 176	3.96 (6.61) ²

1 - Value is % mass 174

2 - Value is % mass 176

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
13588256CCV	13588256CCV	071620.B\P24949.D	07/16/2020	10:37
818096BLANK	818096BLANK	071620.B\P24950.D	07/16/2020	11:35
818097LCS	818097LCS	071620.B\P24951.D	07/16/2020	11:59
TRIP BLANK	70137879004	071620.B\P24952.D	07/16/2020	12:42
AZ-PZ-1	70137879001	071620.B\P24961.D	07/16/2020	16:06
AZ-PZ-2	70137879005	071620.B\P24962.D	07/16/2020	16:29
MW-18	70137879006	071620.B\P24963.D	07/16/2020	16:51
MW-2	70137879007	071620.B\P24964.D	07/16/2020	17:14
MW-1	70137879008	071620.B\P24965.D	07/16/2020	17:37
MW-3	70137879009	071620.B\P24966.D	07/16/2020	18:00
MW-4	70137879010	071620.B\P24967.D	07/16/2020	18:23
MW-4-DUP	70137879011	071620.B\P24968.D	07/16/2020	18:46
MW-10	70137879012	071620.B\P24969.D	07/16/2020	19:09
PZ-11R	70137879015	071620.B\P24970.D	07/16/2020	19:32
PZ-13R	70137879016	071620.B\P24971.D	07/16/2020	19:55

MSV - FORM VII VOA-1
MSV CONTINUING CALIBRATION DATA

SAMPLE NO.

13588256CCV

Lab Name: Pace Analytical - New York

Calibration Date: 07/16/2020 Time: 10:37

Instrument ID: 70MSV8 GC Column: Col 1

Init. Calib. Date(s): 07/07/2020 07/07/2020

Lab File ID: 071620.B\P24949.D

Init. Calib. Time(s): 16:50 19:31

SDG No.: 70137879

COMPOUND	CURVE	RRF or Amount	RRF or Amount	MIN RRF	%D	MAX %D
Acetone	Linear	50	76.81742	0.1000	53.6349	20.0000
Benzene	Averaged	0.89538	0.90722	0.5000	1.3224	20.0000
Bromobenzene	Averaged	0.60304	0.56976	0.0100	-5.5185	20.0000
Bromochloromethane	Averaged	0.19101	0.22189	0.0100	16.1668	20.0000
Bromodichloromethane	Averaged	0.31976	0.31817	0.2000	-0.4955	20.0000
Bromoform	Averaged	0.21606	0.17281	0.1000	-20.0166	20.0000
Bromomethane	Quadratic	50	62.85079	0.1000	25.7016	20.0000
2-Butanone (MEK)	Averaged	0.37335	0.44757	0.1000	19.8809	20.0000
n-Butylbenzene	Averaged	2.79677	3.00002	0.0100	7.2671	20.0000
sec-Butylbenzene	Averaged	2.99144	3.06159	0.0100	2.3449	20.0000
tert-Butylbenzene	Averaged	1.99349	1.95209	0.0100	-2.0768	20.0000
Carbon disulfide	Averaged	1.00493	1.07041	0.1000	6.5162	20.0000
Carbon tetrachloride	Averaged	0.34991	0.27115	0.1000	-22.5072	20.0000
Chlorobenzene	Averaged	1.29120	1.21693	0.5000	-5.7524	20.0000
Chlorodifluoromethane	Averaged	0.39608	0.41186	0.0100	3.9827	20.0000
Chloroethane	Averaged	0.23622	0.27983	0.1000	18.4583	20.0000
Chloroform	Averaged	0.71365	0.83201	0.2000	16.5845	20.0000
Chloromethane	Averaged	0.25826	0.28645	0.1000	10.9138	20.0000
2-Chlorotoluene	Averaged	2.03910	2.10555	0.0100	3.2585	20.0000
4-Chlorotoluene	Averaged	2.30831	2.40237	0.0100	4.0750	20.0000
Dibromochloromethane	Averaged	0.41244	0.36868	0.1000	-10.6101	20.0000
1,2-Dibromoethane (EDB)	Averaged	0.19697	0.19212	0.1000	-2.4607	20.0000
Dibromomethane	Averaged	0.13951	0.14360	0.0100	2.9342	20.0000
1,2-Dichlorobenzene	Averaged	1.06679	1.05687	0.4000	-0.9295	20.0000
1,3-Dichlorobenzene	Averaged	1.14867	1.13897	0.6000	-0.8439	20.0000
1,4-Dichlorobenzene	Averaged	1.17502	1.16172	0.5000	-1.1320	20.0000
trans-1,4-Dichloro-2-butene	Averaged	0.15886	0.14017	0.0100	-11.7649	20.0000
Dichlorodifluoromethane	Averaged	0.38352	0.30322	0.1000	-20.9373	20.0000
1,1-Dichloroethane	Averaged	0.68681	0.81175	0.2000	18.1910	20.0000
1,2-Dichloroethane	Averaged	0.55661	0.66405	0.1000	19.3033	20.0000
1,1-Dichloroethene	Averaged	0.33058	0.34295	0.1000	3.7421	20.0000
cis-1,2-Dichloroethene	Averaged	0.44205	0.51662	0.1000	16.8695	20.0000
trans-1,2-Dichloroethene	Averaged	0.37241	0.41677	0.1000	11.9096	20.0000
1,2-Dichloropropane	Averaged	0.22808	0.23669	0.1000	3.7723	20.0000
1,3-Dichloropropane	Averaged	0.66658	0.68577	0.0100	2.8791	20.0000
2,2-Dichloropropane	Averaged	0.63886	0.56766	0.0100	-11.1454	20.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:09

MSV - FORM VII VOA-2
MSV CONTINUING CALIBRATION DATA

SAMPLE NO.

13588256CCV

Lab Name: Pace Analytical - New York

Calibration Date: 07/16/2020 Time: 10:37

Instrument ID: 70MSV8 GC Column: Col 1

Init. Calib. Date(s): 07/07/2020 07/07/2020

Lab File ID: 071620.B\24949.D

Init. Calib. Time(s): 16:50 19:31

SDG No.: 70137879

COMPOUND	CURVE	RRF or Amount	RRF or Amount	MIN RRF	%D	MAX %D
1,1-Dichloropropene	Averaged	0.32334	0.31663	0.0100	-2.0776	20.0000
cis-1,3-Dichloropropene	Averaged	0.37945	0.35669	0.2000	-5.9965	20.0000
trans-1,3-Dichloropropene	Averaged	0.34546	0.29322	0.1000	-15.1218	20.0000
1,4-Diethylbenzene	Averaged	1.40091	1.41851	0.0100	1.2566	20.0000
Ethanol	Averaged	0.00190	0.00226	0.0100	19.2907	20.0000
Ethylbenzene	Averaged	0.76596	0.72098	0.1000	-5.8721	20.0000
Hexachloro-1,3-butadiene	Averaged	0.22235	0.20217	0.0100	-9.0728	20.0000
2-Hexanone	Averaged	0.22405	0.22130	0.1000	-1.2272	20.0000
Isopropylbenzene (Cumene)	Averaged	2.83606	2.85103	0.1000	0.5278	20.0000
p-Isopropyltoluene	Averaged	2.54414	2.51840	0.0100	-1.0118	20.0000
Methylene Chloride	Averaged	0.38029	0.44290	0.1000	16.4624	20.0000
4-Methyl-2-pentanone (MIBK)	Averaged	0.16307	0.17755	0.1000	8.8762	20.0000
Methyl-tert-butyl ether	Averaged	1.15883	1.31100	0.1000	13.1315	20.0000
Naphthalene	Averaged	1.26523	1.37720	0.0100	8.8495	20.0000
n-Propylbenzene	Averaged	3.40595	3.57805	0.0100	5.0528	20.0000
Styrene	Averaged	1.49775	1.43803	0.3000	-3.9876	20.0000
1,1,1,2-Tetrachloroethane	Averaged	0.43171	0.36956	0.0100	-14.3973	20.0000
1,1,2,2-Tetrachloroethane	Averaged	0.53654	0.58944	0.3000	9.8588	20.0000
Tetrachloroethene	Averaged	0.46063	0.38610	0.2000	-16.1794	20.0000
1,2,4,5-tetramethylbenzene	Averaged	2.09889	2.12899	0.0100	1.4345	20.0000
Toluene	Averaged	1.05417	1.06191	0.4000	0.7338	20.0000
1,2,3-Trichlorobenzene	Averaged	0.41507	0.40581	0.0100	-2.2298	20.0000
1,2,4-Trichlorobenzene	Averaged	0.54615	0.51842	0.2000	-5.0779	20.0000
1,1,1-Trichloroethane	Averaged	0.37574	0.33064	0.1000	-12.0019	20.0000
1,1,2-Trichloroethane	Averaged	0.17538	0.17677	0.1000	0.7929	20.0000
Trichloroethene	Averaged	0.25222	0.24697	0.2000	-2.0828	20.0000
Trichlorofluoromethane	Averaged	0.55146	0.62859	0.1000	13.9881	20.0000
1,2,3-Trichloropropane	Averaged	0.16091	0.16651	0.0100	3.4762	20.0000
1,2,4-Trimethylbenzene	Averaged	2.34543	2.42260	0.0100	3.2902	20.0000
1,3,5-Trimethylbenzene	Averaged	2.35300	2.39219	0.0100	1.6657	20.0000
Vinyl chloride	Averaged	0.29405	0.33841	0.1000	15.0843	20.0000
m&p-Xylene	Averaged	0.92736	0.88385	0.1000	-4.6920	20.0000
o-Xylene	Averaged	0.89534	0.84115	0.3000	-6.0525	20.0000
4-Bromofluorobenzene (S)	Averaged	0.96427	0.95320	0.0100	-1.1478	20.0000
1,2-Dichloroethane-d4 (S)	Averaged	0.37735	0.39076	0.0100	3.5529	20.0000
Toluene-d8 (S)	Averaged	2.48361	2.44221	0.0100	-1.6670	20.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:09

MSV - FORM V VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8
 Lab File ID: 071720.B\P24974.D BFB Injection Date 07/17/2020
 Instrument ID: 70MSV8 BFB Injection Time 16:19

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.00 - 40.00% of mass 95	18.65
75	30.00 - 60.00% of mass 95	50.55
95	Base Peak, 100.00% relative	100.00
96	5.00 - 9.00% of mass 95	6.33
173	Less than 2.00% of mass 174	0.68 (1.14) ¹
174	50.00 - 100.00% of mass 95	59.11
175	5.00 - 9.00% of mass 174	4.27 (7.23) ¹
176	95.00 - 101.00% of mass 174	56.68 (95.88) ¹
177	5.00 - 9.00% of mass 176	3.71 (6.54) ²

1 - Value is % mass 174

2 - Value is % mass 176

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
13593680CCV	13593680CCV	071720.B\P24975.D	07/17/2020	17:11
MW-18	70137879006	071720.B\P24982.D	07/17/2020	20:19

CIS-1,2-DICHLOROETHENE ONLY

MSV - FORM VII VOA-1
MSV CONTINUING CALIBRATION DATA

SAMPLE NO.

13593680CCV

Lab Name: Pace Analytical - New York

Calibration Date: 07/17/2020 Time: 17:11

Instrument ID: 70MSV8 GC Column: Col 1

Init. Calib. Date(s): 07/07/2020 07/07/2020

Lab File ID: 071720.B\P24975.D

Init. Calib. Time(s): 16:50 19:31

SDG No.: 70137879

COMPOUND	CURVE	RRF or Amount	RRF or Amount	MIN RRF	%D	MAX %D
Acetone	Linear	50	109.3455	0.1000	118.6911	20.0000
Benzene	Averaged	0.89538	0.93332	0.5000	4.2370	20.0000
Bromobenzene	Averaged	0.60304	0.54833	0.0100	-9.0726	20.0000
Bromochloromethane	Averaged	0.19101	0.21704	0.0100	13.6244	20.0000
Bromodichloromethane	Averaged	0.31976	0.31788	0.2000	-0.5869	20.0000
Bromoform	Averaged	0.21606	0.16205	0.1000	-24.9995	20.0000
Bromomethane	Quadratic	50	63.58731	0.1000	27.1746	20.0000
2-Butanone (MEK)	Averaged	0.37335	0.44608	0.1000	19.4806	20.0000
n-Butylbenzene	Averaged	2.79677	3.07399	0.0100	9.9121	20.0000
sec-Butylbenzene	Averaged	2.99144	3.11377	0.0100	4.0893	20.0000
tert-Butylbenzene	Averaged	1.99349	1.96927	0.0100	-1.2149	20.0000
Carbon disulfide	Averaged	1.00493	1.11642	0.1000	11.0947	20.0000
Carbon tetrachloride	Averaged	0.34991	0.31427	0.1000	-10.1854	20.0000
Chlorobenzene	Averaged	1.29120	1.16927	0.5000	-9.4434	20.0000
Chlorodifluoromethane	Averaged	0.39608	0.44721	0.0100	12.9084	20.0000
Chloroethane	Averaged	0.23622	0.30627	0.1000	29.6523	20.0000
Chloroform	Averaged	0.71365	0.85441	0.2000	19.7236	20.0000
Chloromethane	Averaged	0.25826	0.30463	0.1000	17.9559	20.0000
2-Chlorotoluene	Averaged	2.03910	2.09760	0.0100	2.8685	20.0000
4-Chlorotoluene	Averaged	2.30831	2.41294	0.0100	4.5328	20.0000
Dibromochloromethane	Averaged	0.41244	0.34576	0.1000	-16.1686	20.0000
1,2-Dibromoethane (EDB)	Averaged	0.19697	0.18770	0.1000	-4.7082	20.0000
Dibromomethane	Averaged	0.13951	0.14254	0.0100	2.1774	20.0000
1,2-Dichlorobenzene	Averaged	1.06679	1.02743	0.4000	-3.6894	20.0000
1,3-Dichlorobenzene	Averaged	1.14867	1.11259	0.6000	-3.1404	20.0000
1,4-Dichlorobenzene	Averaged	1.17502	1.12859	0.5000	-3.9516	20.0000
trans-1,4-Dichloro-2-butene	Averaged	0.15886	0.14338	0.0100	-9.7448	20.0000
Dichlorodifluoromethane	Averaged	0.38352	0.31354	0.1000	-18.2472	20.0000
1,1-Dichloroethane	Averaged	0.68681	0.84849	0.2000	23.5402	20.0000
1,2-Dichloroethane	Averaged	0.55661	0.66905	0.1000	20.2006	20.0000
1,1-Dichloroethene	Averaged	0.33058	0.36408	0.1000	10.1344	20.0000
cis-1,2-Dichloroethene	Averaged	0.44205	0.53010	0.1000	19.9175	20.0000
trans-1,2-Dichloroethene	Averaged	0.37241	0.44207	0.1000	18.7035	20.0000
1,2-Dichloropropane	Averaged	0.22808	0.24125	0.1000	5.7710	20.0000
1,3-Dichloropropane	Averaged	0.66658	0.65412	0.0100	-1.8683	20.0000
2,2-Dichloropropane	Averaged	0.63886	0.60036	0.0100	-6.0261	20.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:09

MSV - FORM VII VOA-2
MSV CONTINUING CALIBRATION DATA

SAMPLE NO.

13593680CCV

Lab Name: Pace Analytical - New York

Calibration Date: 07/17/2020 Time: 17:11

Instrument ID: 70MSV8 GC Column: Col 1

Init. Calib. Date(s): 07/07/2020 07/07/2020

Lab File ID: 071720.B\24975.D

Init. Calib. Time(s): 16:50 19:31

SDG No.: 70137879

COMPOUND	CURVE	RRF or Amount	RRF or Amount	MIN RRF	%D	MAX %D
1,1-Dichloropropene	Averaged	0.32334	0.32945	0.0100	1.8884	20.0000
cis-1,3-Dichloropropene	Averaged	0.37945	0.35956	0.2000	-5.2423	20.0000
trans-1,3-Dichloropropene	Averaged	0.34546	0.29486	0.1000	-14.6471	20.0000
1,4-Diethylbenzene	Averaged	1.40091	1.42311	0.0100	1.5849	20.0000
Ethanol	Averaged	0.00190	0.00260	0.0100	37.1884	20.0000
Ethylbenzene	Averaged	0.76596	0.71191	0.1000	-7.0563	20.0000
Hexachloro-1,3-butadiene	Averaged	0.22235	0.20567	0.0100	-7.4990	20.0000
2-Hexanone	Averaged	0.22405	0.22838	0.1000	1.9344	20.0000
Isopropylbenzene (Cumene)	Averaged	2.83606	2.86974	0.1000	1.1875	20.0000
p-Isopropyltoluene	Averaged	2.54414	2.54970	0.0100	0.2185	20.0000
Methylene Chloride	Averaged	0.38029	0.45631	0.1000	19.9902	20.0000
4-Methyl-2-pentanone (MIBK)	Averaged	0.16307	0.17885	0.1000	9.6759	20.0000
Methyl-tert-butyl ether	Averaged	1.15883	1.31976	0.1000	13.8875	20.0000
Naphthalene	Averaged	1.26523	1.30070	0.0100	2.8035	20.0000
n-Propylbenzene	Averaged	3.40595	3.61530	0.0100	6.1467	20.0000
Styrene	Averaged	1.49775	1.38139	0.3000	-7.7688	20.0000
1,1,1,2-Tetrachloroethane	Averaged	0.43171	0.35089	0.0100	-18.7199	20.0000
1,1,2,2-Tetrachloroethane	Averaged	0.53654	0.58532	0.3000	9.0904	20.0000
Tetrachloroethene	Averaged	0.46063	0.37040	0.2000	-19.5869	20.0000
1,2,4,5-tetramethylbenzene	Averaged	2.09889	2.10284	0.0100	0.1886	20.0000
Toluene	Averaged	1.05417	1.08663	0.4000	3.0789	20.0000
1,2,3-Trichlorobenzene	Averaged	0.41507	0.38566	0.0100	-7.0845	20.0000
1,2,4-Trichlorobenzene	Averaged	0.54615	0.50103	0.2000	-8.2629	20.0000
1,1,1-Trichloroethane	Averaged	0.37574	0.33699	0.1000	-10.3117	20.0000
1,1,2-Trichloroethane	Averaged	0.17538	0.17833	0.1000	1.6830	20.0000
Trichloroethene	Averaged	0.25222	0.24921	0.2000	-1.1945	20.0000
Trichlorofluoromethane	Averaged	0.55146	0.65272	0.1000	18.3626	20.0000
1,2,3-Trichloropropane	Averaged	0.16091	0.16141	0.0100	0.3087	20.0000
1,2,4-Trimethylbenzene	Averaged	2.34543	2.40880	0.0100	2.7018	20.0000
1,3,5-Trimethylbenzene	Averaged	2.35300	2.40341	0.0100	2.1424	20.0000
Vinyl chloride	Averaged	0.29405	0.37843	0.1000	28.6946	20.0000
m&p-Xylene	Averaged	0.92736	0.86483	0.1000	-6.7435	20.0000
o-Xylene	Averaged	0.89534	0.81368	0.3000	-9.1205	20.0000
4-Bromofluorobenzene (S)	Averaged	0.96427	0.94386	0.0100	-2.1166	20.0000
1,2-Dichloroethane-d4 (S)	Averaged	0.37735	0.39939	0.0100	5.8393	20.0000
Toluene-d8 (S)	Averaged	2.48361	2.39581	0.0100	-3.5352	20.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:09

MSV - FORM V VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8
Lab File ID: 060220.B\B7188.D BFB Injection Date 06/02/2020
Instrument ID: 70MSV9 BFB Injection Time 13:38

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.00 - 40.00% of mass 95	17.23
75	30.00 - 60.00% of mass 95	48.99
95	Base Peak, 100.00% relative	100.00
96	5.00 - 9.00% of mass 95	6.52
173	Less than 2.00% of mass 174	0.61 (0.68) ¹
174	50.00 - 100.00% of mass 95	89.08
175	5.00 - 9.00% of mass 174	6.27 (7.03) ¹
176	95.00 - 101.00% of mass 174	87.03 (97.71) ¹
177	5.00 - 9.00% of mass 176	5.67 (6.51) ²

1 - Value is % mass 174

2 - Value is % mass 176

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
13370737CAL1	13370737CAL1	060220.B\B7189.D	06/02/2020	14:20
13370733CAL2	13370733CAL2	060220.B\B7190.D	06/02/2020	14:44
13370731CAL3	13370731CAL3	060220.B\B7191.D	06/02/2020	15:10
13370738CAL4	13370738CAL4	060220.B\B7192.D	06/02/2020	15:37
13370736CAL5	13370736CAL5	060220.B\B7193.D	06/02/2020	16:04
13370735CAL6	13370735CAL6	060220.B\B7194.D	06/02/2020	16:31
13370734CAL7	13370734CAL7	060220.B\B7195.D	06/02/2020	16:58
13370732ICV	13370732ICV	060220.B\B7196.D	06/02/2020	17:24

MSV - FORM VI VOA-1
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV9 GC Column: FULL SDG No.: 70137879
Calibration Date(s): 06/02/2020 06/02/2020 Calibration Time(s): 14:20 16:58

LAB FILE ID

CAL1 = 060220.B\B7189.D CAL2 = 060220.B\B7190.D CAL3 = 060220.B\B7191.D
CAL4 = 060220.B\B7192.D CAL5 = 060220.B\B7193.D CAL6 = 060220.B\B7194.D
CAL7 = 060220.B\B7195.D

COMPOUND	CURVE TYPE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6
1,4-Dioxane (p-Dioxane)	Averaged	0.01940	0.01936	0.01820	0.01806	0.01843	0.02092
4-Bromofluorobenzene (S)	Averaged	0.31218	0.32724	0.31283	0.31828	0.25215	0.32789
1,2-Dichlorobenzene-d4 (S)	Averaged	0.36450	0.39291	0.37608	0.38829	0.39688	0.40511

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:06

MSV - FORM VI VOA-2
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV9 GC Column: FULL SDG No.: 70137879
Calibration Date(s): 06/02/2020 06/02/2020 Calibration Time(s): 14:20 16:58

LAB FILE ID

CAL1 = 060220.B\B7189.D CAL2 = 060220.B\B7190.D CAL3 = 060220.B\B7191.D
CAL4 = 060220.B\B7192.D CAL5 = 060220.B\B7193.D CAL6 = 060220.B\B7194.D
CAL7 = 060220.B\B7195.D

COMPOUND	CURVE TYPE	CAL7	%RSD	R2	A1	A2	A3
1,4-Dioxane (p-Dioxane)	Averaged	0.02307	9.18930			0.01964	
4-Bromofluorobenzene (S)	Averaged	0.26079	10.46368			0.30162	
1,2-Dichlorobenzene-d4 (S)	Averaged	0.41385	4.29336			0.39109	

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:06

MSV - FORM VII VOA-1
MSV INITIAL CALIBRATION DATA

SAMPLE NO.

13370732ICV

Lab Name: Pace Analytical - New York

Calibration Date: 06/02/2020 Time: 17:24

Instrument ID: 70MSV9 GC Column: FULL

Init. Calib. Date(s): 06/02/2020 06/02/2020

Lab File ID: 060220.B\B7196.D

Init. Calib. Time(s): 14:20 16:58

SDG No.: 70137879

COMPOUND	CURVE	RRF or Amount	RRF or Amount	MIN RRF	%D	MAX %D
1,4-Dioxane (p-Dioxane)	Averaged	0.01964	0.01743	0.0100	-11.2435	30.0000
4-Bromofluorobenzene (S)	Averaged	0.30162	0.31571	0.0100	4.6699	30.0000
1,2-Dichlorobenzene-d4 (S)	Averaged	0.39109	0.39555	0.0100	1.1395	30.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:09

MSV - FORM V VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8
Lab File ID: 072020.B\B7772.D BFB Injection Date 07/20/2020
Instrument ID: 70MSV9 BFB Injection Time 14:40

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.00 - 40.00% of mass 95	20.02
75	30.00 - 60.00% of mass 95	54.82
95	Base Peak, 100.00% relative	100.00
96	5.00 - 9.00% of mass 95	6.46
173	Less than 2.00% of mass 174	0.60 (0.71) ¹
174	50.00 - 100.00% of mass 95	84.33
175	5.00 - 9.00% of mass 174	6.10 (7.23) ¹
176	95.00 - 101.00% of mass 174	82.41 (97.72) ¹
177	5.00 - 9.00% of mass 176	5.60 (6.80) ²

1 - Value is % mass 174

2 - Value is % mass 176

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
13597958CCV	13597958CCV	072020.B\B7775.D	07/20/2020	17:43
820538BLANK	820538BLANK	072020.B\B7776.D	07/20/2020	18:07
820539LCS	820539LCS	072020.B\B7777.D	07/20/2020	18:34
TRIP BLANK	70137879004	072020.B\B7779.D	07/20/2020	19:28
EQUIPMENT BLANK	70137879003	072020.B\B7780.D	07/20/2020	19:54
FIELD BLANK	70137879002	072020.B\B7781.D	07/20/2020	20:21
AZ-PZ-1	70137879001	072020.B\B7782.D	07/20/2020	20:48
820749DUP	820749DUP	072020.B\B7783.D	07/20/2020	21:13
820750MS	820750MS	072020.B\B7784.D	07/20/2020	21:39

MSV - FORM VII VOA-1
MSV CONTINUING CALIBRATION DATA

SAMPLE NO.

13597958CCV

Lab Name: Pace Analytical - New York

Calibration Date: 07/20/2020 Time: 17:43

Instrument ID: 70MSV9 GC Column: FULL

Init. Calib. Date(s): 06/02/2020 06/02/2020

Lab File ID: 072020.B\B7775.D

Init. Calib. Time(s): 14:20 16:58

SDG No.: 70137879

COMPOUND	CURVE	RRF or Amount	RRF or Amount	MIN RRF	%D	MAX %D
1,4-Dioxane (p-Dioxane)	Averaged	0.01964	0.01604	0.0100	-18.3249	20.0000
4-Bromofluorobenzene (S)	Averaged	0.30162	0.33097	0.0100	9.7310	20.0000
1,2-Dichlorobenzene-d4 (S)	Averaged	0.39109	0.32611	0.0100	-16.6142	20.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:06

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Matrix: Water Level: Low

GC Column (1): C-18 ID: 4.6 (mm)

Client Sample ID	Lab Sample ID	PFBA #	PFPeA #	C3PFBS #	PFHxA #	PFHxS #	C4PFHA #	M262FTS #	PFOA #
AZ-PZ-1	200-54421-1	82	86	94	97	76	64	100	89
FIELD BLANK	200-54421-2	116	113	112	112	83	67	112	100
EQUIPMENT BLANK	200-54421-3	101	104	98	96	74	61	92	94
TRIP BLANK	200-54421-4	103	101	101	106	81	66	96	91
	MB 200-157062/1-A	96	89	92	91	88	91	93	88
	LCS 200-157062/2-A	99	96	96	97	98	95	93	90
	LCSD 200-157062/3-A	103	102	104	99	99	98	99	94

QC LIMITS

PFBA = 13C4 PFBA	50-150
PFPeA = 13C5 PFPeA	50-150
C3PFBS = 13C3 PFBS	50-150
PFHxA = 13C2 PFHxA	50-150
PFHxS = 18O2 PFHxS	50-150
C4PFHA = 13C4 PFHpA	50-150
M262FTS = M2-6:2 FTS	50-150
PFOA = 13C4 PFOA	70-130

Column to be used to flag recovery values

FORM II 25101:2009

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Matrix: Water Level: Low

GC Column (1): C-18 ID: 4.6 (mm)

Client Sample ID	Lab Sample ID	PFOS #	PFNA #	PFDA #	M282FTS #	PFOSA #	d3NMFOS #	PFUnA #	d5NEFOS #
AZ-PZ-1	200-54421-1	86	95	94	96	74	71	81	75
FIELD BLANK	200-54421-2	95	110	98	98	78	85	91	92
EQUIPMENT BLANK	200-54421-3	81	92	89	90	66	69	72	73
TRIP BLANK	200-54421-4	89	94	92	90	73	84	80	77
	MB 200-157062/1-A	83	89	95	92	74	73	80	93
	LCS 200-157062/2-A	92	93	90	100	74	79	83	98
	LCSD 200-157062/3-A	97	95	99	94	84	88	90	93

	<u>QC LIMITS</u>
PFOS = 13C4 PFOS	70-130
PFNA = 13C5 PFNA	50-150
PFDA = 13C2 PFDA	50-150
M282FTS = M2-8:2 FTS	50-150
PFOSA = 13C8 FOSA	50-150
d3NMFOS = d3-NMeFOSAA	50-150
PFUnA = 13C2 PFUnA	50-150
d5NEFOS = d5-NEtFOSAA	50-150

Column to be used to flag recovery values

FORM II 25101:2009

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Matrix: Water Level: Low

GC Column (1): C-18 ID: 4.6 (mm)

Client Sample ID	Lab Sample ID	PFD _o A #	PFTDA #
AZ-PZ-1	200-54421-1	71	69
FIELD BLANK	200-54421-2	81	86
EQUIPMENT BLANK	200-54421-3	68	67
TRIP BLANK	200-54421-4	82	77
	MB 200-157062/1-A	85	76
	LCS 200-157062/2-A	86	79
	LCSD 200-157062/3-A	87	85

PFD_oA = 13C2 PFD_oA
PFTDA = 13C2 PFTeDA

QC LIMITS
50-150
50-150

Column to be used to flag recovery values

FORM II 25101:2009

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
 SDG No.: 70137879
 Sample No.: ICIS 200-156907/10 Date Analyzed: 07/16/2020 14:22
 Instrument ID: LC812 GC Column: C-18 ID: 4.6 (mm)
 Lab File ID (Standard): PA200716ICAL10.d Heated Purge: (Y/N) N
 Calibration ID: 43797

		13PFOA					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		940577	3.47				
UPPER LIMIT							
LOWER LIMIT							
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 200-156907/14		932531	3.47				
CCVL 200-157082/5		839116	3.46				
CCVIS 200-157082/6		898485	3.45				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area

Column used to flag values outside QC limits

FORM VIII 25101:2009

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
 SDG No.: 70137879
 Sample No.: CCVIS 200-157082/6 Date Analyzed: 07/21/2020 18:19
 Instrument ID: LC812 GC Column: C-18 ID: 4.6 (mm)
 Lab File ID (Standard): PA200721A06.d Heated Purge: (Y/N) N
 Calibration ID: 43797

		13PFOA					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		898485	3.45				
UPPER LIMIT							
LOWER LIMIT							
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 200-157062/1-A		1107479	3.45				
LCS 200-157062/2-A		1046629	3.45				
LCSD 200-157062/3-A		994158	3.46				
200-54421-1	AZ-PZ-1	1059581	3.46				
200-54421-2	FIELD BLANK	932389	3.46				
200-54421-3	EQUIPMENT BLANK	1086892	3.45				
200-54421-4	TRIP BLANK	1069982	3.45				
CCV 200-157082/20		949701	3.46				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area

Column used to flag values outside QC limits

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
SDG No.: 70137879
Lab File ID: PA200721A13.d Lab Sample ID: MB 200-157062/1-A
Matrix: Water Date Extracted: 07/21/2020 12:30
Instrument ID: LC812 Date Analyzed: 07/21/2020 19:17
Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 200-157062/2-A	PA200721A14 .d	07/21/2020 19:26
	LCSD 200-157062/3-A	PA200721A15 .d	07/21/2020 19:34
AZ-PZ-1	200-54421-1	PA200721A16 .d	07/21/2020 19:42
FIELD BLANK	200-54421-2	PA200721A17 .d	07/21/2020 19:50
EQUIPMENT BLANK	200-54421-3	PA200721A18 .d	07/21/2020 19:59
TRIP BLANK	200-54421-4	PA200721A19 .d	07/21/2020 20:07

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>Eurofins TestAmerica, Burlington</u>	Job No.: <u>200-54421-1</u>
SDG No.: <u>70137879</u>	
Client Sample ID: _____	Lab Sample ID: <u>MB 200-157062/1-A</u>
Matrix: <u>Water</u>	Lab File ID: <u>PA200721A13.d</u>
Analysis Method: <u>25101:2009</u>	Date Collected: _____
Extraction Method: <u>25101:2009 SPE</u>	Date Extracted: <u>07/21/2020 12:30</u>
Sample wt/vol: <u>250 (mL)</u>	Date Analyzed: <u>07/21/2020 19:17</u>
Con. Extract Vol.: <u>10 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>20 (uL)</u>	GC Column: <u>C-18</u> ID: <u>4.6 (mm)</u>
% Moisture: _____	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>157082</u>	Units: <u>ng/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.00	U	2.00	
335-67-1	Perfluorooctanoic acid (PFOA)	2.00	U	2.00	
375-95-1	Perfluorononanoic acid (PFNA)	2.00	U	2.00	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.00	U	2.00	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.00	U	2.00	
375-22-4	Perfluorobutanoic acid	2.00	U	2.00	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.00	U	2.00	
375-92-8	Perfluoroheptanesulfonic acid	2.00	U	2.00	
754-91-6	Perfluorooctanesulfonamide	10.0	U	10.0	
2706-90-3	Perfluoropentanoic acid	2.00	U	2.00	
335-76-2	Perfluorodecanoic acid	2.00	U	2.00	
307-55-1	Perfluorododecanoic acid	2.00	U	2.00	
307-24-4	Perfluorohexanoic acid	2.00	U	2.00	
376-06-7	Perfluorotetradecanoic acid	2.00	U	2.00	
39108-34-4	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	20.0	U	20.0	
72629-94-8	Perfluorotridecanoic acid	2.00	U	2.00	
27619-97-2	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	20.0	U	20.0	
2058-94-8	Perfluoroundecanoic acid	2.00	U	2.00	
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid	20.0	U	20.0	
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid	20.0	U	20.0	
335-77-3	Perfluorodecanesulfonic acid	2.00	U	2.00	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
SDG No.: 70137879
Client Sample ID: _____ Lab Sample ID: MB 200-157062/1-A
Matrix: Water Lab File ID: PA200721A13.d
Analysis Method: 25101:2009 Date Collected: _____
Extraction Method: 25101:2009 SPE Date Extracted: 07/21/2020 12:30
Sample wt/vol: 250 (mL) Date Analyzed: 07/21/2020 19:17
Con. Extract Vol.: 10 (mL) Dilution Factor: 1
Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)
% Moisture: _____ GPC Cleanup: (Y/N) N
Analysis Batch No.: 157082 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00994	18O2 PFHxS	88		50-150
STL01892	13C4 PFHpA	91		50-150
STL00990	13C4 PFOA	88		70-130
STL00991	13C4 PFOS	83		70-130
STL00995	13C5 PFNA	89		50-150
STL02279	M2-6:2 FTS	93		50-150
STL02280	M2-8:2 FTS	92		50-150
STL02116	13C2 PFTeDA	76		50-150
STL02118	d3-NMeFOSAA	73		50-150
STL02117	d5-NEtFOSAA	93		50-150
STL00992	13C4 PFBA	96		50-150
STL00998	13C2 PFDoA	85		50-150
STL00993	13C2 PFHxA	91		50-150
STL00996	13C2 PFDA	95		50-150
STL00997	13C2 PFUnA	80		50-150
STL01056	13C8 FOSA	74		50-150
STL01893	13C5 PFPeA	89		50-150
STL02337	13C3 PFBS	92		50-150

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
SDG No.: 70137879
Matrix: Water Level: Low Lab File ID: PA200721A14.d
Lab ID: LCS 200-157062/2-A Client ID: _____

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluoroheptanoic acid (PFHpA)	40.0	41.30	103	50-150	
Perfluorooctanoic acid (PFOA)	40.0	41.86	105	70-130	
Perfluorononanoic acid (PFNA)	40.0	37.79	94	50-150	
Perfluorobutanesulfonic acid (PFBS)	35.4	35.72	101	50-150	
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.29	97	50-150	
Perfluorobutanoic acid	40.0	38.68	97	50-150	
Perfluorooctanesulfonic acid (PFOS)	37.1	38.40	103	70-130	
18O2 PFHxS	47.3	46.37	98	50-150	
Perfluoroheptanesulfonic acid	38.1	40.14	105	50-150	
13C4 PFHpA	50.0	47.60	95	50-150	
13C4 PFOA	50.0	44.76	90	70-130	
13C4 PFOS	47.8	44.09	92	70-130	
13C5 PFNA	50.0	46.55	93	50-150	
Perfluorooctanesulfonamide	40.0	44.41	111	50-150	
Perfluoropentanoic acid	40.0	38.70	97	50-150	
Perfluorodecanoic acid	40.0	39.82	100	50-150	
Perfluorododecanoic acid	40.0	40.11	100	50-150	
Perfluorohexanoic acid	40.0	39.45	99	50-150	
Perfluorotetradecanoic acid	40.0	39.38	98	50-150	
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	38.3	38.94	102	50-150	
Perfluorotridecanoic acid	40.0	40.15	100	50-150	
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	37.9	36.68	97	50-150	
Perfluoroundecanoic acid	40.0	42.17	105	50-150	
N-ethylperfluorooctanesulfonamidoacetic acid	40.0	32.24	81	50-150	
M2-6:2 FTS	47.5	44.40	93	50-150	
M2-8:2 FTS	47.9	48.04	100	50-150	
N-methylperfluorooctanesulfonamidoacetic acid	40.0	32.43	81	50-150	
13C2 PFTeDA	50.0	39.51	79	50-150	
d3-NMeFOSAA	50.0	39.46	79	50-150	
d5-NEtFOSAA	50.0	49.10	98	50-150	
13C4 PFBA	50.0	49.60	99	50-150	
13C2 PFDoA	50.0	42.85	86	50-150	
13C2 PFHxA	50.0	48.63	97	50-150	
13C2 PFDA	50.0	44.98	90	50-150	
13C2 PFUnA	50.0	41.34	83	50-150	
13C8 FOSA	50.0	37.09	74	50-150	

Column to be used to flag recovery and RPD values

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Matrix: Water Level: Low Lab File ID: PA200721A14.d

Lab ID: LCS 200-157062/2-A Client ID: _____

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
13C5 PFPeA	50.0	47.94	96	50-150	
Perfluorodecanesulfonic acid	38.6	35.46	92	50-150	
13C3 PFBS	46.5	44.86	96	50-150	

Column to be used to flag recovery and RPD values

FORM III 25101:2009

FORM III
LCMS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington

Job No.: 200-54421-1

SDG No.: 70137879

Matrix: Water Level: Low

Lab File ID: PA200721A15.d

Lab ID: LCSD 200-157062/3-A

Client ID: _____

COMPOUND	SPIKE ADDED (ng/L)	LCSD CONCENTRATION (ng/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Perfluoroheptanoic acid (PFHpA)	40.0	39.28	98	5	20	50-150	
Perfluorooctanoic acid (PFOA)	40.0	43.18	108	3	20	70-130	
Perfluorononanoic acid (PFNA)	40.0	36.91	92	2	20	50-150	
Perfluorobutanesulfonic acid (PFBS)	35.4	34.18	97	4	20	50-150	
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.04	94	4	20	50-150	
Perfluorobutanoic acid	40.0	39.04	98	1	20	50-150	
Perfluorooctanesulfonic acid (PFOS)	37.1	37.39	101	3	20	70-130	
18O2 PFHxS	47.3	46.60	99			50-150	
Perfluoroheptanesulfonic acid	38.1	40.60	107	1	20	50-150	
13C4 PFHpA	50.0	49.01	98			50-150	
13C4 PFOA	50.0	47.09	94			70-130	
13C4 PFOS	47.8	46.18	97			70-130	
13C5 PFNA	50.0	47.48	95			50-150	
Perfluorooctanesulfonamide	40.0	38.82	97	13	20	50-150	
Perfluoropentanoic acid	40.0	37.01	93	4	20	50-150	
Perfluorodecanoic acid	40.0	39.96	100	0	20	50-150	
Perfluorododecanoic acid	40.0	41.71	104	4	20	50-150	
Perfluorohexanoic acid	40.0	40.57	101	3	20	50-150	
Perfluorotetradecanoic acid	40.0	38.84	97	1	20	50-150	
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	38.3	40.08	105	3	20	50-150	
Perfluorotridecanoic acid	40.0	40.60	101	1	20	50-150	
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	37.9	37.04	98	1	20	50-150	
Perfluoroundecanoic acid	40.0	38.91	97	8	20	50-150	
N-ethylperfluorooctanesulfonamidoacetic acid	40.0	36.07	90	11	20	50-150	
M2-6:2 FTS	47.5	47.04	99			50-150	
M2-8:2 FTS	47.9	45.14	94			50-150	
N-methylperfluorooctanesulfonamidoacetic acid	40.0	36.62	92	12	20	50-150	
13C2 PFTeDA	50.0	42.50	85			50-150	
d3-NMeFOSAA	50.0	44.21	88			50-150	
d5-NEtFOSAA	50.0	46.51	93			50-150	
13C4 PFBA	50.0	51.28	103			50-150	
13C2 PFDoA	50.0	43.67	87			50-150	
13C2 PFHxA	50.0	49.36	99			50-150	
13C2 PFDA	50.0	49.39	99			50-150	
13C2 PFUnA	50.0	44.77	90			50-150	
13C8 FOSA	50.0	42.21	84			50-150	

Column to be used to flag recovery and RPD values

FORM III 25101:2009

FORM III
LCMS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
 SDG No.: 70137879
 Matrix: Water Level: Low Lab File ID: PA200721A15.d
 Lab ID: LCSD 200-157062/3-A Client ID: _____

COMPOUND	SPIKE ADDED (ng/L)	LCSD CONCENTRATION (ng/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
13C5 PFPeA	50.0	51.05	102			50-150	
Perfluorodecanesulfonic acid	38.6	35.62	92	0	20	50-150	
13C3 PFBS	46.5	48.17	104			50-150	

Column to be used to flag recovery and RPD values

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
SDG No.: 70137879
Instrument ID: LC812 Start Date: 07/16/2020 13:08
Analysis Batch Number: 156907 End Date: 07/16/2020 15:04

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		07/16/2020 13:08	1		C-18 4.6 (mm)
ZZZZZ		07/16/2020 13:16	1		C-18 4.6 (mm)
ZZZZZ		07/16/2020 13:24	1		C-18 4.6 (mm)
ZZZZZ		07/16/2020 13:33	1		C-18 4.6 (mm)
ZZZZZ		07/16/2020 13:41	1		C-18 4.6 (mm)
ZZZZZ		07/16/2020 13:49	1		C-18 4.6 (mm)
IC 200-156907/7		07/16/2020 13:57	1	PA200716ICAL07. d	C-18 4.6 (mm)
IC 200-156907/8		07/16/2020 14:06	1	PA200716ICAL08. d	C-18 4.6 (mm)
IC 200-156907/9		07/16/2020 14:14	1	PA200716ICAL09. d	C-18 4.6 (mm)
ICIS 200-156907/10		07/16/2020 14:22	1	PA200716ICAL10. d	C-18 4.6 (mm)
IC 200-156907/11		07/16/2020 14:31	1	PA200716ICAL11. d	C-18 4.6 (mm)
IC 200-156907/12		07/16/2020 14:39	1	PA200716ICAL12. d	C-18 4.6 (mm)
ICB 200-156907/13		07/16/2020 14:47	1		C-18 4.6 (mm)
ICV 200-156907/14		07/16/2020 14:56	1	PA200716ICAL14. d	C-18 4.6 (mm)
ZZZZZ		07/16/2020 15:04	1		C-18 4.6 (mm)

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1 Analy Batch No.: 156907

SDG No.: 70137879

Instrument ID: LC812 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/16/2020 13:57 Calibration End Date: 07/16/2020 14:39 Calibration ID: 43797

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-156907/7	PA200716ICAL07.d
Level 2	IC 200-156907/8	PA200716ICAL08.d
Level 3	IC 200-156907/9	PA200716ICAL09.d
Level 4	ICIS 200-156907/10	PA200716ICAL10.d
Level 5	IC 200-156907/11	PA200716ICAL11.d
Level 6	IC 200-156907/12	PA200716ICAL12.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Perfluorobutanoic acid	0.7864 0.7435	0.8078	0.8225	0.8296	0.8084	AveID		0.7997				3.9		35.0			
Perfluoropentanoic acid	0.9207 0.7617	0.8690	0.8585	0.8407	0.7635	AveID		0.8357				7.5		35.0			
Perfluorobutanesulfonic acid (PFBS)	0.8022 0.8391	0.9257	0.8961	0.8340	0.7635	AveID		0.8435				7.1		35.0			
Perfluorohexanoic acid	0.8621 0.7150	0.8089	0.8678	0.8234	0.8140	AveID		0.8152				6.7		35.0			
Perfluorohexanesulfonic acid (PFHxS)	0.9580 0.8483	0.9493	0.9634	0.9382	0.9018	AveID		0.9265				4.8		35.0			
Perfluoroheptanoic acid (PFHpA)	0.9159 0.7571	0.7589	0.8510	0.8475	0.8076	AveID		0.8230				7.4		35.0			
Perfluoroheptanesulfonic acid	0.7714 0.9858	0.8633	1.0443	1.0132	0.9989	AveID		0.9462				11.2		35.0			
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	0.6677 0.5804	0.8050	0.7678	0.6062	0.6183	AveID		0.6742				13.7		35.0			
Perfluorooctanoic acid (PFOA)	0.8505 0.8337	0.7928	0.9975	0.9195	0.8473	AveID		0.8736				8.4		20.0			
Perfluorooctanesulfonic acid (PFOS)	0.7400 0.8929	0.7851	0.9418	0.9090	0.8940	AveID		0.8605				9.2		20.0			
Perfluorononanoic acid (PFNA)	0.8981 0.7705	0.9804	1.0038	0.8665	0.8013	AveID		0.8868				10.6		35.0			
Perfluorodecanoic acid	0.8087 0.7102	0.7926	0.8348	0.8426	0.7588	AveID		0.7913				6.3		35.0			
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	0.2845 ++++	0.3464	0.3341	0.2671	0.2637	AveID		0.2991				12.9		35.0			
Perfluorooctanesulfonamide	0.7099 0.7669	0.7660	0.7645	0.7680	0.8220	AveID		0.7662				4.6		35.0			
N-methylperfluorooctanesulfonamidoacetic acid	0.7890 0.6081	0.8543	0.9106	0.5846	0.6306	AveID		0.7295				19.1		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1 Analy Batch No.: 156907

SDG No.: 70137879

Instrument ID: LC812 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/16/2020 13:57 Calibration End Date: 07/16/2020 14:39 Calibration ID: 43797

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Perfluorodecanesulfonic acid	0.4801 0.4930	0.5623	0.6430	0.5337	0.5698	AveID		0.5470				10.8		35.0			
Perfluoroundecanoic acid	0.6649 0.6272	0.6720	0.7001	0.6434	0.6013	AveID		0.6515				5.4		35.0			
N-ethylperfluorooctanesulfonamidoacetic acid	0.8225 0.6522	0.8113	0.7343	0.7759	0.7805	AveID		0.7628				8.2		35.0			
Perfluorododecanoic acid	0.7054 0.7215	0.8492	0.9381	0.7402	0.7161	AveID		0.7784				12.1		35.0			
Perfluorotridecanoic acid	0.6981 0.6245	0.6067	0.6825	0.7073	0.5980	AveID		0.6528				7.5		35.0			
Perfluorotetradecanoic acid	0.2070 0.1726	0.1804	0.1939	0.1829	0.1830	AveID		0.1866				6.5		35.0			
13C4 PFBA	1.4853 1.4520	1.3759	1.2876	1.3725	1.3688	Ave		1.3903				5.0		30.0			
13C5 PFPeA	1.0659 1.0493	1.0598	0.9259	1.0209	0.9889	Ave		1.0185				5.3		30.0			
13C3 PFBS	1.3944 1.3661	1.2665	1.2267	1.3258	1.3313	Ave		1.3185				4.7		30.0			
13C2 PFHxA	1.1134 1.0807	1.0117	0.8716	1.0860	0.9746	Ave		1.0230				8.8		30.0			
18O2 PFHxS	0.9701 0.9768	0.9129	0.8742	0.9300	0.8787	Ave		0.9238				4.7		30.0			
13C4 PFHpA	0.9886 0.9883	0.9828	0.8758	0.9662	0.9301	Ave		0.9553				4.7		30.0			
M2-6:2 FTS	0.1404 0.1329	0.1290	0.1171	0.1290	0.1256	Ave		0.1290				6.0		30.0			
13C4 PFOA	0.9905 0.9711	1.0097	0.8550	0.9409	0.9938	Ave		0.9602				5.9		30.0			
13C4 PFOS	0.8761 0.7847	0.8183	0.7022	0.7610	0.7377	Ave		0.7800				7.9		30.0			
13C5 PFNA	0.8872 0.8414	0.7940	0.7236	0.7877	0.8221	Ave		0.8093				6.8		30.0			
13C2 PFDA	0.8031 0.7502	0.7731	0.7015	0.7362	0.7466	Ave		0.7518				4.6		30.0			
M2-8:2 FTS	0.1715 0.1437	0.1460	0.1364	0.1548	0.1527	Ave		0.1509				8.0		30.0			
13C8 FOSA	1.3028 1.2819	1.2738	1.2442	1.3060	1.1961	Ave		1.2674				3.3		30.0			
d3-NMeFOSAA	0.0513 0.0471	0.0428	0.0381	0.0498	0.0484	Ave		0.0463				10.7		30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1 Analy Batch No.: 156907

SDG No.: 70137879

Instrument ID: LC812 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/16/2020 13:57 Calibration End Date: 07/16/2020 14:39 Calibration ID: 43797

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
13C2 PUnA	0.6341 0.5776	0.6199	0.5431	0.6152	0.6013	Ave		0.5985				5.5		30.0			
d5-NEtFOSAA	0.0520 0.0521	0.0502	0.0475	0.0465	0.0456	Ave		0.0490				5.8		30.0			
13C2 PFDoA	0.6846 0.6169	0.6233	0.5434	0.6252	0.6172	Ave		0.6184				7.3		30.0			
13C2 PFTeDA	0.4781 0.4736	0.4736	0.4197	0.4857	0.4638	Ave		0.4658				5.1		30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1 Analy Batch No.: 156907

SDG No.: 70137879

Instrument ID: LC812 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/16/2020 13:57 Calibration End Date: 07/16/2020 14:39 Calibration ID: 43797

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-156907/7	PA200716ICAL07.d
Level 2	IC 200-156907/8	PA200716ICAL08.d
Level 3	IC 200-156907/9	PA200716ICAL09.d
Level 4	ICIS 200-156907/10	PA200716ICAL10.d
Level 5	IC 200-156907/11	PA200716ICAL11.d
Level 6	IC 200-156907/12	PA200716ICAL12.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Perfluorobutanoic acid		AveID	39966 7416866	85823	425997	856804	2142805	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluoropentanoic acid		AveID	33580 5491608	71121	319772	645807	1462074	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorobutanesulfonic acid (PFBS)		AveID	33838 6962113	80030	390915	735539	1739953	0.0442 8.84	0.0884	0.442	0.884	2.21
Perfluorohexanoic acid		AveID	32843 5309212	63195	304283	672887	1536243	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorohexanesulfonic acid (PFHxS)		AveID	28938 5180593	60900	308298	597395	1396358	0.0455 9.10	0.0910	0.455	0.910	2.28
Perfluoroheptanoic acid (PFHpA)		AveID	30981 5140490	57598	299840	616123	1454669	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluoroheptanesulfonic acid		AveID	22017 5059317	51935	280846	552312	1358528	0.0476 9.52	0.0952	0.476	0.952	2.38
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)		AveID	3040 502536	7600	34292	55797	142585	0.0474 9.48	0.0948	0.474	0.948	2.37
Perfluorooctanoic acid (PFOA)		AveID	28825 5562495	61819	343100	651044	1630547	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorooctanesulfonic acid (PFOS)		AveID	20587 4466941	46038	246892	483049	1185105	0.0464 9.28	0.0928	0.464	0.928	2.32
Perfluorononanoic acid (PFNA)		AveID	27264 4454104	60113	292200	513623	1275533	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorodecanoic acid		AveID	22222 3660379	47319	235584	466782	1097030	0.0500 10.0	0.100	0.500	1.00	2.50
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)		AveID	1600 +++++	3741	17566	29810	74698	0.0479 +++++	0.0958	0.479	0.958	2.40
Perfluorooctanesulfonamide		AveID	31644 6754039	75349	382609	754665	1903856	0.0500 10.0	0.100	0.500	1.00	2.50
N-methylperfluorooctanesulfonamidoa cetic acid		AveID	1386 196965	2822	13943	21922	59059	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorodecanesulfonic acid		AveID	13874 2562012	34252	175093	294598	784730	0.0482 9.64	0.0964	0.482	0.964	2.41

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1 Analy Batch No.: 156907

SDG No.: 70137879

Instrument ID: LC812 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/16/2020 13:57 Calibration End Date: 07/16/2020 14:39 Calibration ID: 43797

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Perfluoroundecanoic acid		AveID	14425 2488883	32165	152947	297809	700132	0.0500 10.0	0.100	0.500	1.00	2.50
N-ethylperfluorooctanesulfonamidoacetic acid		AveID	1463 233567	3146	14024	27133	68870	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorododecanoic acid		AveID	16523 3058238	40874	205048	348239	855872	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorotridecanoic acid		AveID	16352 2646900	29200	149190	332754	714664	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorotetradecanoic acid		AveID	3387 561611	6599	32746	66823	164364	0.0500 10.0	0.100	0.500	1.00	2.50
13C4 PFBA	13PF OA	Ave	1270554 1246978	1328065	1294889	1290967	1325288	1.25 1.25	1.25	1.25	1.25	1.25
13C5 PFPeA	13PF OA	Ave	911798 901150	1023027	931217	960277	957518	1.25 1.25	1.25	1.25	1.25	1.25
13C3 PFBS	13PF OA	Ave	1109347 1091086	1136897	1147303	1159732	1198760	1.16 1.16	1.16	1.16	1.16	1.16
13C2 PFHxA	13PF OA	Ave	952454 928125	976546	876547	1021450	943628	1.25 1.25	1.25	1.25	1.25	1.25
18O2 PFHxS	13PF OA	Ave	785026 793563	833614	831658	827462	804835	1.18 1.18	1.18	1.18	1.18	1.18
13C4 PFHpA	13PF OA	Ave	845650 848730	948673	880814	908786	900595	1.25 1.25	1.25	1.25	1.25	1.25
M2-6:2 FTS	13PF OA	Ave	114062 108463	118264	111897	115295	115552	1.19 1.19	1.19	1.19	1.19	1.19
13C4 PFOA	13PF OA	Ave	847268 834001	974653	859875	885012	962195	1.25 1.25	1.25	1.25	1.25	1.25
13C4 PFOS	13PF OA	Ave	716506 644226	755101	675154	684266	682839	1.20 1.20	1.20	1.20	1.20	1.20
13C5 PFNA	13PF OA	Ave	758905 722603	766443	727754	740920	795943	1.25 1.25	1.25	1.25	1.25	1.25
13C2 PFDA	13PF OA	Ave	686977 644269	746260	705494	692452	722844	1.25 1.25	1.25	1.25	1.25	1.25
M2-8:2 FTS	13PF OA	Ave	140575 118248	135015	131454	139523	141637	1.20 1.20	1.20	1.20	1.20	1.20
13C8 FOSA	13PF OA	Ave	1114435 1100867	1229573	1251251	1228354	1158067	1.25 1.25	1.25	1.25	1.25	1.25
d3-NMeFOSAA	13PF OA	Ave	43917 40487	41290	38279	46874	46826	1.25 1.25	1.25	1.25	1.25	1.25
13C2 PFUnA	13PF OA	Ave	542409 496058	598320	546168	578599	582184	1.25 1.25	1.25	1.25	1.25	1.25
d5-NEtFOSAA	13PF OA	Ave	44467 44763	48470	47745	43713	44120	1.25 1.25	1.25	1.25	1.25	1.25

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1 Analy Batch No.: 156907

SDG No.: 70137879

Instrument ID: LC812 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/16/2020 13:57 Calibration End Date: 07/16/2020 14:39 Calibration ID: 43797

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
13C2 PFDoA	13PF OA	Ave	585623 529829	601628	546457	588087	597582	1.25 1.25	1.25	1.25	1.25	1.25
13C2 PFTeDA	13PF OA	Ave	408967 406762	457157	422133	456806	449091	1.25 1.25	1.25	1.25	1.25	1.25

Curve Type Legend:

Ave = Average ISTD

AveID = Average isotope dilution

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
 SDG No.: 70137879
 Lab Sample ID: ICV 200-156907/14 Calibration Date: 07/16/2020 14:56
 Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 07/16/2020 14:39
 Lab File ID: PA200716ICAL14.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid	AveID	0.7997	0.9641		1.21	1.00	20.6	40.0
Perfluoropentanoic acid	AveID	0.8357	1.101		1.33	1.01	31.8	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	0.8435	1.006		1.19	1.00	19.3	
Perfluorohexanoic acid	AveID	0.8152	1.004		1.24	1.01	23.2	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.8230	1.020		1.24	1.00	23.9	
Perfluorohexanesulfonic acid (PFHxS)	AveID	0.9265	1.120		1.22	1.01	20.9	
Perfluoroheptanesulfonic acid	AveID	0.9462	1.268		1.34	1.00	34.1	40.0
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	AveID	0.6742	0.8333		1.24	1.00	23.6	50.0
Perfluorooctanoic acid (PFOA)	AveID	0.8736	1.124		1.29	1.00	28.7	
Perfluorooctanesulfonic acid (PFOS)	AveID	0.8605	0.9854		1.16	1.01	14.5	
Perfluorononanoic acid (PFNA)	AveID	0.8868	1.026		1.16	1.00	15.7	
Perfluorodecanoic acid	AveID	0.7913	1.052		1.33	1.00	32.9	40.0
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	AveID	0.2991	0.4178		1.41	1.01	39.7	50.0
Perfluorooctanesulfonamide	AveID	0.7662	1.004		1.31	1.00	31.1	40.0
N-methylperfluorooctanesulfonamidoacetic acid	AveID	0.7295	0.9848		1.35	1.00	35.0	50.0
Perfluorodecanesulfonic acid	AveID	0.5470	0.7733		1.43	1.01	41.4*	40.0
Perfluoroundecanoic acid	AveID	0.6515	0.7758		1.19	1.00	19.1	40.0
N-ethylperfluorooctanesulfonamidoacetic acid	AveID	0.7628	0.8497		1.11	1.00	11.4	50.0
Perfluorododecanoic acid	AveID	0.7784	0.9045		1.16	1.00	16.2	40.0
Perfluorotridecanoic acid	AveID	0.6528	0.6948		1.06	1.00	6.4	40.0
Perfluorotetradecanoic acid	AveID	0.1866	0.2164		1.16	1.00	15.9	40.0
13C4 PFBA	Ave	1.390	1.255		1.13	1.25	-9.7	50.0
13C5 PFPeA	Ave	1.018	0.8738		1.07	1.25	-14.2	50.0
13C3 PFBS	Ave	1.318	1.162		1.03	1.16	-11.8	50.0
13C2 PFHxA	Ave	1.023	0.9660		1.18	1.25	-5.6	50.0
13C4 PFHpA	Ave	0.9553	0.8473		1.11	1.25	-11.3	50.0
18O2 PFHxS	Ave	0.9238	0.8314		1.06	1.18	-10.0	50.0
M2-6:2 FTS	Ave	0.1290	0.1160		1.07	1.19	-10.1	50.0
13C4 PFOA	Ave	0.9602	0.7897		1.03	1.25	-17.8	20.0
13C4 PFOS	Ave	0.7800	0.6623		1.02	1.20	-15.1	20.0
13C5 PFNA	Ave	0.8093	0.7148		1.10	1.25	-11.7	50.0
13C2 PFDA	Ave	0.7518	0.6694		1.11	1.25	-11.0	50.0
M2-8:2 FTS	Ave	0.1509	0.1374		1.09	1.20	-9.0	50.0
13C8 FOSA	Ave	1.267	1.106		1.09	1.25	-12.7	50.0
d3-NMeFOSAA	Ave	0.0463	0.0400		1.08	1.25	-13.6	50.0
13C2 PFUnA	Ave	0.5985	0.5109		1.07	1.25	-14.6	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
SDG No.: 70137879
Lab Sample ID: ICV 200-156907/14 Calibration Date: 07/16/2020 14:56
Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57
GC Column: C-18 ID: 4.60 (mm) Calib End Date: 07/16/2020 14:39
Lab File ID: PA200716ICAL14.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d5-NEtFOSAA	Ave	0.0490	0.0448		1.14	1.25	-8.4	50.0
13C2 PFDoA	Ave	0.6184	0.5593		1.13	1.25	-9.6	50.0
13C2 PFTeDA	Ave	0.4658	0.4216		1.13	1.25	-9.5	50.0

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1SDG No.: 70137879Instrument ID: LC812 Start Date: 07/21/2020 18:11Analysis Batch Number: 157082 End Date: 07/21/2020 20:15

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVL 200-157082/5		07/21/2020 18:11	1	PA200721A05.d	C-18 4.6 (mm)
CCVIS 200-157082/6		07/21/2020 18:19	1	PA200721A06.d	C-18 4.6 (mm)
MB 200-157062/1-A		07/21/2020 19:17	1	PA200721A13.d	C-18 4.6 (mm)
LCS 200-157062/2-A		07/21/2020 19:26	1	PA200721A14.d	C-18 4.6 (mm)
LCSD 200-157062/3-A		07/21/2020 19:34	1	PA200721A15.d	C-18 4.6 (mm)
200-54421-1		07/21/2020 19:42	1	PA200721A16.d	C-18 4.6 (mm)
200-54421-2		07/21/2020 19:50	1	PA200721A17.d	C-18 4.6 (mm)
200-54421-3		07/21/2020 19:59	1	PA200721A18.d	C-18 4.6 (mm)
200-54421-4		07/21/2020 20:07	1	PA200721A19.d	C-18 4.6 (mm)
CCV 200-157082/20		07/21/2020 20:15	1	PA200721A20.d	C-18 4.6 (mm)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
 SDG No.: 70137879
 Lab Sample ID: CCVL 200-157082/5 Calibration Date: 07/21/2020 18:11
 Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 07/16/2020 14:39
 Lab File ID: PA200721A05.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid	AveID	0.7997	0.9113		0.0570	0.0500	14.0	50.0
Perfluoropentanoic acid	AveID	0.8357	1.041		0.0623	0.0500	24.6	50.0
Perfluorobutanesulfonic acid (PFBS)	AveID	0.8435	1.053		0.0552	0.0442	24.8	50.0
Perfluorohexanoic acid	AveID	0.8152	0.9323		0.0572	0.0500	14.4	50.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.8230	1.045		0.0635	0.0500	27.0	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	0.9265	1.167		0.0573	0.0455	26.0	50.0
Perfluoroheptanesulfonic acid	AveID	0.9462	1.168		0.0588	0.0476	23.5	50.0
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	AveID	0.6742	0.6885		0.484	0.474	2.1	50.0
Perfluorooctanoic acid (PFOA)	AveID	0.8736	1.081		0.0619	0.0500	23.7	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.8605	1.114		0.0601	0.0464	29.5	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8868	1.117		0.0630	0.0500	26.0	50.0
Perfluorodecanoic acid	AveID	0.7913	0.9350		0.0591	0.0500	18.2	50.0
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	AveID	0.2991	0.3173		0.508	0.479	6.1	50.0
Perfluorooctanesulfonamide	AveID	0.7662	0.9289		0.250	0.0500	21.2	50.0
N-methylperfluorooctanesulfonamidoacetic acid	AveID	0.7295	0.7601		0.521	0.500	4.2	50.0
Perfluorodecanesulfonic acid	AveID	0.5470	0.6543		0.0577	0.0482	19.6	50.0
Perfluoroundecanoic acid	AveID	0.6515	0.7973		0.0612	0.0500	22.4	50.0
N-ethylperfluorooctanesulfonamidoacetic acid	AveID	0.7628	0.7616		0.499	0.500	-0.2	50.0
Perfluorododecanoic acid	AveID	0.7784	1.093		0.0702	0.0500	40.4	50.0
Perfluorotridecanoic acid	AveID	0.6528	0.7881		0.0604	0.0500	20.7	50.0
Perfluorotetradecanoic acid	AveID	0.1866	0.2144		0.0574	0.0500	14.9	50.0
13C4 PFBA	Ave	1.390	1.480		1.33	1.25	6.4	50.0
13C5 PFPeA	Ave	1.018	1.059		1.30	1.25	4.0	50.0
13C3 PFBS	Ave	1.318	1.297		1.14	1.16	-1.6	50.0
13C2 PFHxA	Ave	1.023	1.101		1.35	1.25	7.6	50.0
13C4 PFHpA	Ave	0.9553	0.9323		1.22	1.25	-2.4	50.0
18O2 PFHxS	Ave	0.9238	0.9521		1.22	1.18	3.1	50.0
M2-6:2 FTS	Ave	0.1290	0.1331		1.23	1.19	3.2	50.0
13C4 PFOA	Ave	0.9602	0.9545		1.24	1.25	-0.6	50.0
13C4 PFOS	Ave	0.7800	0.7456		1.14	1.20	-4.4	50.0
13C5 PFNA	Ave	0.8093	0.8458		1.31	1.25	4.5	50.0
13C2 PFDA	Ave	0.7518	0.7347		1.22	1.25	-2.3	50.0
M2-8:2 FTS	Ave	0.1509	0.1607		1.28	1.20	6.5	50.0
13C8 FOSA	Ave	1.267	1.307		1.29	1.25	3.1	50.0
d3-NMeFOSAA	Ave	0.0463	0.0441		1.19	1.25	-4.7	50.0
13C2 PFUnA	Ave	0.5985	0.5999		1.25	1.25	0.2	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
SDG No.: 70137879
Lab Sample ID: CCVL 200-157082/5 Calibration Date: 07/21/2020 18:11
Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57
GC Column: C-18 ID: 4.60 (mm) Calib End Date: 07/16/2020 14:39
Lab File ID: PA200721A05.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d5-NEtFOSAA	Ave	0.0490	0.0518		1.32	1.25	5.8	50.0
13C2 PFDoA	Ave	0.6184	0.6116		1.24	1.25	-1.1	50.0
13C2 PFTeDA	Ave	0.4658	0.4620		1.24	1.25	-0.8	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
 SDG No.: 70137879
 Lab Sample ID: CCVIS 200-157082/6 Calibration Date: 07/21/2020 18:19
 Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 07/16/2020 14:39
 Lab File ID: PA200721A06.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid	AveID	0.7997	0.8150		1.02	1.00	1.9	40.0
Perfluoropentanoic acid	AveID	0.8357	0.8435		1.01	1.00	0.9	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	0.8435	0.9145		0.958	0.884	8.4	40.0
Perfluorohexanoic acid	AveID	0.8152	0.7847		0.963	1.00	-3.7	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	0.9265	0.9835		0.966	0.910	6.2	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.8230	0.8395		1.02	1.00	2.0	40.0
Perfluoroheptanesulfonic acid	AveID	0.9462	1.025		1.03	0.952	8.4	50.0
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	AveID	0.6742	0.5974		0.840	0.948	-11.4	50.0
Perfluorooctanoic acid (PFOA)	AveID	0.8736	0.9113		1.04	1.00	4.3	20.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.8605	0.9226		0.995	0.928	7.2	20.0
Perfluorononanoic acid (PFNA)	AveID	0.8868	0.8310		0.937	1.00	-6.3	40.0
Perfluorodecanoic acid	AveID	0.7913	0.7461		0.943	1.00	-5.7	40.0
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	AveID	0.2991	0.3110		0.996	0.958	4.0	50.0
Perfluorodecanesulfonamide	AveID	0.7662	0.7756		1.01	1.00	1.2	40.0
N-methylperfluorooctanesulfonamidoacetic acid	AveID	0.7295	0.6121		0.839	1.00	-16.1	40.0
Perfluorodecanesulfonic acid	AveID	0.5470	0.5251		0.925	0.964	-4.0	50.0
Perfluoroundecanoic acid	AveID	0.6515	0.6453		0.991	1.00	-0.9	40.0
N-ethylperfluorooctanesulfonamidoacetic acid	AveID	0.7628	0.7849		1.03	1.00	2.9	40.0
Perfluorododecanoic acid	AveID	0.7784	0.6935		0.891	1.00	-10.9	40.0
Perfluorotridecanoic acid	AveID	0.6528	0.6955		1.07	1.00	6.5	50.0
Perfluorotetradecanoic acid	AveID	0.1866	0.1818		0.974	1.00	-2.6	40.0
13C4 PFBA	Ave	1.390	1.423		1.28	1.25	2.3	50.0
13C5 PFPeA	Ave	1.018	1.044		1.28	1.25	2.5	50.0
13C3 PFBS	Ave	1.318	1.319		1.16	1.16	0.0	50.0
13C2 PFHxA	Ave	1.023	1.095		1.34	1.25	7.0	50.0
18O2 PFHxS	Ave	0.9238	0.9251		1.18	1.18	0.1	50.0
13C4 PFHpA	Ave	0.9553	0.9753		1.28	1.25	2.1	50.0
M2-6:2 FTS	Ave	0.1290	0.1416		1.30	1.19	9.7	50.0
13C4 PFOA	Ave	0.9602	1.003		1.31	1.25	4.5	20.0
13C4 PFOS	Ave	0.7800	0.7786		1.19	1.20	-0.2	20.0
13C5 PFNA	Ave	0.8093	0.8581		1.33	1.25	6.0	50.0
13C2 PFDA	Ave	0.7518	0.8226		1.37	1.25	9.4	50.0
M2-8:2 FTS	Ave	0.1509	0.1544		1.23	1.20	2.3	50.0
13C8 FOSA	Ave	1.267	1.337		1.32	1.25	5.5	50.0
d3-NMeFOSAA	Ave	0.0463	0.0450		1.22	1.25	-2.8	50.0
13C2 PFUnA	Ave	0.5985	0.6173		1.29	1.25	3.1	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
SDG No.: 70137879
Lab Sample ID: CCVIS 200-157082/6 Calibration Date: 07/21/2020 18:19
Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57
GC Column: C-18 ID: 4.60 (mm) Calib End Date: 07/16/2020 14:39
Lab File ID: PA200721A06.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d5-NEtFOSAA	Ave	0.0490	0.0508		1.30	1.25	3.7	50.0
13C2 PFDoA	Ave	0.6184	0.6531		1.32	1.25	5.6	50.0
13C2 PFTeDA	Ave	0.4658	0.4635		1.24	1.25	-0.5	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
 SDG No.: 70137879
 Lab Sample ID: CCV 200-157082/20 Calibration Date: 07/21/2020 20:15
 Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 07/16/2020 14:39
 Lab File ID: PA200721A20.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid	AveID	0.7997	0.7427		2.32	2.50	-7.1	40.0
Perfluoropentanoic acid	AveID	0.8357	0.8497		2.54	2.50	1.7	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	0.8435	0.8992		2.36	2.21	6.6	40.0
Perfluorohexanoic acid	AveID	0.8152	0.8101		2.48	2.50	-0.6	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.8230	0.8061		2.45	2.50	-2.1	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	0.9265	0.8240		2.02	2.28	-11.1	40.0
Perfluoroheptanesulfonic acid	AveID	0.9462	1.015		2.55	2.38	7.3	50.0
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	AveID	0.6742	0.6012		2.11	2.37	-10.8	50.0
Perfluorooctanoic acid (PFOA)	AveID	0.8736	0.8714		2.49	2.50	-0.3	20.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.8605	0.9460		2.55	2.32	9.9	20.0
Perfluorononanoic acid (PFNA)	AveID	0.8868	0.8572		2.42	2.50	-3.3	40.0
Perfluorodecanoic acid	AveID	0.7913	0.8067		2.55	2.50	1.9	40.0
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	AveID	0.2991	0.3353		2.68	2.40	12.1	50.0
Perfluorodecanesulfonamide	AveID	0.7662	0.8310		2.71	2.50	8.5	40.0
N-methylperfluorooctanesulfonamidoacetic acid	AveID	0.7295	0.6185		2.12	2.50	-15.2	40.0
Perfluorodecanesulfonic acid	AveID	0.5470	0.5244		2.31	2.41	-4.1	50.0
Perfluoroundecanoic acid	AveID	0.6515	0.5555		2.13	2.50	-14.7	40.0
N-ethylperfluorooctanesulfonamidoacetic acid	AveID	0.7628	0.7360		2.41	2.50	-3.5	40.0
Perfluorododecanoic acid	AveID	0.7784	0.6935		2.23	2.50	-10.9	40.0
Perfluorotridecanoic acid	AveID	0.6528	0.5931		2.27	2.50	-9.1	50.0
Perfluorotetradecanoic acid	AveID	0.1866	0.1851		2.48	2.50	-0.8	40.0
13C4 PFBA	Ave	1.390	1.492		1.34	1.25	7.3	50.0
13C5 PFPeA	Ave	1.018	1.002		1.23	1.25	-1.7	50.0
13C3 PFBS	Ave	1.318	1.283		1.13	1.16	-2.7	50.0
13C2 PFHxA	Ave	1.023	1.086		1.33	1.25	6.2	50.0
13C4 PFHpA	Ave	0.9553	0.9703		1.27	1.25	1.6	50.0
18O2 PFHxS	Ave	0.9238	0.9938		1.27	1.18	7.6	50.0
M2-6:2 FTS	Ave	0.1290	0.1351		1.24	1.19	4.7	50.0
13C4 PFOA	Ave	0.9602	0.9694		1.26	1.25	1.0	20.0
13C4 PFOS	Ave	0.7800	0.7760		1.19	1.20	-0.5	20.0
13C5 PFNA	Ave	0.8093	0.8107		1.25	1.25	0.2	50.0
13C2 PFDA	Ave	0.7518	0.7592		1.26	1.25	1.0	50.0
M2-8:2 FTS	Ave	0.1509	0.1595		1.27	1.20	5.7	50.0
13C8 FOSA	Ave	1.267	1.294		1.28	1.25	2.1	50.0
d3-NMeFOSAA	Ave	0.0463	0.0452		1.22	1.25	-2.4	50.0
13C2 PFUnA	Ave	0.5985	0.6058		1.27	1.25	1.2	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1
SDG No.: 70137879
Lab Sample ID: CCV 200-157082/20 Calibration Date: 07/21/2020 20:15
Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57
GC Column: C-18 ID: 4.60 (mm) Calib End Date: 07/16/2020 14:39
Lab File ID: PA200721A20.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d5-NEtFOSAA	Ave	0.0490	0.0473		1.21	1.25	-3.4	50.0
13C2 PFDoA	Ave	0.6184	0.6715		1.36	1.25	8.6	50.0
13C2 PFTeDA	Ave	0.4658	0.4635		1.24	1.25	-0.5	50.0

LCMS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Burlingt Job No.: 200-54421-1

SDG No.: 70137879

Batch Number: 157062

Batch Start Date: 07/21/20 12:30

Batch Analyst: Murray, John W

Batch Method: 25101:2009 SPE

Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	LCPFC32MTXStk 00022	LCPFCIDASPK 00001
MB 200-157062/1		25101:2009 SPE, 25101:2009		250 g	0 g	250 mL	10 mL		25 uL
LCS 200-157062/2		25101:2009 SPE, 25101:2009		250 g	0 g	250 mL	10 mL	25 uL	25 uL
LCSD 200-157062/3		25101:2009 SPE, 25101:2009		250 g	0 g	250 mL	10 mL	25 uL	25 uL
200-54421-A-1	AZ-PZ-1	25101:2009 SPE, 25101:2009	T	314.90 g	39.83 g	275.1 mL	10 mL		25 uL
200-54421-A-2	FIELD BLANK	25101:2009 SPE, 25101:2009	T	318.64 g	39.44 g	279.2 mL	10 mL		25 uL
200-54421-A-3	EQUIPMENT BLANK	25101:2009 SPE, 25101:2009	T	313.65 g	39.33 g	274.3 mL	10 mL		25 uL
200-54421-A-4	TRIP BLANK	25101:2009 SPE, 25101:2009	T	312.29 g	38.94 g	273.4 mL	10 mL		25 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	PFAS21 IS Stk 00019	AnalysisComment				
MB 200-157062/1		25101:2009 SPE, 25101:2009		5 uL					
LCS 200-157062/2		25101:2009 SPE, 25101:2009		5 uL					
LCSD 200-157062/3		25101:2009 SPE, 25101:2009		5 uL					
200-54421-A-1	AZ-PZ-1	25101:2009 SPE, 25101:2009	T	5 uL	Sample container dreid in oven and sediment discarded; 273.40 mL extracted				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

25101:2009

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LCMS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Burlingt Job No.: 200-54421-1

SDG No.: 70137879

Batch Number: 157062 Batch Start Date: 07/21/20 12:30 Batch Analyst: Murray, John W

Batch Method: 25101:2009 SPE Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	PFAS21 IS Stk 00019	AnalysisComment				
200-54421-A-2	FIELD BLANK	25101:2009 SPE, 25101:2009	T	5 uL					
200-54421-A-3	EQUIPMENT BLANK	25101:2009 SPE, 25101:2009	T	5 uL					
200-54421-A-4	TRIP BLANK	25101:2009 SPE, 25101:2009	T	5 uL					

Batch Notes	
Balance ID	M02926
First End time	01/15/20 14:40
H2O ID	07102020A
Hexane ID	1392537
Manifold ID	IDA 3 & 4
Methanol ID	258181
Sodium Hydroxide ID	1403658
Analyst ID - Reagent Drop	JWM
Analyst ID - SU Reagent Drop	JWM
Analyst ID - SU Reagent Drop Witness	NDD
Solvent Lot #	1403242
Solvent Name	Methanol (0.3% NH4OH)
SOP Number	BR-LC-009
SPE Cartridge Lot ID	005339338A
First Start time	01/15/20 14:25

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

25101:2009

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