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2022 Annual PFAS Sampling Report

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This letter report has been prepared by Ramboll Americas Engineering Solutions, Inc. (Ramboll) on behalf of the Revitalizing Auto Communities Environmental Response Trust (RACER Trust) to document the 2022 annual per- and polyfluoroalkyl substances (PFAS) groundwater sampling event conducted in June 2022 at the Coldwater Road facility located in Flint, Michigan (Site).

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PFAS Sampling Protocol

For this sampling event, the sample team followed the protocol set forth in the EGLE Michigan PFAS Action Response Team (MPART) Groundwater PFAS Sampling Guidance dated October 2018 and Ramboll's PFAS Sampling Field Guidance Document Number 1.07.

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Special care was taken during sampling and transport of the samples to avoid contamination from clothing, sampling material, and storage containers due to the extremely low detection limits for PFAS (<2 ng/L), because PFAS are used in a variety of applications and products, such as fire retardants, water repellent clothing, microwavable food wrappers, cosmetics, etc.

The sample team wore natural fiber (predominantly 100% cotton, or as near to 100% as possible) clothing (especially no water repellent materials [coats, gloves, shoes, etc.]) and avoided bathing with or applying particular products (deodorants/antiperspirants, lotions, cosmetics, etc.) prior to sampling to minimize the potential for cross contamination.

Sampling Methods

Annual PFAS samples were collected in conjunction with the routine landfill operations, maintenance, and monitoring (OMM) June 2022 Semiannual Groundwater Monitoring event. During this annual PFAS groundwater sampling event samples were collected from the following locations:

Perched Zones (Fourteen Monitoring Wells)

- B-7, B-9, OBG MW-9, OBG MW-11, OBG MW-12S, OBG MW-13, OBG MW-14, OBG MW-17S, OBG MW-18S, OBG MW-21, OBG MW-22, OBG MW-24, OBG MW-26, and OBG MW-28

Drift Unit (Four Monitoring Wells)

- B-27D, OBG MW-23 (D), OBG MW-27 (D), and OBG MW-29 (D)

Leak Detection Vaults

- Vault A, Vault C, and Vault E.

Samples were collected during the weeks of June 6, 2022 and June 14, 2022. See [Figure 1](#) for monitoring well locations.

In addition to the EGLE MPART Groundwater PFAS Sampling Guidance and Ramboll's PFAS Sampling Field Guidance Document Number 1.07., the groundwater sampling was performed in accordance with USEPA, *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (EPA/540/S-95/504) and the USEPA Region 1 (July 30, 1996, Revision 4, revised September 19, 2017) *Low Stress (Low-Flow) Purging and Sampling Procedure for the Collection of Ground Water Samples from Monitoring Wells*.

Groundwater samples from the perched zone were collected using a peristaltic pump. Groundwater samples from the drift unit were collected using a bladder pump. Groundwater sampling logs are included in [Appendix A](#).

Monitoring wells (B-7, and B-9) were purged "dry", with a submersible Whale pump, allowed to recharge, and the samples were collected as soon as sufficient water was present to obtain the necessary sample volume in accordance with Ramboll procedures and the site-specific Field Method Guide.

Groundwater sampling was performed using high density polyethylene (HDPE) sample tubing attached to the appropriate sampling pump (a Whale, peristaltic, or bladder pump) lowered approximately to the midpoint of the well screen. The tubing was then attached to a flow-through cell attached to a physical parameter measurement instrument capable of measuring temperature, conductivity, pH, dissolved oxygen (DO), and oxidation-reduction potential (ORP). Turbidity was also measured with a Hach® turbidity meter.

Purging continued until the water quality parameters stabilized within the USEPA Low Stress Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells values over three consecutive 5-minute periods, except at wells that were purged "dry" where physical parameter measurements were collected when possible. Once stabilized, the flow-through cell was disconnected and the samples were collected directly into clean, laboratory supplied containers, labeled, placed in an ice-filled cooler, and transported to Merit Laboratories in East Lansing, Michigan under appropriate chain-of-custody (COC) protocols. The samples were submitted to the laboratory for analysis on a standard turnaround time.

Samples were analyzed for the presence of PFAS by ASTM Method D7979 – 19 Modified (no preservation). The following QC samples were collected: a field duplicate, and field (ambient) blanks.

Prior to sampling, water level measurements were collected from monitoring wells at the Site and the offsite wells. Groundwater elevation data is included on [Table 1](#). A groundwater potentiometric surface map was completed for the shallow wells ([Figure 2](#)) and for the deeper drift unit ([Figure 3](#)). As part of the annual sampling event the following monitoring wells and piezometers were gauged:

Perched Zones (Thirty-one Monitoring Wells)

- B-7, B-9, B-18A, B-19A, B-19Ar, B-24r, B-28, OBG MW-1, OBG MW-2, OBG MW-3, OBG MW-4, OBG MW-5, OBG MW-6, OBG MW-7, OBG MW-8, OBG MW-9, OBG MW-10, OBG MW-11, OBG MW-12S, OBG MW-13, OBG MW-14, OBG MW-17S, OBG MW-18S, OBG MW-20, OBG MW-21, OBG MW-22, OBG MW-24, OBG MW-26, OBG MW-28, MW-19-13, and MW-20-13. PZ-1 was covered with water since the completion of the Middle Pond berm and will be abandoned when it can be accessed.

Drift Unit (Seventeen Monitoring Wells)

- B-20D, B-21D, B-22D, B-23Dr, B-27D, OBG MW-12D, OBG MW-15D, OBG MW-16D, OBG MW-17D, OBG MW-18D, OBG MW-19D, OBG MW-23, OBG MW-27, OBG MW-29, MW-15-10, MW-16-10, and PFW-1.

PZ-1 will be abandoned in accordance with EGLE Part 111 Rule 299.9612 (1)(b) and the methods approved in the PCCP by utilizing a tremie pipe to pressure inject a cement/bentonite grout or bentonite slurry with more than 20% solids mixture into the well with the well materials left in place. Followed by the removal of the above ground materials (riser and protective casing) to approximately 2 ft below grade and “capping” the abandoned well with 50 pounds of granular bentonite that will be hydrated.

The perched zone static water elevations were similar or up approximately 1 foot (at most 3.6 feet at OBG MW-24, which is adjacent to a sanitary sewer that was lined) compared to the elevations collected the previous year. The groundwater in the perched zone includes discontinuous perched saturated zones within an otherwise clayey matrix.

Groundwater in the perched zone flows predominantly toward the northwest but turning toward the west in the westward extension of the Site as shown on [Figure 2](#). The drift unit static water elevations were consistent with historical data. Groundwater in the drift unit flows in a southerly direction as shown on [Figure 3](#).

Analytical Results

The analytical results for the samples collected at the Coldwater Road Landfill facility are presented in [Table 2](#) – Perched PFAS Sample Results, [Table 3](#) – Drift PFAS Sample Results, and [Table 4](#) – Vault PFAS Sample Results. The results are also shown on [Figure 4](#) – Perched Data, [Figure 5](#) – Drift Data, [Figure 6](#) – Vault Data. The complete analytical laboratory report is contained in [Appendix B](#).

The results were compared against EGLE’s December 21, 2020 Part 201 Groundwater Generic Cleanup Criteria and Screening Levels and the Rule 57 Surface Water Quality Value.

The relative percent difference (RPD) for the duplicate sample results for OBG MW-22 and MW-DUP-061422 (OBG MW-22) were within acceptable limits; except for constituent perfluorobutanoic acid (PFBA), which was not detected above the reporting limit of 10 ng/l in the original sample and was detected at 13 ng/l in the duplicate. Therefore, the sample result for PFBA in OBG MW-22 and MW-DUP-061422 should be considered as estimated (J).

The RPD for the duplicate sample results for OBG MW-29 and MW-DUP-061322 (OBG MW-29) were within acceptable limits; except for constituent perfluorohexanoic acid (PFHxA), which was not detected above the reporting limit of 1.9 ng/l in the original sample and was detected at 4.6 ng/l in the duplicate. Therefore, the sample result for PFHxA in OBG MW-29 and MW-DUP-061322 should be considered as estimated (J).

The RPD for the duplicate sample results for Vault-C and Vault-DUP-060722 (Vault-C) were within acceptable limits; except for perfluorooctanoic acid (PFOA), which was 7.9 ng/l in the original sample and 5.6 ng/l in the duplicate sample, and perfluorohexane sulfonic acid (PFHxS), which was 23 ng/l in the original sample and 17 ng/l in the duplicate sample. Therefore, the sample result for PFOA and PFHxS in Vault-C and Vault-DUP-060722 should be considered as estimated (J).

No PFAS were detected in the field blanks associated with the field procedures/methods for this sampling event.

Perched Analytical Results

As indicated in both [Table 2](#) and [Figure 4](#) PFAS results in the perched zone were generally comparable to previous sampling events (i.e., are stable or decreasing), except at OBG MW-14 and OBG MW-28 where PFAS concentrations increased compared to historical results. Perfluorooctane sulfonic acid (PFOS) and PFHxS, and to a lesser extent PFOA concentrations in OBG MW-14 indicate increasing trends. At OBG-MW-28 PFOA increased slightly from previously detected concentrations to 8.9 ng/l this event, which is only marginally higher than concentrations observed in 2020, but it exceeds the EGLE Screening Level of 8 ng/l for the first time. OBG MW-28 delineates the extent of PFAS impacts north of the Site and will continue to be monitored on an annual basis to determine if plume migration is occurring.

PFAS detections above EGLE Screening Levels for the June 2022 event in the perched zone were limited to PFOA at five wells B-9 (8.3 ng/l), OBG MW-11 (31 ng/l), OBG MW-14 (35 ng/l), OBG MW-26 (37 ng/l), and OBG MW-28 (8.9 ng/l); PFHxS at two wells OBG MW-11 (410 ng/l) and OBG MW-14 (240 ng/l); and PFOS at eight wells (B-7, B-9, OBG MW-11, OBG MW-12S, OBG MW-14, OBG MW-17S, OBG MW-22, and OBG MW-26) with concentrations ranging up to 2,300 ng/l at OBG MW-22.

OBG MW-14, OBG MW-22, and OBG MW-26 were also analyzed by total oxidizable precursor (TOP) assay to estimate oxidizable precursors that can transform to perfluoroalkyl acids (PFAAs) end products such as PFOS and PFOA. The results of the TOP assay indicate no significant amount of precursors that could transform to terminal end products on the standard list.

Drift Unit Analytical Results

As indicated in both [Table 3](#) and [Figure 5](#) PFAS results from B-27D and OBG MW-23 in the drift unit were not detected above the reporting limit and are considered stable. At OBG MW-27 and OBG MW-29

PFAS concentrations increased compared to historical results. The analytical results at OBG MW-27 detected PFOA at a concentration of 15 ng/L and PFOS was detected at a concentration of 480 ng/l, a significant increase from a previous high of 84 ng/l. OBG MW-27 is delineated to the south by non-detect or below criteria PFAS concentrations at OBG MW-29 and to the west by temporary well sample SBP-72-GW collected west of OBG MW-27. The results from OBG MW-29 and the duplicate sample MW-DUP-061322 continue to be below the EGLE Screening Levels.

Vault Analytical Results

As indicated in both **Table 4** and **Figure 6** PFAS results in the vaults were generally comparable to previous sampling events (i.e., are stable or decreasing). PFAS detections above EGLE Cleanup Criteria for the June 2022 event were limited to PFOA at Vault-E (9.6 ng/l) and PFOS at Vault-A (360 ng/l), Vault-C (390 ng/l), and Vault-E (440 ng/l).

Summary

PFAS concentrations do not appear to have expanded and generally appear to be stable, and concentrations are not significantly different from previous monitoring events, except as previously noted. Continued annual PFAS monitoring is recommended, except for monitoring well OBG MW-27, which we recommend be sampled and analyzed for PFAS sampling during the November 2022 semiannual groundwater sampling event associated with landfill monitoring. This additional sampling will provide data to aid in evaluating the observed increase in PFOS concentration in this well.

PZ1 will be abandoned when it is accessible, we don't anticipate replacing PZ-1 at this time as there are alternative Perched Zone wells in the area. Prior to the next annual sampling event, we propose to replace OBG MW-25 and PZ-3 which were abandon in July 2020 due to either being in the way of the storm water modifications undertaken at the Site or would become flooded after modifications were completed. The OBG MW-25 replacement well will be located to the west of the original location. The PZ-3 replacement well will be located south of the original location (**Figure 1**).

The next annual PFAS sampling event is currently scheduled for June 2023. If you have any questions, please feel free to contact Clifford Yantz at (313) 333-0211.

Very truly yours,

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

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Enclosures:

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- Figure 6 – Leak Detection Vaults PFAS Sample Results

Appendix

- Appendix A – Groundwater Sampling Logs
- Appendix B – Analytical Laboratory Results

TABLES



TABLE 1
RACER Trust - Coldwater Road
Depth to Groundwater Levels in Monitoring Wells

June 6, 2022

Well ID	Top of Casing Elevation (ft)*	Depth to Water (ft)	Static Water Elevation (ft)
<i>Landfill Monitoring Wells</i>			
B-7	813.63	16.85	796.78
B-9	807.45	4.45	803.00
B-18A	810.85	20.57	790.28
B-19A	812.66	9.34	803.32
B-19AR	811.80	37.53	774.27
B-20D	815.14	68.43	746.71
B-21D	821.07	79.11	741.96
B-22D	822.15	83.41	738.74
B-23DR	812.12	80.16	731.96
B-24R	816.04	13.55	802.49
B-27D	812.70	74.74	737.96
B-28	816.46	5.04	811.42
OBG MW-16D	807.43	56.06	751.37
<i>former WWTP Monitoring Wells</i>			
OBG MW-1	811.56	5.61	805.95
OBG MW-2	813.77	8.01	805.76
OBG MW-3	810.09	4.75	805.34
OBG MW-4	812.66	5.74	806.92
OBG MW-5	816.04	7.63	808.41
OBG MW-6	815.75	11.49	804.26
OBG MW-7	813.47	8.06	805.41
OBG MW-8	817.50	9.47	808.03
OBG MW-9	809.97	4.35	805.62
OBG MW-10	811.54	7.05	804.49
<i>Additional Site Monitoring Wells</i>			
OBG MW-11	801.94	5.84	796.10
OBG MW-12D	797.13	45.59	751.54
OBG MW-12S	796.88	8.03	788.85
OBG MW-13	801.81	5.32	796.49
OBG MW-14	810.98	7.36	803.62
OBG MW-15D	810.68	78.83	731.85
OBG MW-17D	800.09	48.70	751.39
OBG MW-17S	800.51	10.65	789.86
OBG MW-18D	800.17	48.49	751.68
OBG MW-18S	799.32	12.22	787.10
OBG MW-19D	796.64	45.91	750.73
OBG MW-20	783.93	27.22	DRY
OBG MW-21	798.60	5.75	792.85
OBG MW-22	794.11	4.40	789.71
OBG MW-23 (D)	776.76	26.50	750.26
OBG MW-24	781.50	3.35	778.15
OBG MW-26	772.34	5.63	766.71
OBG MW-27 (D)	771.94	20.98	750.96
OBG MW-28	800.35	11.56	788.79
OBG MW-29 (D)	773.28	23.26	750.02
<i>Piezometers</i>			
PZ-1	790.30	under water	--
<i>Peregrine Site Wells</i>			
MW-19-13	807.85	2.35	805.50
MW-20-13	810.81	4.85	805.96
MW-15-10	808.15	76.00	732.15
MW-16-10	798.64	66.22	732.42
PFW-1	809.51	76.94	732.57

Notes

Casing elevations were provided by Norwy & Hale Surveyors and are in feet relative to National Geodetic Vertical Datum

-- No data.

Top of casing elevations were resurveyed in June 2017. OBG MW-29 was surveyed on October 29, 2021.

OBG MW-19D and OBG MW-21 were resurveyed on October 29, 2021 after being repaired.

R - Indicates a replacement well location.

Monitoring wells OBG MW-25, PZ-2, and PZ-3 were abandon on July 7, 2020 as part of the onsite berm construction.

TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		B-7	B-7 (Collocated)	B-7	B-7	B-7	B-7	B-7	
		Sample Date:	Drinking Water	GSI	11/30/2016	11/30/2016	6/12/2018	5/30/2019	6/18/2020	6/11/2021	6/8/2022
Perfluorobutanoic Acid (PFBA)	--	--	--	9.2 J	7.1 J	8.2 B	<20	10	<9.9	<10	
Perfluoropentanoic Acid (PFPeA)	--	--	--	2.6	1.7 J	4.2	<9.8	1.2 J	2.2 J	2.3 J	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	--	--	<9.8	<2.0	<2.0	<2.1	
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	3.9	3.1	3.3	<9.8	2.0 J	3.1	3.2	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	5.7	5.8	4.1	<9.8	4.8	5.4	4.4	
Perfluoroheptanoic Acid (PFHpA)	--	--	--	2.4	1.6 J	2.3	<9.8	<2	<2.0	1.4 J	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	--	--	--	<9.8	5.1	5.4	4.8	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<3.8	<3.7	--	<20	<2.0	8.6	<2.1	
Perfluorooctanoic Acid (PFOA)	8	170	--	9.2 JN	7.6 JN	9.2	<9.8	5.6	5.3	5.1	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	23	22 JN	18 B	<19	17	15	16	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	--	--	<14	13	12	13	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	--	--	<9.8	3.3	2.7	2.6	
Perfluorononanoic Acid (PFNA)	6	--	--	0.87 J	0.79 J	0.82 J	<9.8	<2.0	<2.0	<2.1	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	--	--	<9.8	<2.0	<2.0	<2.1	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	3.8	3.9	3.0	<9.8	2.4	2.0	2.4	
Perfluorodecanoic Acid (PFDA)	--	--	--	<2.0	<2.0	<2.0	<9.8	<2.0	<2.0	<2.1	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	--	--	<9.8	<2.0	<2.0	<2.1	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	--	--	<9.8	<4.1	<3.9	<4.1	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	220	230	130	140	140	90	87	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	--	--	--	72	84	46	48	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	--	--	--	20	57	42	38	
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<2.0	<2.0	<2.0	<9.8	<2.0	<2.0	<2.1	
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	--	--	<9.8	<2.0	<2.0	<2.1	
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<2.0	<2.0	<2.0	<9.8	<2.0	<2.0	<2.1	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<2.0	<2.0	<2.0	<9.8	<2.0	<2.0	<2.1	
Perfluorotridecanoic Acid (PFTrDA)	--	--	--	<2.0	<2.0	<2.0	<9.8	<2.0	<2.0	<2.1	
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<0.64 UJ	<0.62 UJ	<0.34	<9.8	<2.0	<2.0	<2.1	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<2.0 U	<2.0 U	<0.28	<9.8	<4.1	<3.9	<4.1	
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	--	--	--	--	--	--	--	<2.0	<2.0	<2.1	
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	--	--	--	<2.0	<2.0	<2.1	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	--	<2.0	<2.0	<2.1	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	--	<2.0	<9.9	<10	
Total Per-and Polyfluoroalkyl Substances	--	--	--	280.7	283.6	183.1	140.0	188.1	137.0	126.6	

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) I - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
- 13) I - Matrix interference with internal standard.
- 14) J - Estimated value less than reporting limit, but greater than MDL.
- 15) X - Elevated reporting limit due to matrix interference.
- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		B-9	B-9	B-9	B-9	B-9	B-9	
		Sample Date:	Drinking Water	GSI	6/20/2017	6/12/2018	6/3/2019	6/17/2020	6/11/2021	6/8/2022
Perfluorobutanoic Acid (PFBA)	--	--	--	14 B	9.5 B	<19	28	16	22	
Perfluoropentanoic Acid (PFPeA)	--	--	--	2.2	1.7 J	<9.4	1.0 J	3.2 J	3.6 J	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	--	<9.4	<2.0	<1.9	<2.1	
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	9.3	7.0	<9.4	4.3	9.5	14	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	2.3	2.1	<9.4	2.3	3.6	2.9	
Perfluoroheptanoic Acid (PFHpA)	--	--	--	4.2	<0.24	<9.4	<2.0	1.8 J	2.6	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	--	--	<9.4	<2.0	1.8 J	<2.1	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<3.7	--	<9.4	<2.0	2.9 J	<2.1	
Perfluorooctanoic Acid (PFOA)	8	170	--	15	12	<9.4	<2.0	8.2	8.3	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	6.9	3.7 B	<9.4	5.1	6.4	9.1	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	--	<9.4	4.2	5.5	7.7	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	--	<9.4	<2.0	<1.9	<2.1	
Perfluorononanoic Acid (PFNA)	6	--	--	<0.64	<0.26	<9.4	<2.0	<1.9	<2.1	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	--	<9.4	<2.0	<1.9	<2.1	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	0.70 J	0.33 J	<9.4	<2.0	<1.9	<2.1	
Perfluorodecanoic Acid (PFDA)	--	--	--	<0.43	<1.9	<9.4	<2.0	<1.9	<2.1	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	--	<9.4	<2.0	<1.9	<2.1	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	--	<9.4	<4.1	<3.9	<4.1	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	13	9.3	16	16	21	21	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	--	--	<9.4	<2.0	<1.9	2.5	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	--	--	13	13	18	18	
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<0.73	<1.9	<9.4	<2.0	<1.9	<2.1	
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	--	<9.4	<2.0	<1.9	<2.1	
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<0.57	<1.9	<9.4	<2.0	<1.9	<2.1	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<1.2	<1.9	<9.4	<2.0	<1.9	<2.1	
Perfluorotridecanoic Acid (PFTrDA)	--	--	--	<0.54	<1.9	<9.4	<2.0	<1.9	<2.1	
Perfluorooctane Sulfonamide (FOSA)	--	--	--	3.3 J H	<0.33	<9.4	<2.0	<1.9	<2.1	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	1.2 J B	<0.27	<9.4	<4.1	<3.9	<4.1	
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	--	--	--	--	--	--	<2.0	<1.9	<2.1	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF30NS)	--	--	--	--	--	--	<2.0	<1.9	<2.1	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	<2.0	<1.9	<2.1	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	<2.0	<9.7	<10	
Total Per-and Polyfluoroalkyl Substances	--	--	--	72.1	45.6	16.0	56.7	74.4	83.5	

Notes

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- 4) -- = Not analyzed/No criteria.
- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) I - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
- 13) I - Matrix interference with internal standard.
- 14) J - Estimated value less than reporting limit, but greater than MDL.
- 15) X - Elevated reporting limit due to matrix interference.
- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		B-18A	B-18A	B-18A	B-18A (GW-DUP-1)	B-18A	B-18A (DUP-1)	
		Sample Date:	Drinking Water	GSI	6/20/2017	6/12/2018	6/3/2019	6/3/2019	6/18/2020	6/18/2020
Perfluorobutanoic Acid (PFBA)		--	--	4.2 B	1.1 J/B	<19	<20	12 U	<9.7	
Perfluoropentanoic Acid (PFPeA)		--	--	<0.94	0.51 J	<9.5	<9.8	<4.0	<3.9	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	--	--	--	<9.5	<9.8	<2.0	<1.9	
Perfluorohexanoic Acid (PFHxA)		400,000	--	<0.75	<0.56	<9.5	<9.8	<2.0	<1.9	
Perfluorobutane Sulfonic Acid (PFBS)		420	670,000	<0.87	<0.19	<9.5	<9.8	<2.0	<1.9	
Perfluoroheptanoic Acid (PFHpA)		--	--	<0.76	<0.24	<9.5	<9.8	<2.0	<1.9	
Perfluoropentane Sulfonic Acid (PFPeS)		--	--	--	--	<9.5	<9.8	<2.0	<1.9	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	--	<3.6	--	<9.5	<9.8	2.1	2.3	
Perfluorooctanoic Acid (PFOA)		8	170	1.2 J	<0.82	<9.5	<9.8	<2.0	<1.9	
Perfluorohexane Sulfonic Acid (PFHxS)		51	--	<0.83	0.27 J/B	<9.5	<9.8	<2.0	<1.9	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	--	--	--	<9.5	<9.8	<2.0	<1.9	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	--	--	--	<9.5	<9.8	<2.0	<1.9	
Perfluorononanoic Acid (PFNA)		6	--	<0.62	<0.26	<9.5	<9.8	<2.0	<1.9	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	--	--	--	<9.5	<9.8	<2.0	<1.9	
Perfluoroheptane Sulfonic Acid (PFHpS)		--	--	<0.68	<0.18	<9.5	<9.8	<2.0	<1.9	
Perfluorodecanoic Acid (PFDA)		--	--	<0.42	<1.9	<9.5	<9.8	<2.0	<1.9	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	--	--	--	<9.5	<9.8	<2.0	<1.9	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	--	--	--	<9.5	<9.8	<4.0	<3.9	
Perfluorooctane Sulfonic Acid (PFOS)		16	12	1.3 J	<0.52	<9.5	<9.8	<2.0	<1.9	
Perfluorooctane Sulfonic Acid (PFOS-LN)		--	--	--	--	<9.5	<9.8	<2.0	<1.9	
Perfluorooctane Sulfonic Acid (PFOS-BR)		--	--	--	--	<9.5	<9.8	<2.0	<1.9	
Perfluoroundecanoic Acid (PFUnDA)		--	--	<0.71	<1.9	<9.5	<9.8	<2.0	<1.9	
Perfluorononane Sulfonic Acid (PFNS)		--	--	--	--	<9.5	<9.8	<2.0	<1.9	
Perfluorododecanoic Acid (PFDDoDA)		--	--	<0.56	<1.9	<9.5	<9.8	<2.0	<1.9	
Perfluorodecane Sulfonic Acid (PFDS)		--	--	<1.2	<1.9	<9.5	<9.8	<2.0	<1.9	
Perfluorotridecanoic Acid (PFTTrDA)		--	--	<0.52	<1.9	<9.5	<9.8	<2.0	<1.9	
Perfluorooctane Sulfonamide (FOSA)		--	--	<0.61	<0.34	<9.5	<9.8	<2.0	<1.9	
Perfluorotetradecanoic Acid (PFTeDA)		--	--	<0.19	<0.28	<9.5	<9.8	<4.0	<3.9	
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)		--	--	--	--	--	--	<2.0	<1.9	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)		--	--	--	--	--	--	<2.0	<1.9	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	--	--	--	--	--	<2.0	<1.9	
Hexafluoropropylene oxide dimer (HFPO-DA)		370	--	--	--	--	--	<2.0	<1.9	
Total Per-and Polyfluoroalkyl Substances		--	--	6.7	1.9	0.0	0.0	14.1	2.3	

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) I - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
- 13) I - Matrix interference with internal standard.
- 14) J - Estimated value less than reporting limit, but greater than MDL.
- 15) X - Elevated reporting limit due to matrix interference.
- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		B-19Ar	B-19Ar	B-19Ar	B-19Ar	B-24r	B-24r	B-24r	B-24r	
		Sample Date:	Drinking Water	GSI	11/30/2016	6/12/2018	6/3/2019	6/18/2020	6/20/2017	6/12/2018	5/30/2019	6/17/2020
Perfluorobutanoic Acid (PFBA)		--	--	1.0 J	1.2 J/B	<20	14 U	14 B	8.9 B	<17	18 U	
Perfluoropentanoic Acid (PFPeA)		--	--	<0.98 U	1.1 J	<9.9	<3.8	<0.93	2.0	<8.5	<3.9	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	--	--	--	<9.9	<1.9	--	--	<8.5	<2.0	
Perfluorohexanoic Acid (PFHxA)		400,000	--	<0.78 U	<0.54	<9.9	<1.9	3.9	2.7	<8.5	<2.0	
Perfluorobutane Sulfonic Acid (PFBS)		420	670,000	<0.91 U	0.28 J	<9.9	<1.9	3.7	1.5 J	<8.5	2.4	
Perfluoroheptanoic Acid (PFHpA)		--	--	<0.80 U	0.33 J	<9.9	<1.9	1.7 J	<0.23	<8.5	<2.0	
Perfluoropentane Sulfonic Acid (PFPeS)		--	--	--	--	<9.9	<1.9	--	--	<8.5	<2.0	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	--	<3.8	--	<9.9	5.7	<3.6	--	<17	<2.0	
Perfluorooctanoic Acid (PFOA)		8	170	0.84 JN	0.93 J	<9.9	<1.9	3.9	3.4	<8.5	<2.0	
Perfluorohexane Sulfonic Acid (PFHxS)		51	--	<2.0 U	0.89 J/B	<9.9	<1.9	5.4	2.6 B	<8.5	3.3	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	--	--	--	<9.9	<1.9	--	--	<8.5	2.4	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	--	--	--	<9.9	<1.9	--	--	<8.5	<2.0	
Perfluorononanoic Acid (PFNA)		6	--	<0.65 U	<0.25	<9.9	<1.9	<0.62	<0.25	<8.5	<2.0	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	--	--	--	<9.9	<1.9	--	--	<8.5	<2.0	
Perfluoroheptane Sulfonic Acid (PFHpS)		--	--	1.0 J	0.31 J	<9.9	<1.9	<0.67	<0.18	<8.5	<2.0	
Perfluorodecanoic Acid (PFDA)		--	--	<2.0	<1.9	<9.9	<1.9	<0.41	<1.9	<8.5	<2.0	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	--	--	--	<9.9	<1.9	--	--	<8.5	<2.0	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	--	--	--	<9.9	<3.8	--	--	<8.5	<3.9	
Perfluorooctane Sulfonic Acid (PFOS)		16	12	3.9	4.1	10	3.2	5.0	2.5	<8.5	3.8	
Perfluorooctane Sulfonic Acid (PFOS-LN)		--	--	--	--	<9.9	<1.9	--	--	<8.5	3.3	
Perfluorooctane Sulfonic Acid (PFOS-BR)		--	--	--	--	<9.9	<1.9	--	--	<8.5	<2.0	
Perfluoroundecanoic Acid (PFUnDA)		--	--	<2.0	<1.9	<9.9	<1.9	<0.70	<1.9	<8.5	<2.0	
Perfluorononane Sulfonic Acid (PFNS)		--	--	--	--	<9.9	<1.9	--	--	<8.5	<2.0	
Perfluorododecanoic Acid (PFDDA)		--	--	<2.0	<1.9	<9.9	<1.9	<0.55	<1.9	<8.5	<2.0	
Perfluorodecane Sulfonic Acid (PFDS)		--	--	<2.0	<1.9	<9.9	<1.9	<1.1	<1.9	<8.5	<2.0	
Perfluorotridecanoic Acid (PFTTrDA)		--	--	<2.0	<1.9	<9.9	<1.9	<0.52	<1.9	<8.5	<2.0	
Perfluorooctane Sulfonamide (FOSA)		--	--	<0.63 UJ	<0.33	<9.9	<1.9	0.66 J	<0.32	<8.5	<2.0	
Perfluorotetradecanoic Acid (PFTeDA)		--	--	<2.0 U	<0.27	<9.9	<3.8	<0.19	<0.27	<8.5	<3.9	
11-chlorohexadecafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	--	--	--	--	<1.9	--	--	--	<2.0	
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)		--	--	--	--	--	<1.9	--	--	--	<2.0	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	--	--	--	--	<1.9	--	--	--	<2.0	
Hexafluoropropylene oxide dimer (HFPO-DA)		370	--	--	--	--	<1.9	--	--	--	<2.0	
Total Per-and Polyfluoroalkyl Substances		--	--	6.7	9.1	10.0	22.9	38.3	23.6	0.0	27.5	

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
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- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) 1 - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
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TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		B-28	B-28	B-28	B-28	OBG MW-6	OBG-MW-7	OBG MW-7	
		Sample Date:	Drinking Water	GSI	6/20/2017	6/12/2018	5/29/2019	6/16/2020	9/20/2018	6/20/2017	9/20/2018
Perfluorobutanoic Acid (PFBA)	--	--	--	2.9 B	1.5 J/B	<18	<10	30	8.0 B	<20	
Perfluoropentanoic Acid (PFPeA)	--	--	--	<0.96	0.47 J	<8.9	<4.0	<10	<0.96	<10	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	--	<8.9	<2.0	<10	--	<10	
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	0.92 J	<0.55	<8.9	<2.0	<10	1.0 J	<10	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	<0.89	<0.19	<8.9	<2.0	<10	<0.86	<10	
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<0.78	<0.24	<8.9	<2.0	<10	<0.78	<10	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	--	--	<8.9	<2.0	<10	--	<10	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<3.7	--	<18	<2.0	<10	<3.7	<10	
Perfluorooctanoic Acid (PFOA)	8	170	0.79 J	0.84 J	<8.9	<2.0	<10	<10	<0.72	<10	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	<0.84	0.27 J/B	<8.9	<2.0	<10	<10	<0.84	<10	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	--	<8.9	<2.0	<10	--	<10	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	--	<8.9	<2.0	<10	--	<10	
Perfluorononanoic Acid (PFNA)	6	--	<0.63	<0.26	<8.9	<2.0	<10	<10	<0.63	<10	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	--	<8.9	<2.0	<10	--	<10	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	<0.69	<0.18	<8.9	<2.0	<10	<10	<0.69	<10	
Perfluorodecanoic Acid (PFDA)	--	--	<0.43	<1.9	<8.9	<2.0	<10	<10	<0.43	<10	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	--	<8.9	<2.0	<10	--	<10	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	--	<8.9	<4.0	<10	--	<10	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	1.7 J	<0.51	<8.9	<2.0	<10	<10	<1.9	<10	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	--	--	<8.9	<2.0	<10	--	<10	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	--	--	<8.9	<2.0	<10	--	<10	
Perfluoroundecanoic Acid (PFUnDA)	--	--	<0.73	<1.9	<8.9	<2.0	<10	<10	<0.72	<10	
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	--	<8.9	<2.0	<10	--	<10	
Perfluorododecanoic Acid (PFDoDA)	--	--	<0.57	<1.9	<8.9	<2.0	<10	<10	<0.57	<10	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<1.2	<1.9	<8.9	<2.0	<10	<10	<1.2	<10	
Perfluorotridecanoic Acid (PFTrDA)	--	--	<0.53	<1.9	<8.9	<2.0	<10	<10	<0.53	<10	
Perfluorooctane Sulfonamide (FOSA)	--	--	--	1.2 J	<0.33	<8.9	<2.0	<10	<0.62	<10	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<0.19	<0.28	<8.9	<4.0	<10	<10	1.0 J B	<10	
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	--	--	--	--	--	--	<2.0	--	--	--	
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	--	--	<2.0	--	--	--	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	<2.0	--	--	--	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	<2.0	--	--	--	
Total Per-and Polyfluoroalkyl Substances	--	--	7.5	3.1	0.0	0.0	30.0	10.0	0.0	0.0	

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
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- 6) Dup = Duplicate sample.
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TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-8	OBG-MW-9	OBG MW-9	OBG MW-9 REPLICATE 01	OBG MW-9	OBG MW-9	OBG MW-9	
		Sample Date:	Drinking Water								GSI
			9/20/2018								6/20/2017
Perfluorobutanoic Acid (PFBA)	--	--	<20	1.4 J B	<20	<20	<20	24	<9.8	<10	
Perfluoropentanoic Acid (PFPeA)	--	--	<10	<0.94	<10	<10	<10	<3.8	<3.9	<4.1	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	<10	--	<10	<10	<10	<1.9	<2.0	<2.1	
Perfluorohexanoic Acid (PFHxA)	400,000	--	<10	<0.75	<10	<10	<10	<1.9	<2.0	<2.1	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	<10	2.0	<10	<10	<10	1.7 J	2.1	1.8 J	
Perfluoroheptanoic Acid (PFHpA)	--	--	<10	<0.76	<10	<10	<10	<1.9	<2.0	<2.1	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	<10	--	<10	<10	<10	<1.9	<2.0	<2.1	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	<10	<3.6	<10	<10	<10	6.4	<3.9	<2.1	
Perfluorooctanoic Acid (PFOA)	8	170	20	1.1 J	<10	<10	<10	<1.9	<2.0	<2.1	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	70	5.0	<10	<10	<10	3.2	2.4	3.4 1	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	60	--	<10	<10	<10	2.5	1.7 J	2.5 1	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	<10	--	<10	<10	<10	<1.9	<2.0	<2.1	
Perfluorononanoic Acid (PFNA)	6	--	<10	<0.62	<10	<10	<10	<1.9	<2.0	<2.1	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	<10	--	<10	<10	<10	<1.9	<2.0	<2.1	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	30	<0.68	<10	<10	<10	<1.9	<2.0	<2.1	
Perfluorodecanoic Acid (PFDA)	--	--	<10	<0.42	<10	<10	<10	<1.9	<2.0	<2.1	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	<10	--	<10	<10	<10	<1.9	<2.0	<2.1 I	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	<10	--	<10	<10	<10	<3.8	<3.9	3.3 J	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	2710	2.9	<10	<10	<10	11	3.1	4.0	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	1570	--	<10	<10	<10	6.4	<2.0	<2.1	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	1270	--	<10	<10	<10	3.7	<2.0	2.1	
Perfluoroundecanoic Acid (PFUnDA)	--	--	<10	<0.71	<10	<10	<10	<1.9	<2.0	<2.1	
Perfluorononane Sulfonic Acid (PFNS)	--	--	<10	--	<10	<10	<10	<1.9	<2.0	<2.1	
Perfluorododecanoic Acid (PFDDA)	--	--	<10	<0.55	<10	<10	<10	<1.9	<2.0	<2.1	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<10	<1.1	<10	<10	<10	<1.9	<2.0	4.9	
Perfluorotridecanoic Acid (PFTrDA)	--	--	<10	<0.52	<10	<10	<10	<1.9	<2.0	<2.1	
Perfluorooctane Sulfonamide (FOSA)	--	--	<10	<0.61	<10	<10	<10	<1.9	<2.0	<2.1	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<10	<0.19	<10	<10	<10	<3.8	<3.9	<4.1	
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	--	--	--	--	--	<1.9	<2.0	<2.1	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)	--	--	--	--	--	--	--	<1.9	<2.0	<2.1	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	--	<1.9	<2.0	<2.1	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	--	<1.9	<9.8	<10	
Total Per-and Polyfluoroalkyl Substances	--	--	2830.0	12.4	0.0	0.0	0.0	46.3	7.6	17.4	

Notes

- 1) Detections in **bold**.
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- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) 1 - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
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TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-11	OBG MW-11	OBG MW-11	OBG MW-11	OBG MW-11	
		Sample Date:	Drinking Water	GSI	7/19/2018	5/30/2019	6/24/2020	6/15/2021	6/14/2022
Perfluorobutanoic Acid (PFBA)	--	--	--	29 B	<19	34	24	49	
Perfluoropentanoic Acid (PFPeA)	--	--	--	5.7	<9.7	6.6	6.8	4.9	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	<9.7	<2.0	<2.1	<2.0	
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	29	17	19	16	17	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	79	350	190	52	74	
Perfluoroheptanoic Acid (PFHpA)	--	--	--	14	<9.7	8.8	7.3	7.4	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	160	94	98	94	120	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	5.4 JB	<9.7	<2.0	<4.2	<2.0	
Perfluorooctanoic Acid (PFOA)	8	170	--	54	34	25	27	31	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	450 B	370	440	380	410 1	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	310	370	310	350 1	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	58	71	61	67	
Perfluorononanoic Acid (PFNA)	6	--	--	<0.22	<9.7	<2.0	<2.1	<2.0	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	<9.7	<2.0	<2.1	<2.0 I	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	13	<12	13	9.9	10 1	
Perfluorodecanoic Acid (PFDA)	--	--	--	<1.6	<9.7	<2.0	<2.1	<2.0	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	<9.7	<2.0	<2.1	<2.0 I	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	<9.7	<3.9	<4.2	<4.0	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	110	130	160	110	120	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	--	19	26	18	17	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	--	110	130	85	100	
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<1.6	<9.7	<2.0	<2.1	<2.0	
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	<9.7	<2.0	<2.1	<2.0	
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<1.6	<9.7	<2.0	<2.1	<2.0	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<1.6	<9.7	<2.0	<2.1	<2.0	
Perfluorotridecanoic Acid (PFTTrDA)	--	--	--	<1.6	<9.7	<2.0	<2.1	<2.0	
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<0.28	<9.7	<2.0	<2.1	<2.0	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<0.24	<9.7	<3.9	<4.2	<4.0	
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	--	--	--	<2.0	<2.1	<2.0	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)	--	--	--	--	--	<2.0	<2.1	<2.0	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	<2.0	<2.1	<2.0	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	<2.0	<1.0	<1.0	
Total Per-and Polyfluoroalkyl Substances	--	--	--	949.1	995.0	994.4	727.0	843.3	

Notes

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- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
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TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-12S	OBG MW-12S	OBG MW-12S	OBG MW-12S	OBG MW-12S	
		Sample Date:	Drinking Water						GSI
			1/2/2019						6/5/2019
Perfluorobutanoic Acid (PFBA)	--	--	<20	<19	19	<10	<10	<10	
Perfluoropentanoic Acid (PFPeA)	--	--	<10	<9.5	<3.9	<4.1	<4.1	<4.1	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.1	
Perfluorohexanoic Acid (PFHxA)	400,000	--	<10	<9.5	<2.0	<2.0	<2.1	<2.1	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	<10	<9.5	3.7	4.1	3.9	1	
Perfluoroheptanoic Acid (PFHpA)	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.1	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	<10	<9.5	5.1	4.6	5.5	5.5	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	<10	<9.5	5.6	2.1	J	<2.1	
Perfluorooctanoic Acid (PFOA)	8	170	<10	<9.5	<2.0	<2.0	<2.1	<2.1	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	20	15	17	14	19	1	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	10	12	15	11	16	1	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	<10	<9.5	2.4	2.3	2.8	1	
Perfluorononanoic Acid (PFNA)	6	--	<10	<9.5	<2.0	<2.0	<2.1	<2.1	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	<10	<9.5	<2.0	<2.0	<2.1	I	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	<10	<9.5	4.9	5.0	5.9	5.9	
Perfluorodecanoic Acid (PFDA)	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.1	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.1	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	<10	<9.5	<3.9	<4.1	<4.2	<4.2	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	300	150	220	180	210	210	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	50	23	42	32	39	39	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	250	130	180	140	170	170	
Perfluoroundecanoic Acid (PFUnDA)	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.1	
Perfluorononane Sulfonic Acid (PFNS)	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.1	
Perfluorododecanoic Acid (PFDoDA)	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.1	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.1	
Perfluorotridecanoic Acid (PFTrDA)	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.1	
Perfluorooctane Sulfonamide (FOSA)	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.1	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<10	<9.5	<3.9	<4.1	<4.2	<4.2	
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF30UdS)	--	--	--	--	<2.0	<2.0	<2.1	<2.1	
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF30NS)	--	--	--	--	<2.0	<2.0	<2.1	<2.1	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	<2.0	<2.0	<2.1	<2.1	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	<2.0	<10	<10	<10	
Total Per-and Polyfluoroalkyl Substances	--	--	320.0	165.0	275.3	209.8	244.3	244.3	

Notes

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TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-13 10/19/2018	OBG MW-13 6/6/2019	OBG MW-13 6/19/2020	OBG MW-13 6/14/2021	OBG MW-13 6/10/2022	
		Sample Date:	Drinking Water						GSI
Perfluorobutanoic Acid (PFBA)	--	--	--	<20	<19	13	<10	<10	
Perfluoropentanoic Acid (PFPeA)	--	--	--	<10	<9.7	<3.8	<4.1	<4.1	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<10	<9.7	2.3	5.1	<2.1	
Perfluorooctanoic Acid (PFOA)	8	170	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorononanoic Acid (PFNA)	6	--	--	<10	<9.7	<1.9	<2.1	<2.1	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorodecanoic Acid (PFDA)	--	--	--	<20	<9.7	<1.9	<2.1	<2.1	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	<10	<9.7	<3.8	<4.1	<4.1	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorooctane Sulfonic Acid (PFOS -LN)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorooctane Sulfonic Acid (PFOS -BR)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorododecanoic Acid (PFDDA)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorotridecanoic Acid (PFTTrDA)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<10	<9.7	<1.9	<2.1	<2.1	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<10	<9.7	<3.8	<4.1	<4.1	
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	--	--	<1.9	<2.1	<2.1	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	--	<1.9	<2.1	<2.1	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	<1.9	<2.1	<2.1	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	<1.9	<10	<10	
Total Per-and Polyfluoroalkyl Substances	--	--	--	0.0	0.0	15.3	5.1	0.0	

Notes

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TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-14	OBG MW-14	OBG MW-14	OBG MW-14	OBG MW-14	OBG MW-14 TOPs Analysis
		Sample Date:	Drinking Water	GSI	10/19/2018	6/6/2019	6/25/2020	6/15/2021	6/14/2022
Perfluorobutanoic Acid (PFBA)	--	--	--	<20	<20	36	23	21	51
Perfluoropentanoic Acid (PFPeA)	--	--	--	<10	<10	5.5	6.7	7.1	51
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<10	<10	<2.0	<2.0	<2.1	<6.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	<10	<10	4.9	5.6	8.3 1	44	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	10	18	23	21	27	19	
Perfluoroheptanoic Acid (PFHpA)	--	--	<10	<10	3.1	3.9	3.8	6.5	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	20	32	45	42	53 1	37	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	<10	<10	6.5	<4.0	<2.1	<6.0	
Perfluorooctanoic Acid (PFOA)	8	170	20	18	26	24	35	29	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	100	120	130	180	240 1	180	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	100	100	110	160	210 1	150	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	10	18	20	29	37 1	28	
Perfluorononanoic Acid (PFNA)	6	--	<10	<10	<2.0	<2.0	<2.1	<6.0	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	<10	<10	<2.0	<2.0	<2.1 I	<6.0 I	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	20	32	28	44	44 1	42	
Perfluorodecanoic Acid (PFDA)	--	--	<20	<10	<2.0	<2.0	<2.1	<6.0	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	<10	<10	<2.0	<2.0	<2.1 I	<6.0	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	<10	<10	<4.1	<4.0	<4.2	<12	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	540	1100	1300	1500	1800	1300	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	230	450	580	670	840	540	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	300	700	730	830	1000	680	
Perfluoroundecanoic Acid (PFUnDA)	--	--	<10	<10	<2.0	<2.0	<2.1	<6.0	
Perfluorononane Sulfonic Acid (PFNS)	--	--	<10	<10	<2.0	<2.0	<2.1	<6.0	
Perfluorododecanoic Acid (PFDoDA)	--	--	<10	<10	<2.0	<2.0	<2.1	<6.0	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<10	<10	<2.0	<2.0	<2.1	<6.0	
Perfluorotridecanoic Acid (PFTTrDA)	--	--	<10	<10	<2.0	<2.0	<2.1	<6.0	
Perfluorooctane Sulfonamide (FOSA)	--	--	<10	<10	<2.0	<2.0	<2.1	<6.0	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<10	<10	<4.1	<4.0	<4.2	<12	
11-chlorooicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	--	<2.0	<2.0	<2.1	<6.0	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	<2.0	<2.0	<2.1	<6.0	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	<2.0	<2.0	<2.1	<6.0	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	<2.0	<10	<10	<6.0	
Total Per-and Polyfluoroalkyl Substances	--	--	710.0	1320.0	1608.0	1850.2	2239.2	1759.5	

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) I - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
- 13) I - Matrix interference with internal standard.
- 14) J - Estimated value less than reporting limit, but greater than MDL.
- 15) X - Elevated reporting limit due to matrix interference.
- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-17S	OBG MW-17S	OBG MW-17S (GW-DUP-2)	OBG MW-17S	OBG MW-17S (DUP-2)	OBG MW-17S	OBG MW-17S							
		Drinking Water	GSI								1/2/2019	6/6/2019	6/6/2019	6/22/2020	6/22/2020	6/15/2021	6/13/2022
											Sample Date:						
Perfluorobutanoic Acid (PFBA)	--	--	<20	<20	<20	26	27	11	11								
Perfluoropentanoic Acid (PFPeA)	--	--	<10	<9.8	<10	<3.9	<3.9	2.0 J	<3.9								
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9								
Perfluorohexanoic Acid (PFHxA)	400,000	--	<10	<9.8	<10	<1.9	<1.9	1.9 J	<1.9								
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	<10	<9.8	<10	2.0	1.9 J	2.6	2.7								
Perfluoroheptanoic Acid (PFHpA)	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9								
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	<10	<9.8	<10	1.7 J	1.8 J	3.0	2.8								
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	<10	<9.8	<10	<1.9	<1.9	<4.0	<1.9								
Perfluorooctanoic Acid (PFOA)	8	170	<10	<9.8	<10	1.6 J	<1.9	2.0	2.2								
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	<10	11	15	9.7	8.7	9.7	13.1								
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	<10	9.9	13	8.5	7.1	7.8	11.1								
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	<10	<9.8	<10	<1.9	1.8 J	1.7 J	1.7 J1								
Perfluorononanoic Acid (PFNA)	6	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9								
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9								
Perfluorooheptane Sulfonic Acid (PFHpS)	--	--	<10	<9.8	<10	5.2	4.7	3.7	5.0 1								
Perfluorodecanoic Acid (PFDA)	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9								
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9								
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	<10	<9.8	<10	<3.9	<3.9	<4.0	<3.9								
Perfluorooctane Sulfonic Acid (PFOS)	16	12	460	430	470	580	590	460	540								
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	210	210	240	310	330	260	300								
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	250	220	240	290	280	200	240								
Perfluoroundecanoic Acid (PFUnDA)	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9								
Perfluorononane Sulfonic Acid (PFNS)	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9								
Perfluorododecanoic Acid (PFDoDA)	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9								
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9								
Perfluorotridecanoic Acid (PFTrDA)	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9								
Perfluorooctane Sulfonamide (FOSA)	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9								
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<10	<9.8	<10	<3.9	<3.9	<4.0	<3.9								
11-chloroicosafauro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	--	--	<1.9	<1.9	<2.0	<1.9								
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	--	<1.9	<1.9	<2.0	<1.9								
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	<1.9	<1.9	<2.0	<1.9								
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	<1.9	<1.9	<9.9	<9.7								
Total Per-and Polyfluoroalkyl Substances	--	--	460.0	441.0	485.0	626.2	634.1	495.9	576.7								

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) 1 - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
- 13) I - Matrix interference with internal standard.
- 14) J - Estimated value less than reporting limit, but greater than MDL.
- 15) X - Elevated reporting limit due to matrix interference.
- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-18S 1/3/2019	OBG MW-18S 6/4/2019	OBG MW-18S 6/19/2020	OBG MW-18S 6/10/2021	OBG MW-18S 6/10/2022	
		Sample Date:	Drinking Water						GSI
Perfluorobutanoic Acid (PFBA)	--	--	<20	<19	16	<10	<10	<10	
Perfluoropentanoic Acid (PFPeA)	--	--	<10	<9.5	<4.1	<4.1	<4.2	<4.2	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluorohexanoic Acid (PFHxA)	400,000	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluoroheptanoic Acid (PFHpA)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	<10	<9.5	<2.1	12	<2.1	<2.1	
Perfluorooctanoic Acid (PFOA)	8	170	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	<10	<9.5	1.9 J	2.0 J	2.3	2.3	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluorononanoic Acid (PFNA)	6	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluorodecanoic Acid (PFDA)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	<10	<9.5	<4.1	<4.1	<4.2	<4.2	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluoroundecanoic Acid (PFUnDA)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluorononane Sulfonic Acid (PFNS)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluorododecanoic Acid (PFDoDA)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluorotridecanoic Acid (PFTrDA)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluorooctane Sulfonamide (FOSA)	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.1	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<10	<9.5	<4.1	<4.1	<4.2	<4.2	
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	--	--	--	--	<2.1	<2.0	<2.1	<2.1	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF30NS)	--	--	--	--	<2.1	<2.0	<2.1	<2.1	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	<2.1	<2.0	<2.1	<2.1	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	<2.1	<10	<10	<10	
Total Per-and Polyfluoroalkyl Substances	--	--	0.0	0.0	17.9	14.0	2.3	2.3	

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) 1 - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
- 13) I - Matrix interference with internal standard.
- 14) J - Estimated value less than reporting limit, but greater than MDL.
- 15) X - Elevated reporting limit due to matrix interference.
- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-21 1/2/2019	OBG MW-21 6/4/2019	OBG MW-21 6/18/2020	OBG MW-21 6/14/2021	OBG MW-21 6/12/2022
		Sample Date:						
		Drinking Water	GSI					
Perfluorobutanoic Acid (PFBA)	--	--	<20	<20	24	<10	<9.5	
Perfluoropentanoic Acid (PFPeA)	--	--	<10	<9.8	<4.1	<4.1	<3.8	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	
Perfluorohexanoic Acid (PFHxA)	400,000	--	<10	<9.8	<2.1	1.8 J	<1.9	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	<10	<9.8	8.9	2.6	3.2 1	
Perfluoroheptanoic Acid (PFHpA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	<10	<9.8	2.2	3.3	4.3 1	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	<10	<9.8	<2.1	5.7	<1.9	
Perfluorooctanoic Acid (PFOA)	8	170	<10	<9.8	<2.1	<2.1	<1.9	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	<10	<9.8	3.2	4.3	6.2 1	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	<10	<9.8	1.6 J	2.5	3.4 1	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	<10	<9.8	1.8 J	1.7 J	2.8 1	
Perfluorononanoic Acid (PFNA)	6	--	<10	<9.8	<2.1	<2.1	<1.9	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	<10	<9.8	<2.1	<2.1	<1.9	
Perfluorodecanoic Acid (PFDA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	<10	<9.8	<4.1	<4.1	<1.9	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	<10	<9.8	<2.1	<2.1	2.1 1	
Perfluorooctane Sulfonic Acid (PFOS -LN)	--	--	<10	<9.8	<2.1	<2.1	<1.9	
Perfluorooctane Sulfonic Acid (PFOS -BR)	--	--	<10	<9.8	<2.1	<2.1	<1.9	
Perfluoroundecanoic Acid (PFUnDA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	
Perfluorononane Sulfonic Acid (PFNS)	--	--	<10	<9.8	<2.1	<2.1	<1.9	
Perfluorododecanoic Acid (PFDoDA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<10	<9.8	<2.1	<2.1	<1.9	
Perfluorotridecanoic Acid (PFTTrDA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	
Perfluorooctane Sulfonamide (FOSA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<10	<9.8	<4.1	<4.1	<3.8	
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF30udS)	--	--	--	--	<2.1	<2.1	<1.9	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF30NS)	--	--	--	--	<2.1	<2.1	<1.9	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	<2.1	<2.1	<1.9	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	<2.1	<10	<9.5	
Total Per-and Polyfluoroalkyl Substances	--	--	0.0	0.0	38.3	17.7	15.8	

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) I - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
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- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.



TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-22	OBG MW-22 (DUP-1)	OBG MW-22	OBG MW-22 (GW-DUP-3)	OBG MW-22	OBG MW-22	MW-DUP-061621 (OBG MW-22)	
		Sample Date:	Drinking Water	GSI	1/3/2019	1/3/2019	6/6/2019	6/6/2019	6/24/2020	6/16/2021	6/16/2021
Perfluorobutanoic Acid (PFBA)		--	--	<20	<20	<20	<19	<9.8	<10	<10	
Perfluoropentanoic Acid (PFPeA)		--	--	<10	<10	<9.8	<9.5	<3.9	<4.1	<4.0	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	--	<10	<10	<9.8	<9.5	<2.0	<2.1	<2.0	
Perfluorohexanoic Acid (PFHxA)		400,000	--	<10	<10	<9.8	<9.5	<2.0	<2.1	<2.0	
Perfluorobutane Sulfonic Acid (PFBS)		420	670,000	<10	<10	<9.8	<9.5	5.1	4.7	4.8	
Perfluoroheptanoic Acid (PFHpA)		--	--	<10	<10	<9.8	<9.5	<2.0	<2.1	<2.0	
Perfluoropentane Sulfonic Acid (PFPeS)		--	--	<10	10	10	9.6	6.9	5.8	5.7	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	--	<10	<10	<9.8	<9.5	<2.0	<4.1	<4.0	
Perfluorooctanoic Acid (PFOA)		8	170	<10	10	<9.8	<9.5	7.2	7.2	7.1	
Perfluorohexane Sulfonic Acid (PFHxS)		51	--	50	50	43	47	38	33	34	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	--	40	40	39	41	34	28	30	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	--	<10	<10	<9.8	<9.5	3.8	4.7	3.5	
Perfluorononanoic Acid (PFNA)		6	--	<10	<10	<9.8	<9.5	<2.0	<2.1	<2.0	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	--	<10	<10	<9.8	<9.5	<2.0	<2.1	<2.0	
Perfluoroheptane Sulfonic Acid (PFHpS)		--	--	30	30	31	22	30	18	19	
Perfluorodecanoic Acid (PFDA)		--	--	<10	<10	<9.8	<9.5	<2.0	<2.1	<2.0	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	--	<10	<10	<9.8	<9.5	<2.0	<2.1	<2.0	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	--	<10	<10	<9.8	<9.5	<3.9	<4.1	<4.0	
Perfluorooctane Sulfonic Acid (PFOS)		16	12	1620	1800	1800	1800	2300	1900	1900	
Perfluorooctane Sulfonic Acid (PFOS-LN)		--	--	590	670	810	800	1200	1000	1000	
Perfluorooctane Sulfonic Acid (PFOS-BR)		--	--	1020	1110	1000	1000	1200	840	900	
Perfluoroundecanoic Acid (PFUnDA)		--	--	<10	<10	<9.8	<9.5	<2.0	<2.1	<2.0	
Perfluorononane Sulfonic Acid (PFNS)		--	--	<10	<10	<9.8	<9.5	<2.0	<2.1	<2.0	
Perfluorododecanoic Acid (PFDoDA)		--	--	<10	<10	<9.8	<9.5	<2.0	<2.1	<2.0	
Perfluorodecane Sulfonic Acid (PFDS)		--	--	<10	<10	<9.8	<9.5	<2.0	<2.1	<2.0	
Perfluorotridecanoic Acid (PFTrDA)		--	--	<10	<10	<9.8	<9.5	<2.0	<2.1	<2.0	
Perfluorooctane Sulfonamide (FOSA)		--	--	<10	<10	<9.8	<9.5	<2.0	<2.1	<2.0	
Perfluorotetradecanoic Acid (PFTeDA)		--	--	<10	<10	<9.8	<9.5	<3.9	<4.1	<4.0	
11-chloroheptafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	--	--	--	--	--	<2.0	<2.1	<2.0	
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)		--	--	--	--	--	--	<2.0	<2.1	<2.0	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	--	--	--	--	--	<2.0	<2.1	<2.0	
Hexafluoropropylene oxide dimer (HFPO-DA)		370	--	--	--	--	--	<2.0	<10	<10	
Total Per-and Polyfluoroalkyl Substances		--	--	1700.0	1900.0	1884.0	1878.6	2387.2	1968.7	1970.6	

Notes

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- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) I - Qualifier ion out of range.
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TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID: Sample Date:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-22	MW-DUP-061422 (OBG MW-22)	OBG MW-22 Replicate	MW-DUP-061422 (OBG MW-22) Replicate	OBG MW-22 TOPs Analysis
		Drinking Water	GSI	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022
Perfluorobutanoic Acid (PFBA)	--	--	--	<10	13	<100 Y	<100 Y	35
Perfluoropentanoic Acid (PFPeA)	--	--	--	<4.0	<4.1	<40 Y	<41 Y	46 I
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	<2.0	<2.1	<20 Y	<21 Y	38
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	5.3	5.6	<20 Y	<21 Y	5.0 J
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	6.9	8.1 1	<20 Y	<21 Y	6.2
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
Perfluorooctanoic Acid (PFOA)	8	170	--	6.0	7.4	<20 Y	18 JY	6.5
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	32 1	37 1	34 Y	33 Y	27
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	27 1	32 1	27 Y	26 Y	23
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	5.1	5.4	<20 Y	<21 Y	<6.0
Perfluorononanoic Acid (PFNA)	6	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0 I
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	20	21	30 Y	<21 Y	18
Perfluorodecanoic Acid (PFDA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	<4.0	<4.1	<20 Y	<41 Y	<12
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	2300 E	2400 E	2300 Y	2300 Y	1500
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	1300	1400	1300 Y	1300 Y	830
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	1000	1000	1000 Y	970 Y	670
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
Perfluorotridecanoic Acid (PFTrDA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<4.0	<4.1	<40 Y	<41 Y	<12
11-chloroicosafauro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	<10	<10	<100 Y	<100 Y	<6.0
Total Per-and Polyfluoroalkyl Substances	--	--	--	2370.2	2492.1	2364.0	2351.0	1681.7

Notes

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- 6) Dup = Duplicate sample.
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- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
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TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-24 1/3/2019	OBG MW-24 6/6/2019	OBG MW-24 6/23/2020	OBG MW-24 6/10/2021	OBG MW-24 6/10/2022	OBG MW-25* 6/5/2019	OBG MW-25* 6/22/2020
		Drinking Water	GSI							
		Sample Date:								
Perfluorobutanoic Acid (PFBA)	--	--	<20	<20	<10	<9.8	<10.0	<20	17 U	
Perfluoropentanoic Acid (PFPeA)	--	--	<10	<10	<4.0	<3.9	<4.0	<10	<3.9	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorohexanoic Acid (PFHxA)	400,000	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluoroheptanoic Acid (PFHpA)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	<10	<10	<2.0	11	<2.0	<10	<1.9	
Perfluorooctanoic Acid (PF ₈ OA)	8	170	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorononanoic Acid (PFNA)	6	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorodecanoic Acid (PFDA)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	<10	<10	<4.0	<3.9	<4.0	<10	<3.9	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluoroundecanoic Acid (PFUnDA)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorononane Sulfonic Acid (PFNS)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorododecanoic Acid (PFDoDA)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorotridecanoic Acid (PFTrDA)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorooctane Sulfonamide (FOSA)	--	--	<10	<10	<2.0	<2.0	<2.0	<10	<1.9	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<10	<10	<4.0	<3.9	<4.0	<10	<3.9	
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	--	--	--	--	<2.0	<2.0	<2.0	--	<1.9	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF30NS)	--	--	--	--	<2.0	<2.0	<2.0	--	<1.9	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	<2.0	<2.0	<2.0	--	<1.9	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	<2.0	<9.8	<10	--	<1.9	
Total Per-and Polyfluoroalkyl Substances	--	--	0.0	0.0	0.0	11.0	0.0	0.0	17.0	

Notes

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TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-26 6/6/2019	OBG MW-26 6/24/2020	OBG MW-26 6/15/2021	OBG MW-26 6/14/2022	OBG MW-26 TOPs Analysis 6/14/2022	
		Sample Date:	Drinking Water						GSI
Perfluorobutanoic Acid (PFBA)	--	--	--	25	48	13	27	<30	
Perfluoropentanoic Acid (PFPeA)	--	--	--	79	53	26	43	120 I	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<9.9	<1.9	<2.0	<2.1	<6.0 I	
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	64	43	25	34	92	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	<9.9	5.4	4.7	4.7 1	<6.0	
Perfluoroheptanoic Acid (PFHpA)	--	--	--	11	7.5	4.7	6.1	9.7	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	<9.9	8.5	6.3	9.9	7.1	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<9.9	<1.9	<4.0	<2.1	<6.0 I	
Perfluorooctanoic Acid (PFOA)	8	170	--	41	32	31	37	23	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	40	34	33	41 1	39	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	36	31	29	36 1	33	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	<9.9	3.1	3.7	4.4	<6.0	
Perfluorononanoic Acid (PFNA)	6	--	--	<9.9	<1.9	<2.0	<2.1	<6.0	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	<9.9	<1.9	<2.0	<2.1	<6.0 I	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	18	12	11	13	12	
Perfluorodecanoic Acid (PFDA)	--	--	--	<9.9	<1.9	<2.0	<2.1	<6.0	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	<9.9	<1.9	<2.0	<2.1	<6.0 I	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	<9.9	<3.8	<4.0	<4.1	<12 I	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	490	530	490	560	380	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	170	190	190	200	150	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	320	330	300	360	220	
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<9.9	<1.9	<2.0	<2.1	<6.0	
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	<9.9	<1.9	<2.0	<2.1	<6.0	
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<9.9	<1.9	<2.0	<2.1	<6.0	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<9.9	<1.9	<2.0	2.6	<6.0	
Perfluorotridecanoic Acid (PFTTrDA)	--	--	--	<9.9	<1.9	<2.0	<2.1	<6.0	
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<9.9	<1.9	<2.0	<2.1	<6.0 I	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<9.9	<3.8	<4.0	<4.1	<12	
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	--	<1.9	<2.0	<2.1	<6.0	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	<1.9	<2.0	<2.1	<6.0	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	<1.9	<2.0	<2.1	<6.0	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	<1.9	<1.0	<1.0	<6.0	
Total Per-and Polyfluoroalkyl Substances	--	--	--	768.0	773.4	644.7	778.3	682.8	

Notes

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TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-28 6/24/2020	OBG MW-28 (DUP-3) 6/24/2020	OBG MW-28 6/14/2021	OBG MW-28 6/13/2022	
		Sample Date:	Drinking Water					GSI
Perfluorobutanoic Acid (PFBA)	--	--	--	14	12	<10	<10	
Perfluoropentanoic Acid (PFPeA)	--	--	--	<3.8	<3.8	<4.2	<4.1	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<1.9	<1.9	<2.1	<2.1	
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	<1.9	<1.9	<2.1	<2.1	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	1.9 J	2.4	<2.1	2.4	
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<1.9	<1.9	<2.1	1.5 J	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	<1.9	<1.9	<2.1	<2.1	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<1.9	<1.9	<4.2	<2.1	
Perfluorooctanoic Acid (PFOA)	8	170	--	7.2	6.1	<2.1	8.9	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	2.3	2.1	<2.1	1.8 J	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	1.9	1.8 J	<2.1	<2.1	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	<1.9	<1.9	<2.1	<2.1	
Perfluorononanoic Acid (PFNA)	6	--	--	<1.9	<1.9	<2.1	<2.1	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	<1.9	<1.9	<2.1	<2.1 I	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	<1.9	<1.9	<2.1	<2.1	
Perfluorodecanoic Acid (PFDA)	--	--	--	<1.9	<1.9	<2.1	<2.1	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	<1.9	<1.9	<2.1	<2.1	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	<3.8	<3.8	<4.2	<4.1	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	<1.9	<1.9	<2.1	2.8	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	<1.9	<1.9	<2.1	<2.1	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	<1.9	<1.9	<2.1	2.7	
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<1.9	<1.9	<2.1	<2.1	
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	<1.9	<1.9	<2.1	<2.1	
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<1.9	<1.9	<2.1	<2.1	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<1.9	<1.9	<2.1	<2.1	
Perfluorotridecanoic Acid (PFTrDA)	--	--	--	<1.9	<1.9	<2.1	<2.1	
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<1.9	<1.9	<2.1	<2.1	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<3.8	<3.8	<4.2	<4.1	
11-chloroheptafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	<1.9	<1.9	<2.1	<2.1	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	<1.9	<1.9	<2.1	<2.1	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	<1.9	<1.9	<2.1	<2.1	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	<1.9	<1.9	<10	<10	
Total Per-and Polyfluoroalkyl Substances	--	--	--	25.4	22.6	0.0	17.4	

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
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- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) 1 - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
- 13) I - Matrix interference with internal standard.
- 14) J - Estimated value less than reporting limit, but greater than MDL.
- 15) X - Elevated reporting limit due to matrix interference.
- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		PZ-1	PZ-1	PZ-1	PZ-3*	PZ-3*	PZ-3*	
		Sample Date:	Drinking Water	GSI	1/2/2019	6/6/2019	6/23/2020	1/3/2019	6/5/2019	6/24/2020
Perfluorobutanoic Acid (PFBA)	--	--	--	<20	<20	17 U	<20	<19	33 U	
Perfluoropentanoic Acid (PFPeA)	--	--	--	<10	<10	<3.8	<10	<9.6	<3.8	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<10	<10	<1.9	<10	<9.6	<1.9	
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	<10	<10	<1.9	<10	<9.6	<1.9	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	<10	<10	<1.9	10	14	8.9	
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<10	<10	<1.9	<10	<9.6	<1.9	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	<10	<10	<1.9	10	11	13	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<10	<10	2.6	<10	<9.6	<1.9	
Perfluorooctanoic Acid (PFOA)	8	170	--	<10	<10	<1.9	<10	<9.6	11	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	<10	<10	<1.9	50	42	46	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	<10	<10	<1.9	40	37	39	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	<10	<10	<1.9	<10	<9.6	7.3	
Perfluorononanoic Acid (PFNA)	6	--	--	<10	<10	<1.9	<10	<9.6	<1.9	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	<10	<10	<1.9	<10	<9.6	<1.9	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	<10	<10	<1.9	10	18	15	
Perfluorodecanoic Acid (PFDA)	--	--	--	<10	<10	<1.9	<10	<9.6	<1.9	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	<10	<10	<1.9	<10	<9.6	<1.9	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	<10	<10	<3.8	<10	<9.6	<3.8	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	<10	<10	<1.9	300	620	860	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	<10	<10	<1.9	80	210	370	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	<10	<10	<1.9	210	410	490	
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<10	<10	<1.9	<10	<9.6	<1.9	
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	<10	<10	<1.9	<10	<9.6	<1.9	
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<10	<10	<1.9	<10	<9.6	<1.9	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<10	<10	<1.9	<10	<9.6	<1.9	
Perfluorotridecanoic Acid (PFTTrDA)	--	--	--	<10	<10	<1.9	<10	<9.6	<1.9	
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<10	<10	<1.9	<10	<9.6	<1.9	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<10	<10	<3.8	<10	<9.6	<3.8	
11-chloroicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	--	--	<1.9	--	--	<1.9	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	--	<1.9	--	--	<1.9	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	<1.9	--	--	<1.9	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	<1.9	--	--	<1.9	
Total Per-and Polyfluoroalkyl Substances	--	--	--	0.0	0.0	19.6	380.0	705.0	986.9	

Notes

- 1) Detections in **bold**.
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- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) I - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
- 13) I - Matrix interference with internal standard.
- 14) J - Estimated value less than reporting limit, but greater than MDL.
- 15) X - Elevated reporting limit due to matrix interference.
- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

TABLE 2
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Perched Monitoring Well Sampling

Coldwater Road - Monitoring Wells - PERCHED Zone

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		MW-4-02*	MW-18-13*	MW-19-13	MW-19-13	
		Sample Date:	Drinking Water					GSI
Perfluorobutanoic Acid (PFBA)	--	--	4.7	5.0	13	5.0 B		
Perfluoropentanoic Acid (PFPeA)	--	--	<0.94 U	<0.93 U	16	3.0		
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	--	--		
Perfluorohexanoic Acid (PFHxA)	400,000	--	<0.75 U	<0.74 U	29	6.0		
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	0.92 J	2.8	13	9.0		
Perfluoroheptanoic Acid (PFHpA)	--	--	<0.76 U	<0.76 U	18	6.7		
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	--	--	--		
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	<3.5	<3.6	<3.7	--		
Perfluorooctanoic Acid (PFOA)	8	170	<0.71 U	3.9	39	16		
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	<0.83 U	4.3	31	14 B		
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	--	--		
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	--	--		
Perfluorononanoic Acid (PFNA)	6	--	<0.62 U	<0.62 U	<0.63	<0.25		
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	--	--		
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	<0.68 U	0.78 J	1.3 J	0.46 J		
Perfluorodecanoic Acid (PFDA)	--	--	<0.42	<0.42	<0.42	<0.29		
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	--	--		
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	--	--		
Perfluorooctane Sulfonic Acid (PFOS)	16	12	3.5	27	19	4.9		
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	--	--	--		
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	--	--	--		
Perfluoroundecanoic Acid (PFUnDA)	--	--	<0.71	<0.71	<0.72	<1.0		
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	--	--		
Perfluorododecanoic Acid (PFDoDA)	--	--	<0.56	<0.55	<0.56	<0.51		
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<1.9	<1.9	<1.9	<1.9		
Perfluorotridecanoic Acid (PFTrDA)	--	--	<1.9	<1.9	<1.9	<1.9		
Perfluorooctane Sulfonamide (FOSA)	--	--	<1.9	<1.9	<1.9	<1.9		
Perfluorotetradecanoic Acid (PFTeDA)	--	--	0.65 J F1 B	0.60 J B	0.54 J B	<0.27		
11-chlorooicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	--	--	--	--	--	--		
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF30NS)	--	--	--	--	--	--		
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--		
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--		
Total Per-and Polyfluoroalkyl Substances	--	--	9.8	44.4	179.8	65.1		

Notes

- 1) Detections in **bold**.
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- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) 1 - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
- 13) I - Matrix interference with internal standard.
- 14) J - Estimated value less than reporting limit, but greater than MDL.
- 15) X - Elevated reporting limit due to matrix interference.
- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.



TABLE 3
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Drift Monitoring Well Sampling

Coldwater Road - Monitoring Wells - DRIFT Unit

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		B-20D	B-21D	B-22D	B-22D (DUP-2)	B-23Dr	B-23Dr (DUP-01-GW)
		Drinking Water	GSI	9/19/2018	9/19/2018	6/13/2018	6/13/2018	9/21/2018	9/21/2018
Perfluorobutanoic Acid (PFBA)		--	--	<20	<20	0.72 J/B	0.63 J/B	<20	<20
Perfluoropentanoic Acid (PFPeA)		--	--	<10	<10	<0.48	<0.45	<10	<10
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	--	<10	<10	--	--	<10	<10
Perfluorohexanoic Acid (PFHxA)		400,000	--	<10	<10	<0.57	<0.53	<10	<10
Perfluorobutane Sulfonic Acid (PFBS)		420	670,000	<10	<10	<0.20	<0.18	<10	<10
Perfluoroheptanoic Acid (PFHpA)		--	--	<10	<10	<0.25	<0.23	<10	<10
Perfluoropentane Sulfonic Acid (PFPeS)		--	--	<10	<10	--	--	<10	<10
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	--	<10	<10	--	--	<10	<10
Perfluorooctanoic Acid (PFOA)		8	170	<10	<10	<0.83	<0.78	<10	<10
Perfluorohexane Sulfonic Acid (PFHxS)		51	--	<10	<10	<0.17	0.29 J/B	<10	<10
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	--	<10	<10	--	--	<10	<10
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	--	<10	<10	--	--	<10	<10
Perfluorononanoic Acid (PFNA)		6	--	<10	<10	<2.0	<1.8	<10	<10
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	--	<10	<10	--	--	<10	<10
Perfluoroheptane Sulfonic Acid (PFHpS)		--	--	<10	<10	<0.19	<0.17	<10	<10
Perfluorodecanoic Acid (PFDA)		--	--	<10	<10	<2.0	<1.8	<10	<10
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	--	<10	<10	--	--	<10	<10
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	--	<10	<10	--	--	<10	<10
Perfluorooctane Sulfonic Acid (PFOS)		16	12	<10	<10	<0.53	<0.49	<10	<10
Perfluorooctane Sulfonic Acid (PFOS -LN)		--	--	<10	<10	--	--	<10	<10
Perfluorooctane Sulfonic Acid (PFOS -BR)		--	--	<10	<10	--	--	<10	<10
Perfluoroundecanoic Acid (PFUnDA)		--	--	<10	<10	<1.1	<1.0	<10	<10
Perfluorononane Sulfonic Acid (PFNS)		--	--	<10	<10	--	--	<10	<10
Perfluorododecanoic Acid (PFDoDA)		--	--	<10	<10	<2.0	<1.8	<10	<10
Perfluorodecane Sulfonic Acid (PFDS)		--	--	<10	<10	<2.0	<1.8	<10	<10
Perfluorotridecanoic Acid (PFTrDA)		--	--	<10	<10	<2.0	<1.8	<10	<10
Perfluorooctane Sulfonamide (FOSA)		--	--	<10	<10	--	--	<10	<10
Perfluorotetradecanoic Acid (PFTeDA)		--	--	<10	<10	<2.0	<1.8	<10	<10
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF30UDS)		--	--	--	--	--	--	--	--
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF30NS)		--	--	--	--	--	--	--	--
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	--	--	--	--	--	--	--
Hexafluoropropylene oxide dimer (HFPO-DA)		370	--	--	--	--	--	--	--
Total Per-and Polyfluoroalkyl Substances		--	--	0.0	0.0	0.7	0.9	0.0	0.0

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
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TABLE 3
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Drift Monitoring Well Sampling

Coldwater Road - Monitoring Wells - DRIFT Unit

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		B-27D	B-27D	B-27D	B-27D	MW-DUP-061121 (B-27D)	B-27D
		Sample Date:	Drinking Water	GSI	6/20/2017	6/12/2018	6/17/2020	6/11/2021	6/11/2021
Perfluorobutanoic Acid (PFBA)		--	--	2.0 B	0.47 J/B	12	<10	<10	<10
Perfluoropentanoic Acid (PFPeA)		--	--	<0.95	0.26 J	<3.9	<4.1	<4.1	<4.0
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	--	--	--	<2.0	<2.1	<2.1	<2.0
Perfluorohexanoic Acid (PFHxA)		400,000	--	<0.75	<0.53	<2.0	<2.1	<2.1	<2.0
Perfluorobutane Sulfonic Acid (PFBS)		420	670,000	<0.88	<0.18	<2.0	<2.1	<2.1	<2.0
Perfluoroheptanoic Acid (PFHpA)		--	--	<0.77	<0.23	<2.0	<2.1	<2.1	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)		--	--	--	--	<2.0	<2.1	<2.1	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	--	--	--	<2.0	<4.1	<4.1	<2.0
Perfluorooctanoic Acid (PFOA)		8	170	<0.72	<0.78	<2.0	<2.1	<2.1	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)		51	--	<0.83	0.23 J/B	<2.0	<2.1	<2.1	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	--	--	--	<2.0	<2.1	<2.1	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	--	--	--	<2.0	<2.1	<2.1	<2.0
Perfluorononanoic Acid (PFNA)		6	--	<0.63	<1.8	<2.0	<2.1	<2.1	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	--	--	--	<2.0	<2.1	<2.1	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)		--	--	<0.68	<0.17	<2.0	<2.1	<2.1	<2.0
Perfluorodecanoic Acid (PFDA)		--	--	<0.42	<1.8	<2.0	<2.1	<2.1	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	--	--	--	<2.0	<2.1	<2.1	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	--	--	--	<3.9	<4.1	<4.1	<4.0
Perfluorooctane Sulfonic Acid (PFOS)		16	12	<1.2	<0.49	<2.0	<2.1	<2.1	<2.0
Perfluorooctane Sulfonic Acid (PFOS-LN)		--	--	--	--	<2.0	<2.1	<2.1	<2.0
Perfluorooctane Sulfonic Acid (PFOS-BR)		--	--	--	--	<2.0	<2.1	<2.1	<2.0
Perfluoroundecanoic Acid (PFUnDA)		--	--	1.4 J	<1.0	<2.0	<2.1	<2.1	<2.0
Perfluorononane Sulfonic Acid (PFNS)		--	--	--	--	<2.0	<2.1	<2.1	<2.0
Perfluorododecanoic Acid (PFDoDA)		--	--	<0.56	<1.8	<2.0	<2.1	<2.1	<2.0
Perfluorodecane Sulfonic Acid (PFDS)		--	--	<1.2	<1.8	<2.0	<2.1	<2.1	<2.0
Perfluorotridecanoic Acid (PFTrDA)		--	--	<0.53	<1.8	<2.0	<2.1	<2.1	<2.0
Perfluorooctane Sulfonamide (FOSA)		--	--	--	--	<2.0	<2.1	<2.1	<2.0
Perfluorotetradecanoic Acid (PFTeDA)		--	--	<0.19	<1.8	<3.9	<4.1	<4.1	<4.0
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF30UdS)		--	--	--	--	<2.0	<2.1	<2.1	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF30NS)		--	--	--	--	<2.0	<2.1	<2.1	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	--	--	--	<2.0	<2.1	<2.1	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)		370	--	--	--	<2.0	<10	<10	<10
Total Per-and Polyfluoroalkyl Substances		--	--	3.4	1.0	12.0	0.0	0.0	0.0

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) I - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
- 13) I - Matrix interference with internal standard.
- 14) J - Estimated value less than reporting limit, but greater than MDL.
- 15) X - Elevated reporting limit due to matrix interference.
- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.



TABLE 3
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Drift Monitoring Well Sampling

Coldwater Road - Monitoring Wells - DRIFT Unit

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-12D	OBG MW-12D	OBG MW-12D	OBG MW-15D	OBG MW-15D (DUP-1)	OBG MW-15D	OBG MW-15D
		Sample Date:	Drinking Water	GSI	10/22/2018	6/5/2019	6/22/2020	10/23/2018	10/23/2018	6/6/2019
Perfluorobutanoic Acid (PFBA)		--	--	<20	<20	9.9 U	<20	<20	<19	<10
Perfluoropentanoic Acid (PFPeA)		--	--	<10	<9.8	<3.9	<10	<10	<9.6	<4.0
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorohexanoic Acid (PFHxA)		400,000	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorobutane Sulfonic Acid (PFBS)		420	670,000	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluoroheptanoic Acid (PFHpA)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorooctanoic Acid (PFOA)		8	170	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)		51	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorononanoic Acid (PFNA)		6	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorodecanoic Acid (PFDA)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	--	<10	<9.8	<3.9	<10	<10	<9.6	<4.0
Perfluorooctane Sulfonic Acid (PFOS)		16	12	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorooctane Sulfonic Acid (PFOS-LN)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorooctane Sulfonic Acid (PFOS-BR)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluoroundecanoic Acid (PFUnDA)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorononane Sulfonic Acid (PFNS)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorododecanoic Acid (PFDoDA)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorodecane Sulfonic Acid (PFDS)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorotridecanoic Acid (PFTrDA)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorooctane Sulfonamide (FOSA)		--	--	<10	<9.8	<1.9	<10	<10	<9.6	<2.0
Perfluorotetradecanoic Acid (PFTeDA)		--	--	<10	<9.8	<3.9	<10	<10	<9.6	<4.0
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	--	--	--	<1.9	--	--	--	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)		--	--	--	--	<1.9	--	--	--	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	--	--	--	<1.9	--	--	--	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)		370	--	--	--	<1.9	--	--	--	<2.0
Total Per-and Polyfluoroalkyl Substances		--	--	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) I - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
- 13) I - Matrix interference with internal standard.
- 14) J - Estimated value less than reporting limit, but greater than MDL.
- 15) X - Elevated reporting limit due to matrix interference.
- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.



TABLE 3
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Drift Monitoring Well Sampling

Coldwater Road - Monitoring Wells - DRIFT Unit

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		B-2D**	B-2D**	B-2D** (DUP-071918)	OBG MW-16D	OBG MW-16D	OBG MW-16D	
		Sample Date:	Drinking Water	GSI	6/13/2018	7/19/2018	7/19/2018	10/22/2018	6/4/2019	6/18/2020
Perfluorobutanoic Acid (PFBA)	--	--	--	1.8 J/B	2.7 B	2.8 B	<20	<20	16 U	
Perfluoropentanoic Acid (PFPeA)	--	--	--	1.2 J	<0.41	0.44 J	<10	<10	<3.9	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	--	--	<10	<10	<2.0	
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	0.78 J	<0.49	0.70 J	<10	<10	<2.0	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	1.5 J	1.0 J	0.97 J	<10	<10	<2.0	
Perfluoroheptanoic Acid (PFHpA)	--	--	--	0.52 J	0.47 J	0.42 J	<10	<10	<2.0	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	--	3.2	2.9	<10	<10	<2.0	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	--	--	--	<10	<10	<2.0	
Perfluorooctanoic Acid (PFOA)	8	170	--	3.3	3.1	3.7	<10	<10	<2.0	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	13 B	13 B	12 B	<10	<10	<2.0	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	--	--	<10	<10	<2.0	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	--	--	<10	<10	<2.0	
Perfluorononanoic Acid (PFNA)	6	--	--	<1.9	<1.7	<1.7	<10	<10	<2.0	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	--	--	<10	<10	<2.0	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	2.9	2.4	2.6	<10	<10	<2.0	
Perfluorodecanoic Acid (PFDA)	--	--	--	<1.9	<1.7	<1.7	<10	<10	<2.0	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	--	--	<10	<10	<2.0	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	--	--	<10	<10	<3.9	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	110	99	98		<10	<10	<2.0	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	--	--	--	<10	<10	<2.0	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	--	--	--	<10	<10	<2.0	
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<1.0	<0.93	<0.92	<10	<10	<2.0	
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	--	--	<10	<10	<2.0	
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<1.9	<1.7	<1.7	<10	<10	<2.0	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<1.9	<1.7	<1.7	<10	<10	<2.0	
Perfluorotridecanoic Acid (PFTrDA)	--	--	--	<1.9	<1.7	<1.7	<10	<10	<2.0	
Perfluorooctane Sulfonamide (FOSA)	--	--	--	--	--	--	<10	<10	<2.0	
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<1.9	<1.7	<1.7	<10	<10	<3.9	
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	--	--	--	--	--	--	<2.0	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)	--	--	--	--	--	--	--	--	<2.0	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	--	--	<2.0	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	--	--	<2.0	
Total Per-and Polyfluoroalkyl Substances	--	--	--	135.0	124.9	124.5	0.0	0.0	0.0	

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) I - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
- 13) I - Matrix interference with internal standard.
- 14) J - Estimated value less than reporting limit, but greater than MDL.
- 15) X - Elevated reporting limit due to matrix interference.
- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.



TABLE 3
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Drift Monitoring Well Sampling

Coldwater Road - Monitoring Wells - DRIFT Unit

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-17D	OBG MW-17D	OBG MW-17D	OBG MW-18D	OBG MW-18D	OBG MW-18D
		Sample Date:	Drinking Water	GSI	10/22/2018	6/5/2019	6/22/2020	10/19/2018	6/6/2019
Perfluorobutanoic Acid (PFBA)		--	--	<20	<19	17 U	<20	<20	11
Perfluoropentanoic Acid (PFPeA)		--	--	<10	<9.6	<3.8	<10	<10	<4.0
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorohexanoic Acid (PFHxA)		400,000	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorobutane Sulfonic Acid (PFBS)		420	670,000	<10	<9.6	<1.9	<10	<10	<2.0
Perfluoroheptanoic Acid (PFHpA)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorooctanoic Acid (PFOA)		8	170	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)		51	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorononanoic Acid (PFNA)		6	--	<10	<9.6	<1.9	<10	<10	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorodecanoic Acid (PFDA)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	--	<10	<9.6	<3.8	<10	<10	<4.0
Perfluorooctane Sulfonic Acid (PFOS)		16	12	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorooctane Sulfonic Acid (PFOS -LN)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorooctane Sulfonic Acid (PFOS -BR)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluoroundecanoic Acid (PFUnDA)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorononane Sulfonic Acid (PFNS)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorododecanoic Acid (PFDoDA)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorodecane Sulfonic Acid (PFDS)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorotridecanoic Acid (PFTrDA)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorooctane Sulfonamide (FOSA)		--	--	<10	<9.6	<1.9	<10	<10	<2.0
Perfluorotetradecanoic Acid (PFTeDA)		--	--	<10	<9.6	<3.8	<10	<10	<4.0
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	--	--	--	<1.9	--	--	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)		--	--	--	--	<1.9	--	--	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	--	--	--	<1.9	--	--	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)		370	--	--	--	<1.9	--	--	<2.0
Total Per-and Polyfluoroalkyl Substances		--	--	0.0	0.0	0.0	0.0	0.0	11.0

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) 1 - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
- 13) I - Matrix interference with internal standard.
- 14) J - Estimated value less than reporting limit, but greater than MDL.
- 15) X - Elevated reporting limit due to matrix interference.
- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.



TABLE 3
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Drift Monitoring Well Sampling

Coldwater Road - Monitoring Wells - DRIFT Unit

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-19D	OBG MW-19D	OBG MW-19D	MW-15-10	MW-15-10
		Sample Date:	Drinking Water	GSI	10/23/2018	6/5/2019	6/23/2020	9/21/2018
Perfluorobutanoic Acid (PFBA)		--	--	<20	<19	<9.7	<20	21 U
Perfluoropentanoic Acid (PFPeA)		--	--	<10	<9.7	<3.9	<10	<4.0
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluorohexanoic Acid (PFHxA)		400,000	--	<10	<9.7	<1.9	<10	<2.0
Perfluorobutane Sulfonic Acid (PFBS)		420	670,000	<10	<9.7	<1.9	<10	<2.0
Perfluoroheptanoic Acid (PFHpA)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)		--	--	<10	<9.7	<1.9	<10	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluorooctanoic Acid (PFOA)		8	170	<10	<9.7	<1.9	<10	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)		51	--	<10	<9.7	<1.9	<10	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluorononanoic Acid (PFNA)		6	--	<10	<9.7	<1.9	<10	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluorodecanoic Acid (PFDA)		--	--	<10	<9.7	<1.9	<10	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	--	<10	<9.7	<1.9	<10	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	--	<10	<9.7	<3.9	<10	<4.0
Perfluorooctane Sulfonic Acid (PFOS)		16	12	<10	<9.7	<1.9	<10	<2.0
Perfluorooctane Sulfonic Acid (PFOS -LN)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluorooctane Sulfonic Acid (PFOS -BR)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluoroundecanoic Acid (PFUnDA)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluorononane Sulfonic Acid (PFNS)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluorododecanoic Acid (PFDoDA)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluorodecane Sulfonic Acid (PFDS)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluorotridecanoic Acid (PFTrDA)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluorooctane Sulfonamide (FOSA)		--	--	<10	<9.7	<1.9	<10	<2.0
Perfluorotetradecanoic Acid (PFTeDA)		--	--	<10	<9.7	<3.9	<10	<4.0
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)		--	--	--	--	<1.9	--	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF30NS)		--	--	--	--	<1.9	--	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	--	--	--	<1.9	--	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)		370	--	--	--	<1.9	--	<2.0
Total Per-and Polyfluoroalkyl Substances		--	--	0.0	0.0	0.0	0.0	0.0

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) 1 - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
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- 15) X - Elevated reporting limit due to matrix interference.
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- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.



TABLE 3
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Drift Monitoring Well Sampling

Coldwater Road - Monitoring Wells - DRIFT Unit

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		PFW-1	PFW-1	MW-16-10	MW-16-10 (Duplicate)	MW-16-10	MW-16-10
		Drinking Water	GSI						
Perfluorobutanoic Acid (PFBA)		--	--	<20	18 U	<0.45 U	0.87 J	0.40 J/B	<9.7
Perfluoropentanoic Acid (PFPeA)		--	--	<10	<4.0	<0.98 U	<0.97 U	<0.46	<3.9
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	--	<10	<2.0	--	--	--	<1.9
Perfluorohexanoic Acid (PFHxA)		400,000	--	<10	<2.0	<0.78 U	<0.77 U	<0.55	<1.9
Perfluorobutane Sulfonic Acid (PFBS)		420	670,000	<10	<2.0	<0.91 U	<0.90 U	<0.19	<1.9
Perfluoroheptanoic Acid (PFHpA)		--	--	<10	<2.0	<0.79 U	<0.79 U	<0.24	<1.9
Perfluoropentane Sulfonic Acid (PFPeS)		--	--	<10	<2.0	--	--	--	<1.9
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	--	<10	<2.0	<3.8	<3.7	--	<1.9
Perfluorooctanoic Acid (PFOA)		8	170	<10	<2.0	<0.74 U	<0.73 U	<0.80	<1.9
Perfluorohexane Sulfonic Acid (PFHxS)		51	--	<10	<2.0	<0.86 U	<0.85 U	0.30 J/B	<1.9
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	--	<10	<2.0	--	--	--	<1.9
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	--	<10	<2.0	--	--	--	<1.9
Perfluorononanoic Acid (PFNA)		6	--	<10	<2.0	<0.65 U	<0.64 U	<0.26	<1.9
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	--	<10	<2.0	--	--	--	<1.9
Perfluoroheptane Sulfonic Acid (PFHpS)		--	--	<10	<2.0	<0.71 U	<0.70 U	<0.18	<1.9
Perfluorodecanoic Acid (PFDA)		--	--	<10	<2.0	<0.44	<0.43	<0.29	<1.9
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	--	<10	<2.0	--	--	--	<1.9
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	--	<10	<4.0	--	--	--	<3.9
Perfluorooctane Sulfonic Acid (PFOS)		16	12	<10	<2.0	<1.3 U	<1.3 U	<0.51	<1.9
Perfluorooctane Sulfonic Acid (PFOS -LN)		--	--	<10	<2.0	--	--	--	<1.9
Perfluorooctane Sulfonic Acid (PFOS -BR)		--	--	<10	<2.0	--	--	--	<1.9
Perfluoroundecanoic Acid (PFUnDA)		--	--	<10	<2.0	<0.74	<0.73	<1.0	<1.9
Perfluorononane Sulfonic Acid (PFNS)		--	--	<10	<2.0	--	--	--	<1.9
Perfluorododecanoic Acid (PFDoDA)		--	--	<10	<2.0	<0.58	<0.57	<0.52	<1.9
Perfluorodecane Sulfonic Acid (PFDS)		--	--	<10	<2.0	<2.0 U	<2.0 U	<1.9	<1.9
Perfluorotridecanoic Acid (PFTrDA)		--	--	<10	<2.0	<2.0	<2.0	<1.9	<1.9
Perfluorooctane Sulfonamide (FOSA)		--	--	<10	<2.0	<2.0	<2.0	<1.9	<1.9
Perfluorotetradecanoic Acid (PFTeDA)		--	--	<10	<4.0	0.42 J B	0.50 J B	<0.27	<3.9
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	--	--	<2.0	--	--	--	<1.9
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)		--	--	--	<2.0	--	--	--	<1.9
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	--	--	<2.0	--	--	--	<1.9
Hexafluoropropylene oxide dimer (HFPO-DA)		370	--	--	<2.0	--	--	--	<1.9
Total Per-and Polyfluoroalkyl Substances		--	--	0.0	0.0	0.4	1.4	0.7	0.0

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
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- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
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TABLE 3
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Drift Monitoring Well Sampling

Coldwater Road - Monitoring Wells - DRIFT Unit

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-23	OBG MW-23	OBG MW-23	OBG MW-23	OBG MW-23
		Sample Date:	Drinking Water	GSI	1/3/2019	6/4/2019	6/23/2020	6/14/2021
Perfluorobutanoic Acid (PFBA)		--	--	<20	<19	22 U	<11	<10
Perfluoropentanoic Acid (PFPeA)		--	--	<10	<9.7	<4.1	<4.2	<4.1
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluorohexanoic Acid (PFHxA)		400,000	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluorobutane Sulfonic Acid (PFBS)		420	670,000	<10	<9.7	<2.1	<2.1	<2.1
Perfluoroheptanoic Acid (PFHpA)		--	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluoropentane Sulfonic Acid (PFPeS)		--	--	<10	<9.7	<2.1	<2.1	<2.1
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	--	<10	<9.7	<2.1	<4.2	<2.1
Perfluorooctanoic Acid (PFOA)		8	170	<10	<9.7	<2.1	<2.1	<2.1
Perfluorohexane Sulfonic Acid (PFHxS)		51	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluorononanoic Acid (PFNA)		6	--	<10	<9.7	<2.1	<2.1	<2.1
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluoroheptane Sulfonic Acid (PFHpS)		--	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluorodecanoic Acid (PFDA)		--	--	<10	<9.7	<2.1	<2.1	<2.1
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	--	<10	<9.7	<2.1	<2.1	<2.1
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	--	<10	<9.7	<4.1	<4.2	<4.1
Perfluorooctane Sulfonic Acid (PFOS)		16	12	<10	<9.7	<2.1	<2.1	<2.1
Perfluorooctane Sulfonic Acid (PFOS -LN)		--	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluorooctane Sulfonic Acid (PFOS -BR)		--	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluoroundecanoic Acid (PFUnDA)		--	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluorononane Sulfonic Acid (PFNS)		--	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluorododecanoic Acid (PFDoDA)		--	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluorodecane Sulfonic Acid (PFDS)		--	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluorotridecanoic Acid (PFTrDA)		--	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluorooctane Sulfonamide (FOSA)		--	--	<10	<9.7	<2.1	<2.1	<2.1
Perfluorotetradecanoic Acid (PFTeDA)		--	--	<10	<9.7	<4.1	<4.2	<4.1
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	--	--	--	<2.1	<2.1	<2.1
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)		--	--	--	--	<2.1	<2.1	<2.1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	--	--	--	<2.1	<2.1	<2.1
Hexafluoropropylene oxide dimer (HFPO-DA)		370	--	--	--	<2.1	<11	<10
Total Per-and Polyfluoroalkyl Substances		--	--	0.0	0.0	0.0	0.0	0.0

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
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- 6) Dup = Duplicate sample.
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TABLE 3
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Drift Monitoring Well Sampling

Coldwater Road - Monitoring Wells - DRIFT Unit

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-27	OBG MW-27	OBG MW-27	OBG MW-27	OBG MW-27
		Sample Date:	Drinking Water	GSI	11/21/2019	1/16/2020	6/24/2020	6/15/2021
Perfluorobutanoic Acid (PFBA)		--	--	<20	<20	33 U	<10	35
Perfluoropentanoic Acid (PFPeA)		--	--	19	<10	3.3 J	5.6	46
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	--	<9.9	<10	<1.9	<2.0	<2.0
Perfluorohexanoic Acid (PFHxA)		400,000	--	18	<10	3.5	5.6	35
Perfluorobutane Sulfonic Acid (PFBS)		420	670,000	12	12	18	15	5.0
Perfluoroheptanoic Acid (PFHpA)		--	--	<9.9	<10	<1.9	<2.0	4.4 1
Perfluoropentane Sulfonic Acid (PFPeS)		--	--	17	18	21	16	9.2
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	--	<9.9	<10	<1.9	4.4	<2.0
Perfluorooctanoic Acid (PFOA)		8	170	12	<10	5.6	4.7	15
Perfluorohexane Sulfonic Acid (PFHxS)		51	--	41	40	40	38	42 1
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	--	31	30	28	28	38 1
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	--	10	<10	9.7	9.4	3.3
Perfluorononanoic Acid (PFNA)		6	--	<9.9	<10	<1.9	<2.0	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	--	<9.9	<10	<1.9	<2.0	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)		--	--	<9.9	<10	1.9	2.6	15
Perfluorodecanoic Acid (PFDA)		--	--	<9.9	<10	<1.9	<2.0	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	--	<9.9	<10	<1.9	<2.0	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	--	<9.9	<10	<3.9	<4.0	<3.9
Perfluorooctane Sulfonic Acid (PFOS)		16	12	25	18	28	84	480
Perfluorooctane Sulfonic Acid (PFOS -LN)		--	--	<9.9	<10	3.5	17	130
Perfluorooctane Sulfonic Acid (PFOS -BR)		--	--	20	18	24	66	350
Perfluoroundecanoic Acid (PFUnDA)		--	--	<9.9	<10	<1.9	<2.0	<2.0
Perfluorononane Sulfonic Acid (PFNS)		--	--	<9.9	<10	<1.9	<2.0	<2.0
Perfluorododecanoic Acid (PFDoDA)		--	--	<9.9	<10	<1.9	<2.0	<2.0
Perfluorodecane Sulfonic Acid (PFDS)		--	--	<9.9	<10	<1.9	<2.0	<2.0
Perfluorotridecanoic Acid (PFTrDA)		--	--	<9.9	<10	<1.9	<2.0	<2.0
Perfluorooctane Sulfonamide (FOSA)		--	--	<9.9	<10	<1.9	<2.0	<2.0
Perfluorotetradecanoic Acid (PFTeDA)		--	--	<9.9	<10	<3.9	<4.0	<3.9
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	--	<9.9	<10	<1.9	<2.0	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)		--	--	<9.9	<10	<1.9	<2.0	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	--	<9.9	<10	<1.9	<2.0	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)		370	--	<9.9	<10	<1.9	<10	<9.8
Total Per-and Polyfluoroalkyl Substances		--	--	144.0	88.0	121.3	175.9	651.6

Notes

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- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
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TABLE 3
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Drift Monitoring Well Sampling

Coldwater Road - Monitoring Wells - DRIFT Unit

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		OBG MW-29	OBG MW-29	OBG MW-29	MW-DUP-061322 (OBG MW-29)	PZ-2	PZ-2	PZ-2*
		Sample Date:	Drinking Water	GSI	12/18/2020	6/14/2021	6/13/2022	6/13/2022	1/3/2019	6/4/2019
Perfluorobutanoic Acid (PFBA)	--	--	--	<10	<11	<14 X	<9.8	<20	<19	<10
Perfluoropentanoic Acid (PFPeA)	--	--	--	<4.0	<4.3	<3.8	<3.9	<10	<9.6	<4.1
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<10	<9.6	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	2.2	2.4	<1.9	4.6	<10	<9.6	<2.0
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	17	8.7	15	17	<10	<9.6	<4.1 X
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<2.0	<2.1	<1.9	1.5 J	<10	<9.6	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	18	12	21	24 1	<10	<9.6	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<2.0	3.3 J	<1.9	<2.0	<10	<9.6	<2.0
Perfluorooctanoic Acid (PFOA)	8	170	--	<2.0	2.8	<1.9	<2.0	<10	<9.6	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	27	22	37 1	38 1	<10	<9.6	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	20	16	25 1	26 1	<10	<9.6	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	6.7	5.9	12	12	<10	<9.6	<2.0
Perfluorononanoic Acid (PFNA)	6	--	--	<2.0	<2.1	<1.9	<2.0	<10	<9.6	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<10	<9.6	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	<2.0	<2.1	<1.9	<2.0	<10	<9.6	<2.0
Perfluorodecanoic Acid (PFDA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<10	<9.6	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	<2.0	<2.1	<1.9 I	<2.0	<10	<9.6	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	<4.0	<4.3	<3.8	<3.9	<10	<9.6	<4.1
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	<4.0 X	<2.1	3.0 1	3.7 1	<10	<9.6	<2.0
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	<2.0	<2.1	<1.9	<2.0	<10	<9.6	<2.0
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	<4.0 X	<2.1	2.6 1	3.4 1	<10	<9.6	<2.0
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<10	<9.6	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	<2.0	<2.1	<1.9	<2.0	<10	<9.6	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<10	<9.6	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<2.0	<2.1	<1.9	<2.0	<10	<9.6	<2.0
Perfluorotridecanoic Acid (PFTrDA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<10	<9.6	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<10	<9.6	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<2.0	<4.3	<3.8	<3.9	<10	<9.6	<4.1
11-chloroicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	--	--	--	<2.0	<2.1	<1.9	<2.0	--	--	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF30NS)	--	--	--	<2.0	<2.1	<1.9	<2.0	--	--	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	<2.0	<2.1	<1.9	<2.0	--	--	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	<2.0	<11	<9.6	<9.8	--	--	<2.0
Total Per-and Polyfluoroalkyl Substances	--	--	--	64.2	51.2	76.0	88.8	0.0	0.0	0.0

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) I - Qualifier ion out of range.
- 11) B - Compound also found in associated method blank.
- 12) E - Concentration exceeds calibration range.
- 13) I - Matrix interference with internal standard.
- 14) J - Estimated value less than reporting limit, but greater than MDL.
- 15) X - Elevated reporting limit due to matrix interference.
- 16) Y - Elevated reporting limit due to high target concentration.
- 17) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

TABLE 4
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Sump and Vault Samples

Coldwater Rd - SUMP and VAULT Samples

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		SUMP A	SUMP B	SUMP C	SUMP D	SUMP E	SUMP F
		Sample Date:	Drinking Water	GSI	6/19/2017	6/19/2017	6/19/2017	11/29/2016	6/19/2017
Perfluorobutanoic Acid (PFBA)		--	--	220 B	480 B	490 B	440 J	48 B	260 B
Perfluoropentanoic Acid (PFPeA)		--	--	260	410	1100 CI	300 J	86	330
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	--	--	--	--	--	--	--
Perfluorohexanoic Acid (PFHxA)		400,000	--	110	280	390	99 JN	65	150
Perfluorobutane Sulfonic Acid (PFBS)		420	670,000	310 CI	190 J	410	74	57	100
Perfluoroheptanoic Acid (PFHpA)		--	--	<0.78	17	80	24	77	67
Perfluoropentane Sulfonic Acid (PFPeS)		--	--	--	--	--	--	--	--
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	--	--	--	--	--	--	--
Perfluorooctanoic Acid (PFOA)		8	170	54	230	230	130 JN	95	80
Perfluorohexane Sulfonic Acid (PFHxS)		51	--	410	650	1200	370	170	390
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	--	--	--	--	--	--	--
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	--	--	--	--	--	--	--
Perfluorononanoic Acid (PFNA)		6	--	<0.64	29 CI	18	7.1 JN	21	9.7
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	--	--	--	--	--	--	--
Perfluoroheptane Sulfonic Acid (PFHpS)		--	--	150	140	200	83	55	82
Perfluorodecanoic Acid (PFDA)		--	--	<0.43	<0.43	<0.43	<4.2	1.6 J	1.0 J
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	--	--	--	--	--	--	--
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	--	--	--	--	--	--	--
Perfluorooctane Sulfonic Acid (PFOS)		16	12	13000	9600	12000	5800	3400	5400
Perfluorooctane Sulfonic Acid (PFOS-LN)		--	--	--	--	--	--	--	--
Perfluorooctane Sulfonic Acid (PFOS-BR)		--	--	--	--	--	--	--	--
Perfluoroundecanoic Acid (PFUnDA)		--	--	<0.73	<0.73	<0.73	<7.2	1.7 J	<0.74
Perfluorononane Sulfonic Acid (PFNS)		--	--	--	--	--	--	--	--
Perfluorododecanoic Acid (PFDoDA)		--	--	<0.57	<0.57	<0.57	<19	<0.57	<0.57
Perfluorodecane Sulfonic Acid (PFDS)		--	--	4.3	2.6	1.9	<12	1.2 J	<1.2
Perfluorotridecanoic Acid (PFTrDA)		--	--	<0.54	<0.54	<0.54	<19	<0.53	<0.54
Perfluorooctane Sulfonamide (FOSA)		--	--	8.1 J B	6.1 J B	8.2 J B	<6.1	4.7 J B	6.1 J B
Perfluorotetradecanoic Acid (PFTeDA)		--	--	<0.19	0.37 J B	<0.19	<1.9	0.21 J B	<0.20
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	--	--	--	--	--	--	--
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)		--	--	--	--	--	--	--	--
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	--	--	--	--	--	--	--
Hexafluoropropylene oxide dimer (HFPO-DA)		370	--	--	--	--	--	--	--
Total Per-and Polyfluoroalkyl Substances		--	--	14526.4	12035.1	16128.1	7327.1	4083.4	6875.8

Notes

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- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) B - Compound also found in associated method blank.
- 11) I - Matrix interference with internal standard.
- 12) J - Estimated value less than reporting limit, but greater than MDL.
- 13) X - Elevated reporting limit due to matrix interference.
- 14) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

TABLE 4
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Sump and Vault Samples

Coldwater Rd - SUMP and VAULT Samples

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		Vault A	Vault A	Vault A	Vault A	Vault A	Vault B
		Sample Date:	Drinking Water	GSI	6/19/2017	6/12/2018	6/25/2020	6/16/2021	6/6/2022
Perfluorobutanoic Acid (PFBA)	--	--	--	18 B	13 B	30 U	<10	12	4.6 B
Perfluoropentanoic Acid (PFPeA)	--	--	--	1.9	3.1	<4.0	1.7 J	<3.9	<0.98
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	--	<2.0	<2.0	<2.0	--
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	4.9	4.7	2.4	2.7	2.2	0.79 J
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	9.3	8.5	5.4	5.2	4.9	4.1
Perfluoroheptanoic Acid (PFHpA)	--	--	--	4.4	3.4	1.7 J	<2.0	2.3	<0.79
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	--	--	6.8	6.9	9.5	--
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	--	--	<2.0	<4.0	<2.0	--
Perfluorooctanoic Acid (PFOA)	8	170	--	16	15	9.7	7.4	4.8	4.1
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	32	27 B	21	18	19	12
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	--	17	15	15	--
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	--	3.1	3.0	3.2	--
Perfluorononanoic Acid (PFNA)	6	--	--	<0.64	<0.24	<2.0	<2.0	<2.0	<0.65
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	--	<2.0	<2.0	<2.0	--
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	7.2	6.5	6.2	4.1	5.5	2.4
Perfluorodecanoic Acid (PFDA)	--	--	--	<0.43	<0.28	<2.0	<2.0	<2.0	<0.44
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	--	<2.0	<2.0	<2.0	--
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	--	<4.0	<4.0	<3.9	--
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	450	460	430	410	360	150
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	--	--	220	200	180	--
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	--	--	220	200	180	--
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<0.73	<0.98	<2.0	<2.0	<2.0	<0.74
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	--	<2.0	<2.0	<2.0	--
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<0.57	<1.8	<2.0	<2.0	<2.0	<0.58
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<1.2	<0.29	<2.0	<2.0	<2.0	<1.2
Perfluorotridecanoic Acid (PFTrDA)	--	--	--	<0.54	<1.8	<2.0	<2.0	<2.0	<0.55
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<0.62	<0.31	<2.0	<2.0	<2.0	<0.63
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<0.19	0.45 J	<4.0	<4.0	<3.9	<0.20
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	--	--	<2.0	<2.0	<2.0	--
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	--	<2.0	<2.0	<2.0	--
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	<2.0	<2.0	<2.0	--
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	<2.0	<10	<9.9	--
Total Per-and Polyfluoroalkyl Substances	--	--	--	543.7	541.7	513.2	456.0	420.2	178.0

Notes

- 1) Detections in **bold**.
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- 5) * = Monitoring well has been abandoned.
- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
- 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
- 9) Light gray header is most recent sampling event result.
- 10) B - Compound also found in associated method blank.
- 11) I - Matrix interference with internal standard.
- 12) J - Estimated value less than reporting limit, but greater than MDL.
- 13) X - Elevated reporting limit due to matrix interference.
- 14) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.



TABLE 4
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Sump and Vault Samples

Coldwater Rd - SUMP and VAULT Samples

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		Vault C	Vault C	Vault C (DUP-1)	Vault C	Vault C	Vault-DUP-061621 (Vault-C)	Vault C	Vault-DUP-060722 (Vault-C)	
		Sample Date:	Drinking Water	GSI	6/19/2017	6/12/2018	6/12/2018	6/25/2020	6/16/2021	6/16/2021	6/7/2022	6/7/2022
Perfluorobutanoic Acid (PFBA)		--	--	19 B	13 B	13 B	34 U	13	14	13	15	
Perfluoropentanoic Acid (PFPeA)		--	--	<0.94	1.7 J	2.4	<4.0	<4.0	<4.1	<4.2	<4.2	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	--	--	--	--	<2.0	<2.0	<2.0	<2.1	<2.1	
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	6.0	2.4	2.4	1.9 J	2.8	2.3	3.2	3.2	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	<0.88	7.4	4.7	5.5	6.1	5.6	5.8	5.1	
Perfluoroheptanoic Acid (PFHpA)	--	--	--	3.3	2.7	2.2	1.5 J	<2.0	<2.0	1.7 J	2.2	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	--	--	--	6.1	5.6	6.3	7.5	6.4	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	--	--	--	<2.0	<4.0	<4.1	<2.1	<2.1	
Perfluorooctanoic Acid (PFOA)	8	170	--	12	12	12	9.0	7.7	8.6	7.9	5.6	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	<0.83	19 B	19 B	17	18	19	23	17	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	--	--	13	14	15	18	13	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	--	--	3.5	2.9	3.9	3.8	3.9	
Perfluorononanoic Acid (PFNA)	6	--	--	<0.62	<0.26	<0.26	<2.0	<2.0	<2.0	<2.1	<2.1	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.1	<2.1	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	<0.68	6.0	5.6	4.0	5.1	5.3	5.1	4.4	
Perfluorodecanoic Acid (PFDA)	--	--	--	<0.42	<0.30	<0.30	<2.0	<2.0	<2.0	<2.1	<2.1	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.1	<2.1	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	--	--	<4.0	<4.0	<4.1	<4.2	<4.2	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	440	380	400	430	400	390	390	340	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	--	--	--	240	220	220	220	180	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	--	--	--	180	170	170	160	150	
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<0.71	<1.1	<1.1	<2.0	<2.0	<2.0	<2.1	<2.1	
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.1	<2.1	
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<0.56	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.1	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<1.2	<0.31	<0.31	<2.0	<2.0	<2.0	<2.1	<2.1	
Perfluorotridecanoic Acid (PFTrDA)	--	--	--	<0.53	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.1	
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<0.61	0.65 J	0.71 J	<2.0	<2.0	<2.0	<2.1	<2.1	
Perfluorotetradecanoic Acid (PFTEdA)	--	--	--	0.21 J B	<0.28	<0.28	<4.0	<4.0	<4.1	<4.2	<4.2	
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.1	<2.1	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.1	<2.1	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.1	<2.1	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	<2.0	<10	<10	<10	<10	
Total Per-and Polyfluoroalkyl Substances	--	--	--	480.5	444.9	462.0	509.0	458.3	451.1	457.2	398.9	

Notes

- 1) Detections in **bold**.
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- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
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- 9) Light gray header is most recent sampling event result.
- 10) B - Compound also found in associated method blank.
- 11) I - Matrix interference with internal standard.
- 12) J - Estimated value less than reporting limit, but greater than MDL.
- 13) X - Elevated reporting limit due to matrix interference.
- 14) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.



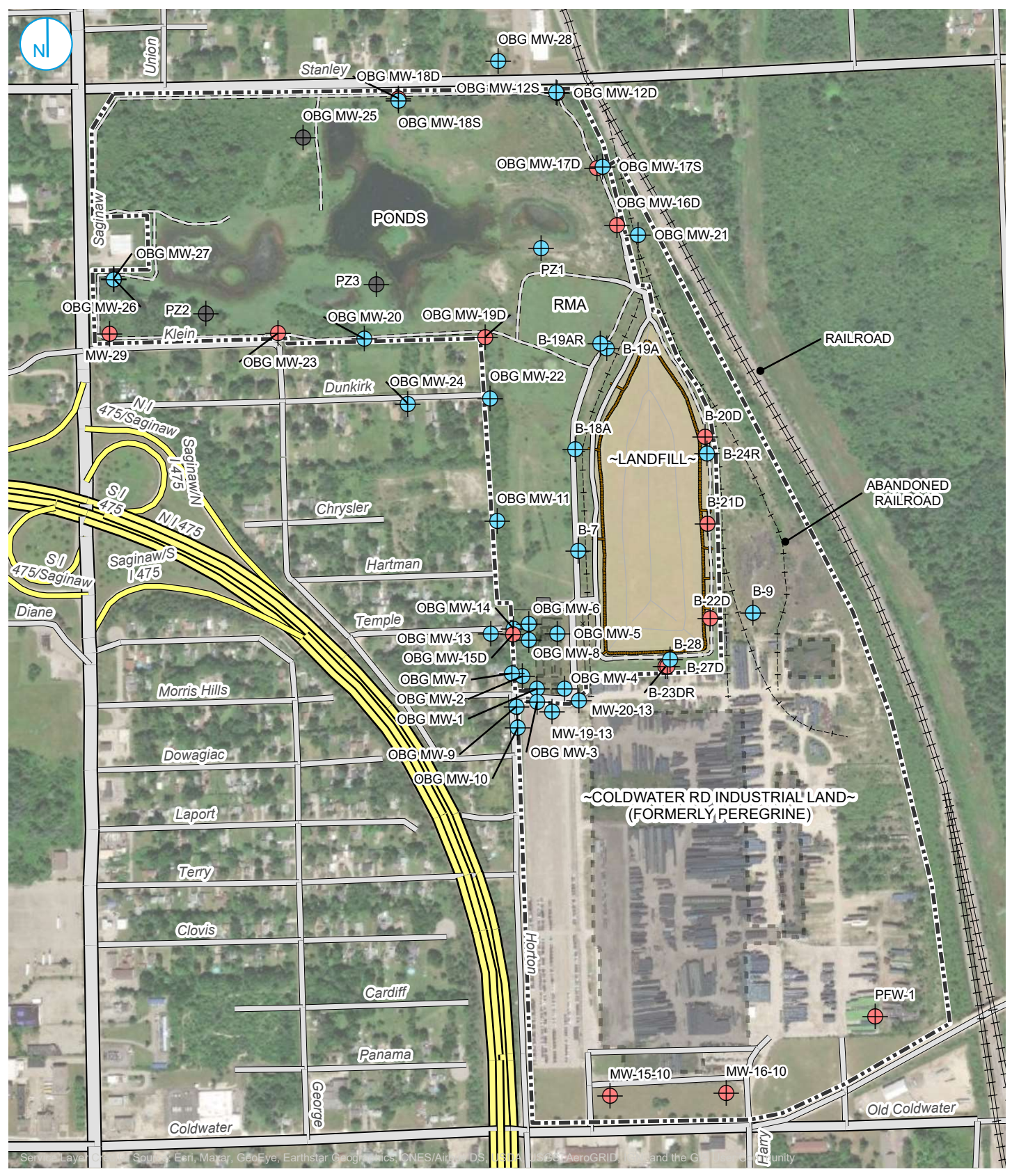
TABLE 4
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results - Sump and Vault Samples

Coldwater Rd - SUMP and VAULT Samples

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values		Vault D	Vault E	Vault E (DUP-1)	Vault E	Vault E	Vault E	Vault E	Vault F
		Drinking Water	GSI	6/19/2017	6/19/2017	6/19/2017	6/12/2018	6/25/2020	6/16/2021	6/7/2022	6/19/2017
Perfluorobutanoic Acid (PFBA)	--	--	5.3 B	8.6 B	8 B	6.3 B	24 U	<10.0	<10.0	6.8 B	
Perfluoropentanoic Acid (PFPeA)	--	--	6.5	<0.96	4.7	4.1	2.6 J	2.8 J	1.6 J	15	
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	--	--	<2.0	<2.0	<2.0	--	
Perfluorohexanoic Acid (PFHxA)	400,000	--	<0.80	6.5	6.3	4.5	2.5	2.4	2.0 J	13	
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	11	13	12	11	7.6	9.0	7.4	12	
Perfluoroheptanoic Acid (PFHpA)	--	--	0.96 J	5.5	5.3	4.1	2.6	1.7 J	2.2	12	
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	--	--	--	12	11	8.4	--	
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	--	--	--	<2.0	<4.0	<2.0	--	
Perfluorooctanoic Acid (PFOA)	8	170	9.9	24	25	22	15	13	9.6	57	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	33	65	63	53 B	33	33	29	35	
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	--	--	28	28	23	--	
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	--	--	5.8	5.2	5.7	--	
Perfluorononanoic Acid (PFNA)	6	--	<0.67	<0.63	0.64 J	0.60 J	<2.0	<2.0	<2.0	1.2 J	
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	--	--	<2.0	<2.0	<2.0	--	
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	8.4	15	15	15	9.5	6.7	6.7	7.3	
Perfluorodecanoic Acid (PFDA)	--	--	<0.45	<0.43	<0.43	<0.28	<2.0	<2.0	<2.0	<0.42	
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	--	--	<2.0	<2.0	<2.0	--	
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	--	--	<3.9	<4.0	<4.1	--	
Perfluorooctane Sulfonic Acid (PFOS)	16	12	350	730	730	680	480	480	440	300	
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	--	--	--	240	270	230	--	
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	--	--	--	240	210	210	--	
Perfluoroundecanoic Acid (PFUnDA)	--	--	<0.76	<0.72	<0.74	<1.0	<2.0	<2.0	<2.0	<0.71	
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	--	--	<2.0	<2.0	<2.0	--	
Perfluorododecanoic Acid (PFDoDA)	--	--	<0.59	<0.56	<0.57	<1.8	<2.0	<2.0	<2.0	<0.56	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<1.2	<1.2	<1.2	<0.29	<2.0	<2.0	<2.0	<1.2	
Perfluorotridecanoic Acid (PFTrDA)	--	--	<0.56	<0.53	<0.54	<1.8	<2.0	<2.0	<2.0	<0.53	
Perfluorooctane Sulfonamide (FOSA)	--	--	<0.65	3.5 J H	16 J B	1.2 J	<2.0	<2.0	<2.0	22 J H	
Perfluorotetradecanoic Acid (PFTEdA)	--	--	0.25 J B	<0.19	0.43 J B	<0.27	<3.9	<4.0	<4.1	<0.19	
11-chloroicosafauro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	--	--	--	--	<2.0	<2.0	<2.0	--	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)	--	--	--	--	--	--	<2.0	<2.0	<2.0	--	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	<2.0	<2.0	<2.0	--	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	<2.0	<10.0	<10.0	--	
Total Per-and Polyfluoroalkyl Substances	--	--	425.3	871.1	886.4	801.8	588.8	559.6	506.9	481.3	

- Notes
- 1) Detections in **bold**.
 - 2) Concentrations in ng/L.
 - 3) < = Not detected at specified reporting limit.
 - 4) -- = Not analyzed/No criteria.
 - 5) * = Monitoring well has been abandoned.
 - 6) Dup = Duplicate sample.
 - 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
 - 8) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.
 - 9) Light gray header is most recent sampling event result.
 - 10) B - Compound also found in associated method blank.
 - 11) I - Matrix interference with internal standard.
 - 12) J - Estimated value less than reporting limit, but greater than MDL.
 - 13) X - Elevated reporting limit due to matrix interference.
 - 14) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

FIGURES



LEGEND

- PERCHED MONITORING WELL / PIEZOMETER
- DRIFT MONITORING WELL / PIEZOMETER
- ABANDONED MONITORING WELL / PIEZOMETER
- PROPERTY BOUNDARY
- FORMER BUILDING



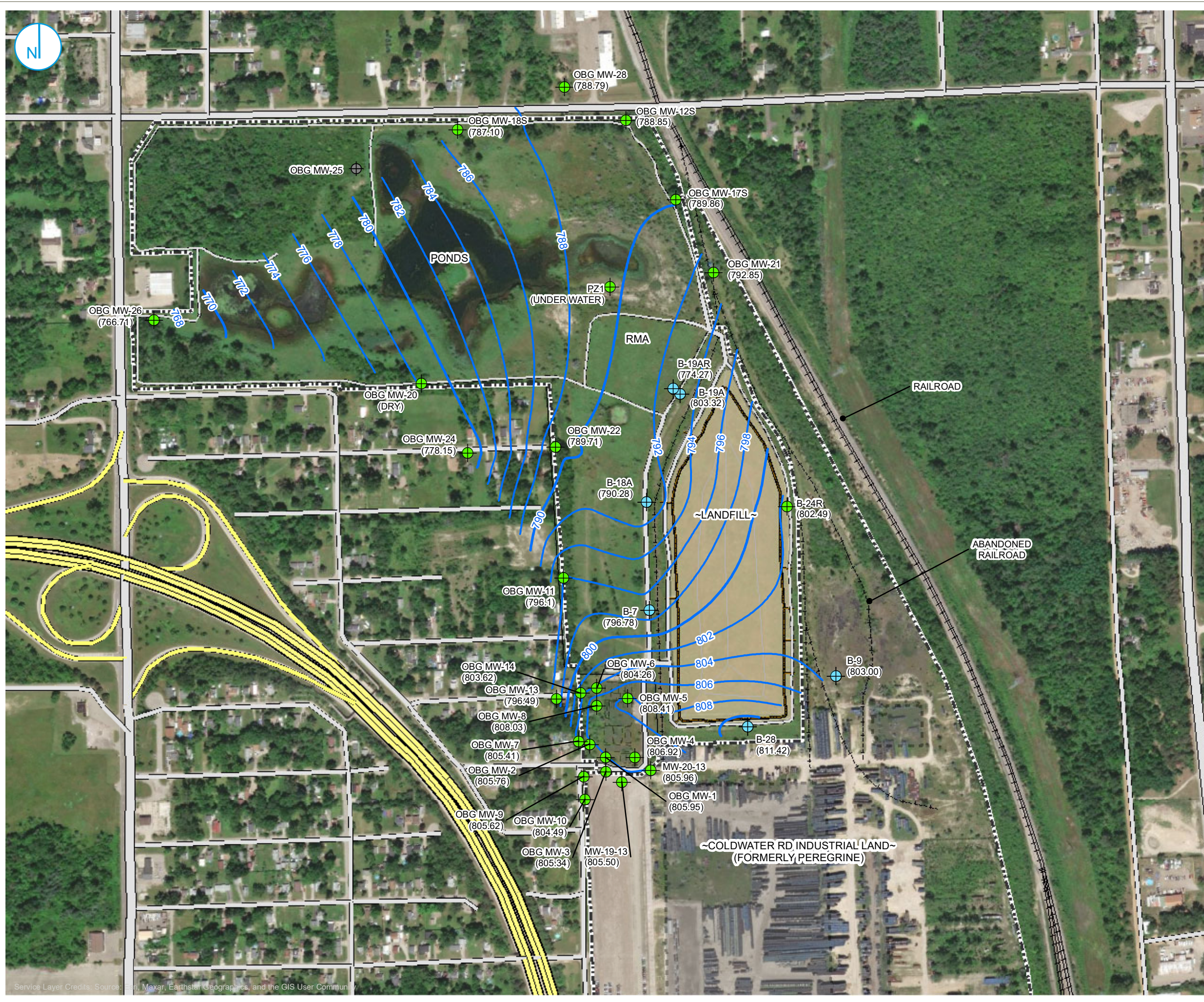
MONITORING WELL LOCATION MAP

FIGURE 1

RACER TRUST
COLDWATER ROAD
FLINT, MICHIGAN

RAMBOLL US CORPORATION
A RAMBOLL COMPANY





- ⊕ ABANDONED WELL
- ⊕ LANDFILL MONITORING WELL / PIEZOMETER
- ⊕ OTHER MONITORING WELL / PIEZOMETER
- GROUNDWATER CONTOUR (JUNE 6, 2022)
- ▭ PROPERTY BOUNDARY
- ▭ FORMER BUILDING
- (800.93) GROUNDWATER ELEVATION

NOTES
 THE GROUNDWATER ELEVATION FOR MONITORING WELLS B-19A, B-19AR, AND PZ-1 WERE NOT USED IN DEVELOPING THE GROUNDWATER POTENTIOMETRIC SURFACE DUE TO THE DEPTH OF THESE WELLS AND VERTICAL GRADIENTS AT THE SITE.

THE ADDITIONAL SITE MONITORING WELLS WERE USED IN THE CREATION OF THE GROUNDWATER CONTOURS BUT ARE NOT PART OF THE LANDFILL MONITORING PROGRAM.



PERCHED ZONE GROUNDWATER ELEVATION MAP
 JUNE 6, 2022

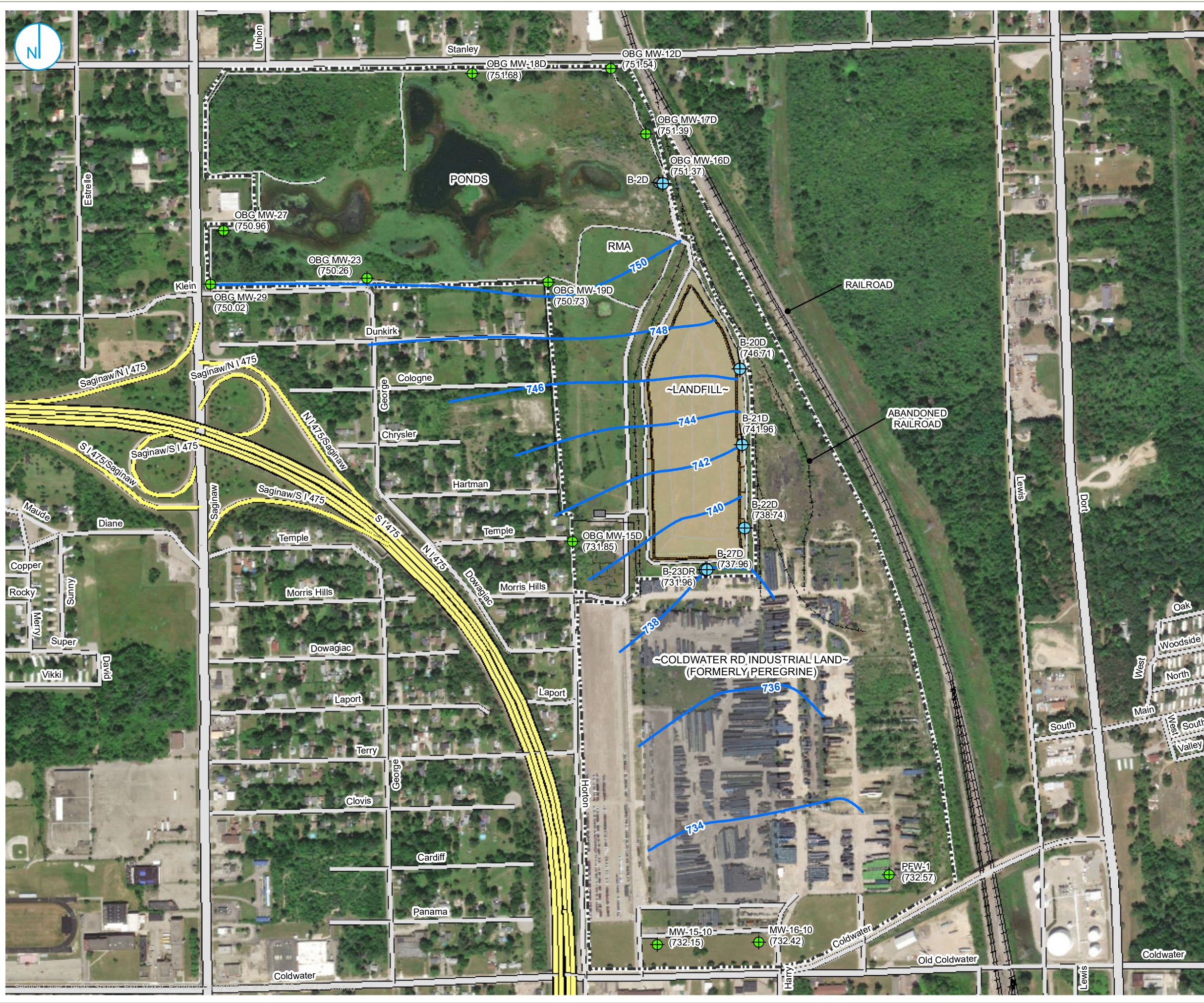
RACER TRUST
 COLDWATER ROAD
 FLINT, MICHIGAN

FIGURE 2

RAMBOLL AMERICAS
 ENGINEERING SOLUTIONS, INC.
 A RAMBOLL COMPANY



Service Layer Credits: Sources: Esri, Maxar, Earthstar Geographics, and the GIS User Community



- LANDFILL MONITORING WELL / PIEZOMETER
 - ABANDONED WELL
 - OTHER MONITORING WELL / PIEZOMETER
 - GROUNDWATER CONTOUR (JUNE 6, 2022)
 - PROPERTY BOUNDARY
 - FORMER BUILDING
- (800.93) GROUNDWATER ELEVATION

NOTES
 THE GROUNDWATER ELEVATIONS FOR MONITORING WELLS B-23DR AND OBG MW-15D WERE NOT USED IN DEVELOPING THE GROUNDWATER POTENTIOMETRIC SURFACE DUE TO THE DEPTH OF THESE WELLS AND APPARENT VERTICAL GRADIENT WITHIN THE DRIFT UNIT.

THE ADDITIONAL SITE MONITORING WELLS WERE USED IN THE CREATION OF THE GROUNDWATER CONTOURS BUT ARE NOT PART OF THE LANDFILL MONITORING PROGRAM.



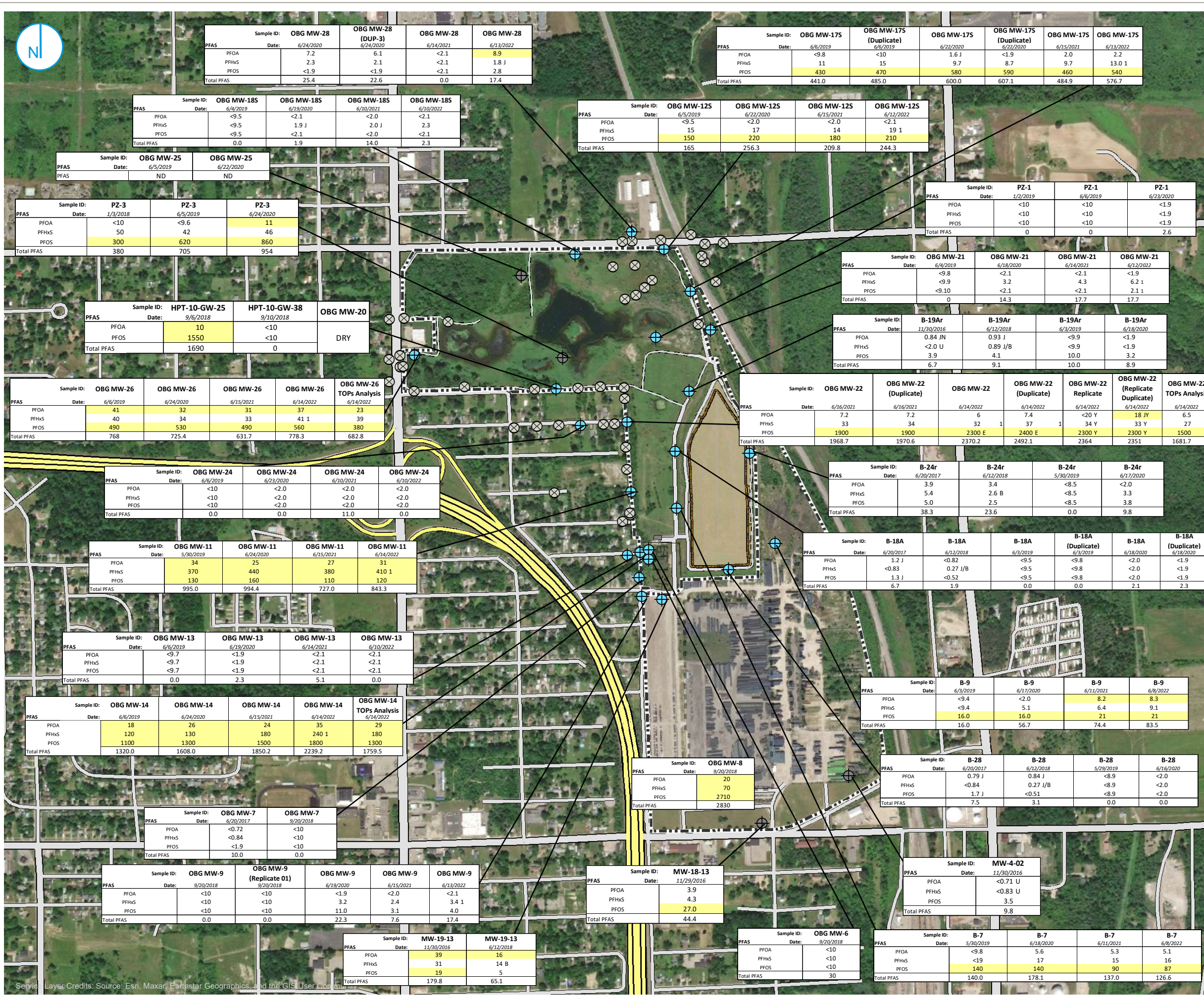
DRIFT UNIT GROUNDWATER ELEVATION MAP
 JUNE 6, 2022

RACER TRUST
 COLDWATER ROAD
 FLINT, MICHIGAN

FIGURE 3

RAMBOLL AMERICAS
 ENGINEERING SOLUTIONS, INC.
 A RAMBOLL COMPANY





LEGEND

- MONITORING WELL / PIEZOMETER
- ABANDONED WELL
- TEMPORARY WELL / BORING
- PROPERTY BOUNDARY
- FORMER BUILDING

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria and Screening Levels	Drinking Water GSI
Perfluorooctanoic Acid (PFOA)		8	12,000
Perfluorohexane Sulfonic Acid (PFHxS)		51	--
Perfluorooctane Sulfonic Acid (PFOS)		16	12
Total Per-and Polyfluoroalkyl Substances		--	--

- Notes**
- 1) Only detections shown in analytical text boxes.
 - 2) Concentrations in ng/L.
 - 3) < = Not detected at specified reporting limit.
 - 4) -- = Not analyzed.
 - 5) ND = Not detected.
 - 6) Dup = Duplicate sample.
 - 7) J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
 - 8) B - Compound also found in associated method blank.
 - 9) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
 - 10) 1 - Qualifier ion out of range.



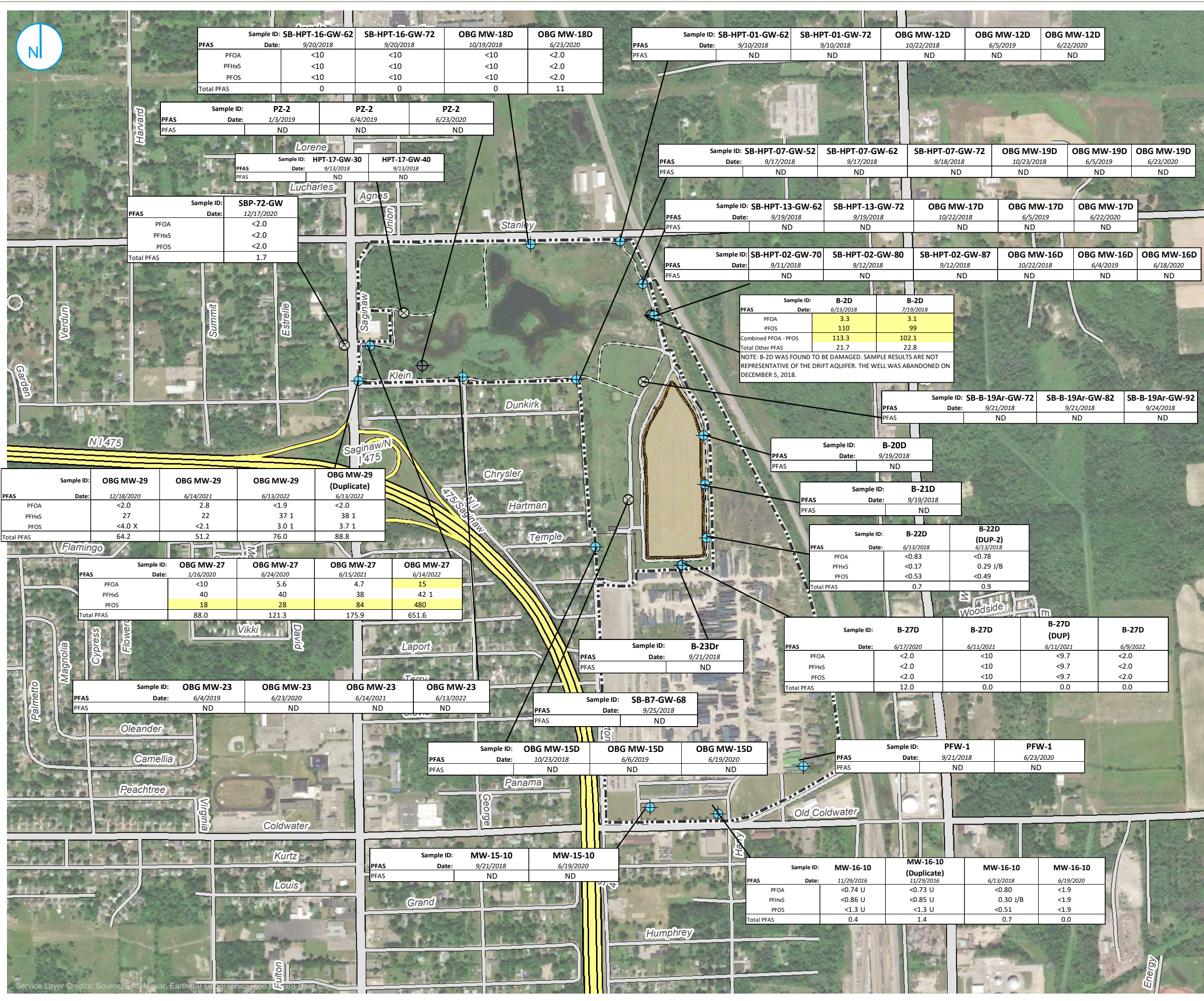
PERCHED ZONE MONITORING WELL PFAS SAMPLE RESULTS (NOVEMBER 2016 - JUNE 2022)

RACER TRUST
COLDWATER ROAD
FLINT, MICHIGAN

FIGURE 4

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY





LEGEND

- MONITORING WELL / PIEZOMETER
- ABANDONED WELL
- TEMPORARY WELL / BORING
- PROPERTY BOUNDARY
- FORMER BUILDING

Perfluorinated Compound	Well/Sample ID: Sample Date:	EGLE Part 201 Generic Cleanup Criteria and Screening Levels	Drinking Water GSI
Perfluorooctanoic Acid (PFOA)		8	12,000
Perfluorohexane Sulfonic Acid (PFHxS)		51	--
Perfluorooctane Sulfonic Acid (PFOS)		16	12
Total Per- and Polyfluoroalkyl Substances		--	--

- Notes
- 1) Concentrations in ng/L.
 - 2) < = Not detected at specified reporting limit.
 - 3) ND = Not detected.
 - 4) Dup = Duplicate sample.
 - 5) B - Compound also found in associated method blank.
 - 6) J - Estimated value less than reporting limit, but greater than MDL.
 - 7) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.
 - 8) 1 - Qualifier ion out of range.
 - 9) X - Elevated reporting limit due to matrix interference.



DRIFT UNIT PFAS SAMPLE RESULTS
(JUNE 2017 - JUNE 2022)

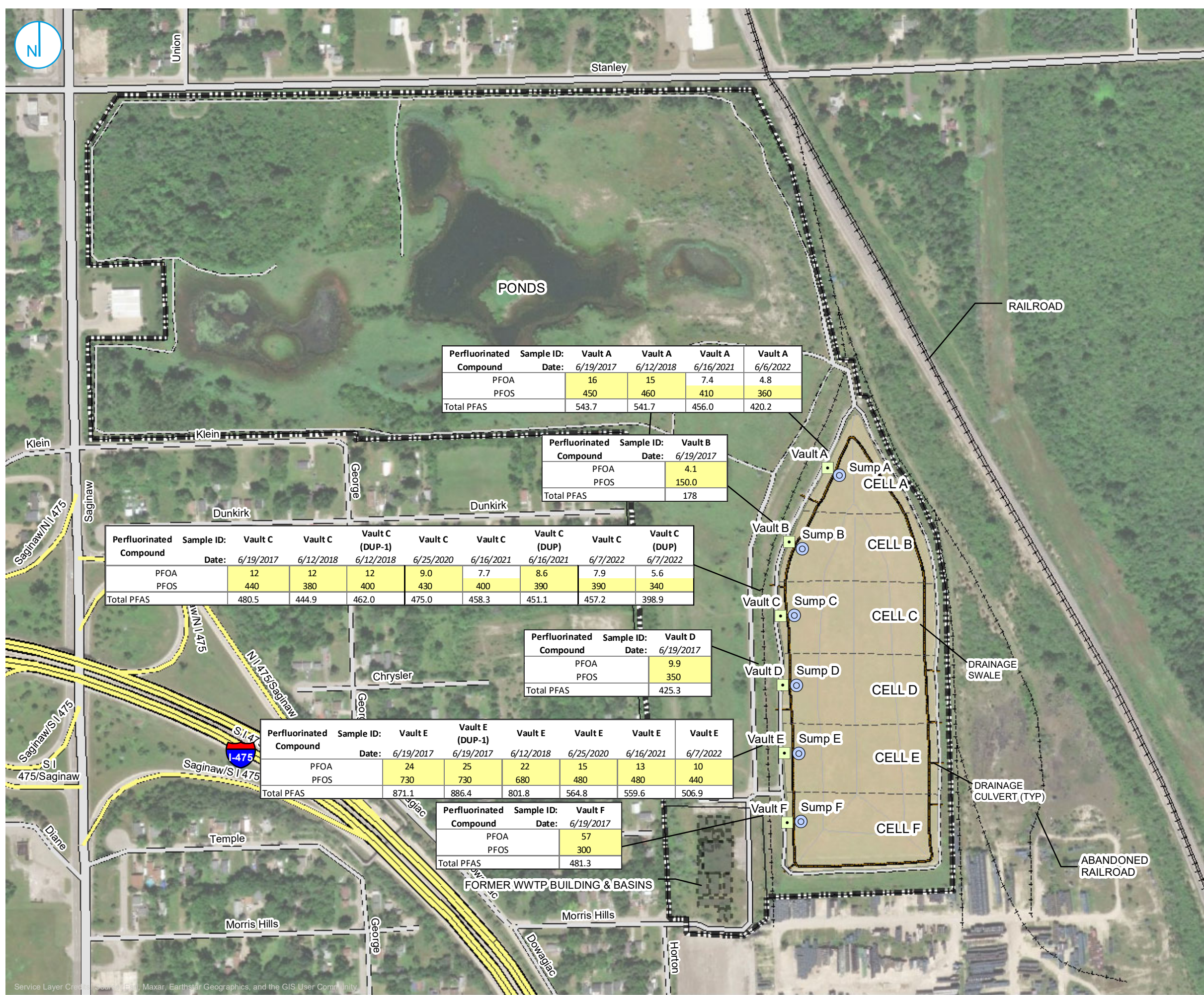
RACER TRUST
COLDWATER ROAD
FLINT, MICHIGAN

FIGURE 5

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY



Service Layer Credits: Source: Esri, Maxar, Earthstar, CNR, and others. GIS User: [Name]



- LEACHATE COLLECTION SUMP
- ACCESS PORT FOR LEAK DETECTION VAULT
- PROPERTY BOUNDARY

Perfluorinated Compound	Well/Sample ID: Sample Date:	EGLE Part 201 Generic Cleanup Criteria and Screening Levels	Drinking Water GSI
Perfluorooctanoic Acid (PFOA)		8	12,000
Perfluorohexane Sulfonic Acid (PFHxS)		51	--
Perfluorooctane Sulfonic Acid (PFOS)		16	12
Total Per- and Polyfluoroalkyl Substances		--	--

- Notes**
- 1) Concentrations in ng/L.
 - 2) Dup = Duplicate sample.
 - 3) Concentration above the drinking water and/or groundwater surface water interface (GSI) criteria are highlighted in yellow.



**LEAK DETECTION VAULTS PFAS
SAMPLE RESULTS
(JUNE 2017 - JUNE 2022)**

RACER TRUST
COLDWATER ROAD
FLINT, MICHIGAN

FIGURE 6

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY



APPENDIX A GROUNDWATER SAMPLING LOGS

Standard Groundwater Sampling Log

Date 6/6/22 | 6/8/22
 Site Name RACER Coldwater Rd Weather Light rain, cloudy 60s | Cloudy 60s
 Location Flint, MI Well # B-7
 Project No. 1940102192 Evacuation Method Whale Pump-Peristaltic
 Personnel WHL Sampling Method Purged Dry

Well Information:

Depth of Well * 28.86 ft. Water Volume /ft. for:
 Depth to Water * 16.85 | 19.36 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 11.81 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 1.93 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 5.87 gal.(s)
 Volume removed before sampling 2.0 gal.(s)
 Did well go dry? yes

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>17.18</u>	initial <u>21.38</u>	initial <u>0.22</u>	initial <u>6.01</u>	initial <u>6.12</u>	initial <u>45.7</u>	initial <u>10.5</u>
5 min	<u>19.09</u>	<u>12.85</u>	<u>0.24</u>	<u>1.53</u>	<u>6.97</u>	<u>40.4</u>	<u>75.7</u>
10 min	<u>21.69</u>	<u>12.49</u>	<u>0.24</u>	<u>2.11</u>	<u>7.04</u>	<u>46.7</u>	<u>11.0</u>
15 min							
20 min	Well Dry Purged 2 Gallons						
25 min							
30 min	<u>6/8/22 - 22.16</u>	<u>17.04</u>	<u>1.16</u>	<u>1.80</u>	<u>7.01</u>	<u>97.4</u>	<u>17.6</u>
35 min	<u>22.55</u>	<u>15.16</u>	<u>1.20</u>	<u>1.29</u>	<u>7.00</u>	<u>93.5</u>	<u>16.4</u>
40 min	<u>22.91</u>	<u>14.97</u>	<u>1.21</u>	<u>1.10</u>	<u>7.00</u>	<u>71.5</u>	<u>14.3</u>
45 min							
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 6/8/22 - 12:41

Physical Appearance at Start

Physical Appearance at Sampling

Color clear Color clear
 Odor no Odor no
 Turbidity (> 100 NTU) 10.5 Turbidity (> 100 NTU) 14.3
 Sheen/Free Product no Sheen/Free Product no

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO ₃	yes
Cyanide	1	125 ml Amber	NAOH	
Phenols	1	125 ml Plastic	H ₂ SO ₄	
TOC	2	40 ml Glass	H ₂ SO ₄	
TOX	1	250 ml Plastic	H ₂ SO ₄	
Sulfate, Chlorides, SpC	1	500 ml Plastic	None	
PFAS (7979)	3	15 ml plastic	None	No

Notes:

Sped up at 14:37 turned to max at 14:48 | 12:37 started pumping let water run into bucket for ~ 1 min before sampling.
 13:17 DTW - 21.81 after sampling (75 mL/min)

RAMBOLL **Standard Groundwater Sampling Log**

Date 6/7/22 | 6/8/22
 Site Name RACER Coldwater Rd Weather Partly cloudy 60s | Sunny 70s
 Location Flint, MI Well # B-9
 Project No. 1940102192 Evacuation Method Whale Pump-Peristaltic
 Personnel WHL Sampling Method Purged Dry

Well Information:
 Depth of Well * 25.25 ft. Water Volume /ft. for:
 X 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC
 Depth to Water * 4.45 | 4.13 ft.
 Length of Water Column 20.80 ft.
 Volume of Water in Well 3.39 gal.(s)
 3X Volume of Water in Well 10.17 gal.(s)
 Volume removed before sampling 5.0 gal.(s)
 Did well go dry? yes
 * Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration: Calibrated within range
 pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>5.33</u>	initial <u>16.20</u>	initial <u>2.06</u>	initial <u>0.32</u>	initial <u>6.62</u>	initial <u>76.9</u>	initial <u>41.7</u>
5 min	<u>9.23</u>	<u>11.27</u>	<u>2.27</u>	<u>0.11</u>	<u>6.59</u>	<u>77.0</u>	<u>91.6</u>
10 min	<u>15.80</u>	<u>11.37</u>	<u>2.29</u>	<u>0.23</u>	<u>6.59</u>	<u>58.4</u>	<u>39.4</u>
15 min	<u>20.14</u>	<u>11.81</u>	<u>2.25</u>	<u>0.52</u>	<u>6.59</u>	<u>26.0</u>	<u>66.8</u>
20 min	<u>21.76</u>	<u>11.26</u>	<u>2.16</u>	<u>4.11</u>	<u>6.71</u>	<u>33.2</u>	<u>958</u>
25 min							
30 min	<u>Well Went Dry Purged 4.5 Gallons</u>						
35 min							
40 min	<u>6/8/22 - 4.59</u>	<u>19.79</u>	<u>1.95</u>	<u>3.99</u>	<u>6.74</u>	<u>72.2</u>	<u>126</u>
45 min	<u>5.32</u>	<u>15.22</u>	<u>2.07</u>	<u>4.43</u>	<u>6.74</u>	<u>106.9</u>	<u>46.5</u>
50 min	<u>6.11</u>	<u>14.25</u>	<u>2.08</u>	<u>5.05</u>	<u>6.74</u>	<u>106.7</u>	<u>35.0</u>
55 min	<u>Purged ~0.5 Gallons</u>						
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:
 Time Collected 6/8/22 - 11:25
 Physical Appearance at Start Physical Appearance at Sampling
 Color slight brown/ turbid Color clear
 Odor no Odor no
 Turbidity (> 100 NTU) 41.7 Turbidity (> 100 NTU) 35.0
 Sheen/Free Product no Sheen/Free Product no

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO ₃	yes
Cyanide	1	125 ml Amber	NAOH	
Phenols	1	125 ml Plastic	H ₂ SO ₄	
TOC	2	40 ml Glass	H ₂ SO ₄	
TOX	1	250 ml Plastic	H ₂ SO ₄	
Sulfate, Chlorides, SpC	1	500 ml Plastic	None	
PFAS (7979)	3	15 ml plastic	None	No

Notes:
 13:05 drawing down quickly, turned up pump | 11:07 started pump 150 mL/min. 9.19 DTW after sampling.

Standard Groundwater Sampling Log

Date 6/9/2022
 Site Name RACER Coldwater Rd Weather sunny, 70s
 Location Flint, MI Well # B-27D
 Project No. 1940102192 Evacuation Method badder pump
 Personnel KBS/ KRR Sampling Method low flow

Well Information:

Depth of Well * 88.40 ft.
 Depth to Water * 74.65 ft.
 Length of Water Column 13.75 ft.
 Volume of Water in Well 2.24 gal.(s)
 3X Volume of Water in Well 6.72 gal.(s)

Water Volume /ft. for:
 X 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 5 gal.(s)
 Did well go dry? no
 (Other, Specify) _____

* Measurements taken from Well Casing Protective Casing _____

Instrument Calibration:

Calibrated within range
 pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	75.18	initial 17.18	initial 690.73	initial 0.93	initial 7.02	initial -54.2	initial 915
5 min	75.11	13.57	739.30	0.05	7.29	-72.0	985
10 min	75.06	13.43	736.90	0.03	7.31	-73.5	1020
15 min	75.10	13.38	730.44	0.02	7.32	-96.3	887
20 min	75.07	13.42	729.11	0.00	7.32	-96.9	799
25 min		13.40	729.27	0.00	7.32	-74.2	672
30 min	75.10	13.30	724.66	-0.01	7.32	-73.9	530
35 min	75.10	13.26	722.36	-0.02	7.32	-95.3	474
40 min	75.11	13.14	722.37	-0.02	7.32	-95.7	412
45 min	75.10	13.14	726.08	-0.03	7.32	-95.1	313
50 min	75.10	12.97	728.11	-0.02	7.32	-94.0	296
55 min		13.23	722.84	-0.03	7.32	-95.1	273
60 min	75.10	13.11	722.52	-0.04	7.32	-93.3	223
65 min		13.01	719.28	-0.04	7.32	-93.2	180
70 min		13.07	721.80	-0.04	7.32	-93.2	161
75 min		13.40	721.89	-0.04	7.31	-93.2	141
80 min	75.13	13.35	719.76	-0.04	7.32	-92.3	135
85 min		13.12	721.95	-0.04	7.32	-91.8	119
90 min		13.68	713.78	-0.05	7.31	-91.9	112
95 min		13.72	713.48	-0.05	7.31	-91.5	99.9
100 min		13.49	715.44	-0.05	7.32	-91.7	78.1
105 min	75.10	13.12	719.17	-0.05	7.32	-90.8	79.7
110 min		12.91	721.98	-0.05	7.32	-90.9	70.7
115 min		12.77	721.98	-0.05	7.32	-91.1	65.9
120 min	75.14	13.53	720.27	-0.05	7.31	-91.7	61.8

Water Sample:

Time Collected 15:46

Physical Appearance at Start _____ Physical Appearance at Sampling _____

Color Gray Color cloudy/ clear
 Odor None Odor None
 Turbidity (> 100 NTU) 915 Turbidity (> 100 NTU) 61.8
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO ₃	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Amber	H ₂ SO ₄	
TOC	2	40 ml Glass	H ₂ SO ₄	
TOX	1	250 ml Amber	H ₂ SO ₄	
Sulfate, Chlorides, SpC	1	500 ml Plastic	None	

Notes:

Initial Flow- 175 mL/min
 Flow at 5 min- 150 mL/min

Standard Groundwater Sampling Log

Date 6/13/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KRR

Weather sunny 70s °F
 Well # OBG MW-9
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 18.14 ft.
 Depth to Water * 3.90 ft.
 Length of Water Column 14.24 ft.
 Volume of Water in Well 2.32 gal.(s)
 3X Volume of Water in Well 6.96 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity µS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>3.90</u>	initial <u>24.78</u>	initial <u>2,543.2</u>	initial <u>1.64</u>	initial <u>8.17</u>	initial <u>47.3</u>	initial <u>5.65</u>
5 min	<u>4.80</u>	<u>19.07</u>	<u>2,673.5</u>	<u>0.08</u>	<u>7.95</u>	<u>64.8</u>	<u>3.94</u>
10 min	<u>4.90</u>	<u>18.46</u>	<u>2,668.9</u>	<u>0.05</u>	<u>7.93</u>	<u>103</u>	<u>4.74</u>
15 min	<u>4.95</u>	<u>19.05</u>	<u>2,599.2</u>	<u>0.05</u>	<u>7.93</u>	<u>73.0</u>	<u>3.70</u>
20 min	<u>4.99</u>	<u>19.49</u>	<u>2,590.2</u>	<u>0.04</u>	<u>7.93</u>	<u>70.2</u>	<u>5.02</u>
25 min	<u>5.00</u>	<u>19.22</u>	<u>2,584.4</u>	<u>0.05</u>	<u>7.94</u>	<u>73.3</u>	<u>4.18</u>
30 min							
35 min							
40 min							
45 min							
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 14:55

Physical Appearance at Start

Physical Appearance at Sampling

Color clear/ brown orange flecks
 Odor no
 Turbidity (> 100 NTU) 5.65
 Sheen/Free Product no

Color clear
 Odor no
 Turbidity (> 100 NTU) 4.18
 Sheen/Free Product no

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	3	15 ml plastic	None	No

Notes:

Standard Groundwater Sampling Log

Date 6/14/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KBS

Weather Sunny, 70's
 Well # OBG MW-11
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 24.63 ft.
 Depth to Water * 5.04 ft.
 Length of Water Column 19.59 ft.
 Volume of Water in Well 3.19 gal.(s)
 3X Volume of Water in Well 9.58 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 3/4 gal.(s)
 Did well go dry? No

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>5.30</u>	initial <u>28.53</u>	initial <u>1.34</u>	initial <u>4.47</u>	initial <u>7.19</u>	initial <u>-117.8</u>	initial <u>26</u>
5 min	<u>5.56</u>	<u>19.85</u>	<u>1.52</u>	<u>0.14</u>	<u>6.93</u>	<u>-128.0</u>	<u>12.2</u>
10 min	<u>5.69</u>	<u>17.00</u>	<u>1.61</u>	<u>0.09</u>	<u>6.95</u>	<u>-129.3</u>	
15 min	<u>6.84</u>	<u>15.45</u>	<u>1.66</u>	<u>0.08</u>	<u>6.96</u>	<u>-129.1</u>	<u>7.0</u>
20 min	<u>5.89</u>	<u>14.93</u>	<u>1.68</u>	<u>0.07</u>	<u>6.96</u>	<u>-128.0</u>	<u>5.4</u>
25 min	<u>5.89</u>	<u>14.70</u>	<u>1.70</u>	<u>0.07</u>	<u>6.96</u>	<u>-127.1</u>	<u>4.7</u>
30 min	<u>5.89</u>	<u>14.66</u>	<u>1.70</u>	<u>0.07</u>	<u>6.96</u>	<u>-125.7</u>	<u>3.6</u>
35 min							
40 min							
45 min							
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 10:08

Physical Appearance at Start

Physical Appearance at Sampling

Color clear
 Odor no
 Turbidity (> 100 NTU) 26
 Sheen/Free Product no

Color clear
 Odor no
 Turbidity (> 100 NTU) 3.6
 Sheen/Free Product no

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	3	15 ml plastic	None	No

Notes:

Standard Groundwater Sampling Log

Date 6/12/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KBS

Weather mostly cloudy 70s
 Well # OBG MW-12S
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 21.38 ft.
 Depth to Water * 7.24 ft.
 Length of Water Column 14.14 ft.
 Volume of Water in Well 2.30 gal.(s)
 3X Volume of Water in Well 6.91 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>7.39</u>	initial <u>21.60</u>	initial <u>0.87</u>	initial <u>2.68</u>	initial <u>7.56</u>	initial <u>107.3</u>	initial <u>80.7</u>
5 min	<u>7.81</u>	<u>17.56</u>	<u>0.91</u>	<u>0.08</u>	<u>7.37</u>	<u>113.3</u>	<u>30.2</u>
10 min	<u>7.90</u>	<u>16.86</u>	<u>0.93</u>	<u>0.11</u>	<u>7.35</u>	<u>113.8</u>	<u>14.5</u>
15 min	<u>7.98</u>	<u>16.10</u>	<u>0.93</u>	<u>0.07</u>	<u>7.33</u>	<u>115.1</u>	<u>12.0</u>
20 min	<u>8.09</u>	<u>16.28</u>	<u>0.94</u>	<u>0.05</u>	<u>7.32</u>	<u>116.3</u>	<u>5.99</u>
25 min	<u>8.09</u>	<u>16.77</u>	<u>0.94</u>	<u>0.05</u>	<u>7.28</u>	<u>119.5</u>	<u>8.04</u>
30 min	<u>8.10</u>	<u>16.60</u>	<u>0.92</u>	<u>0.05</u>	<u>7.21</u>	<u>118.0</u>	<u>7.51</u>
35 min	<u>8.10</u>	<u>16.00</u>	<u>0.94</u>	<u>0.06</u>	<u>7.16</u>	<u>118.4</u>	<u>7.82</u>
40 min	<u>8.11</u>	<u>15.83</u>	<u>0.94</u>	<u>0.04</u>	<u>7.13</u>	<u>116.3</u>	<u>4.55</u>
45 min	<u>8.11</u>	<u>16.33</u>	<u>0.94</u>	<u>0.03</u>	<u>7.10</u>	<u>115.3</u>	<u>7.61</u>
50 min	_____	_____	_____	_____	_____	_____	_____
55 min	_____	_____	_____	_____	_____	_____	_____
60 min	_____	_____	_____	_____	_____	_____	_____
65 min	_____	_____	_____	_____	_____	_____	_____
70 min	_____	_____	_____	_____	_____	_____	_____
75 min	_____	_____	_____	_____	_____	_____	_____
80 min	_____	_____	_____	_____	_____	_____	_____
85 min	_____	_____	_____	_____	_____	_____	_____
90 min	_____	_____	_____	_____	_____	_____	_____

Water Sample:

Time Collected 13:12

Physical Appearance at Start _____

Physical Appearance at Sampling _____

Color light gray
 Odor no
 Turbidity (> 100 NTU) 80.7
 Sheen/Free Product no

Color clear
 Odor no
 Turbidity (> 100 NTU) 7.61
 Sheen/Free Product no

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	3	15 ml plastic	None	No

Notes:

Standard Groundwater Sampling Log

Date 6/10/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KBS

Weather mostly sunny 70's
 Well # OBG MW-13
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 23.69 ft.
 Depth to Water * 5.42 ft.
 Length of Water Column 18.27 ft.
 Volume of Water in Well 2.98 gal.(s)
 3X Volume of Water in Well 8.93 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>6.00</u>	initial <u>18.66</u>	initial <u>1.98</u>	initial <u>1.34</u>	initial <u>6.88</u>	initial <u>77.2</u>	initial <u>189</u>
5 min	<u>6.51</u>	<u>13.86</u>	<u>2.1</u>	<u>0.96</u>	<u>6.81</u>	<u>78.4</u>	<u>77</u>
10 min	<u>6.88</u>	<u>13.48</u>	<u>2.12</u>	<u>0.93</u>	<u>6.89</u>	<u>58.1</u>	<u>39.5</u>
15 min	<u>7.45</u>	<u>13.11</u>	<u>2.12</u>	<u>0.89</u>	<u>6.79</u>	<u>46.1</u>	<u>35.4</u>
20 min	<u>8.45</u>	<u>12.89</u>	<u>2.13</u>	<u>0.84</u>	<u>6.83</u>	<u>33.8</u>	<u>36.3</u>
25 min	<u>8.85</u>	<u>13.02</u>	<u>2.10</u>	<u>0.80</u>	<u>6.82</u>	<u>28.8</u>	<u>34.6</u>
30 min	<u>9.41</u>	<u>13.02</u>	<u>2.11</u>	<u>0.79</u>	<u>6.85</u>	<u>24.7</u>	<u>33.2</u>
35 min	<u>9.90</u>	<u>12.99</u>	<u>2.09</u>	<u>0.77</u>	<u>6.92</u>	<u>20.5</u>	<u>30.1</u>
40 min	_____	_____	_____	_____	_____	_____	_____
45 min	_____	_____	_____	_____	_____	_____	_____
50 min	_____	_____	_____	_____	_____	_____	_____
55 min	_____	_____	_____	_____	_____	_____	_____
60 min	_____	_____	_____	_____	_____	_____	_____
65 min	_____	_____	_____	_____	_____	_____	_____
70 min	_____	_____	_____	_____	_____	_____	_____
75 min	_____	_____	_____	_____	_____	_____	_____
80 min	_____	_____	_____	_____	_____	_____	_____
85 min	_____	_____	_____	_____	_____	_____	_____
90 min	_____	_____	_____	_____	_____	_____	_____

Water Sample:

Time Collected 15:38

Physical Appearance at Start _____

Physical Appearance at Sampling _____

Color light gray
 Odor no
 Turbidity (> 100 NTU) 189
 Sheen/Free Product no

Color clear
 Odor no
 Turbidity (> 100 NTU) 30.1
 Sheen/Free Product no

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	3	15 ml plastic	None	No

Notes:

Standard Groundwater Sampling Log

Date 6/14/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KBS

Weather sunny 70s
 Well # OBG MW-14
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 17.76 ft.
 Depth to Water * 6.69 ft.
 Length of Water Column 11.07 ft.
 Volume of Water in Well 1.80 gal.(s)
 3X Volume of Water in Well 5.41 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 3/4 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>7.09</u>	initial <u>22.56</u>	initial <u>1.35</u>	initial <u>3.20</u>	initial <u>7.05</u>	initial <u>46.3</u>	initial <u>189</u>
5 min	<u>7.50</u>	<u>19.30</u>	<u>1.41</u>	<u>1.21</u>	<u>7.02</u>	<u>64.9</u>	<u>33.2</u>
10 min	<u>7.94</u>	<u>19.27</u>	<u>1.43</u>	<u>1.03</u>	<u>7.02</u>	<u>69.1</u>	<u>27.0</u>
15 min	<u>8.29</u>	<u>19.44</u>	<u>1.41</u>	<u>0.99</u>	<u>7.02</u>	<u>71.2</u>	<u>22.0</u>
20 min	<u>8.79</u>	<u>19.71</u>	<u>1.41</u>	<u>0.97</u>	<u>7.01</u>	<u>71.9</u>	<u>15.6</u>
25 min	<u>9.19</u>	<u>19.76</u>	<u>1.41</u>	<u>0.90</u>	<u>7.01</u>	<u>73.5</u>	<u>16.3</u>
30 min	<u>9.42</u>	<u>20.11</u>	<u>1.41</u>	<u>0.95</u>	<u>7.01</u>	<u>74.6</u>	<u>15.0</u>
35 min							
40 min							
45 min							
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 10:52

Physical Appearance at Start

Physical Appearance at Sampling

Color light gray
 Odor no
 Turbidity (> 100 NTU) 189
 Sheen/Free Product no

Color clear
 Odor no
 Turbidity (> 100 NTU) 15
 Sheen/Free Product no

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	<u>3</u>	<u>15 ml plastic</u>	<u>None</u>	<u>No</u>
PFAS TOP Assay	<u>6</u>	<u>15 ml plastic</u>	<u>None</u>	<u>No</u>

Notes:

Standard Groundwater Sampling Log

Date 6/13/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KBS

Weather sunny 75 °F
 Well # OBG MW-17S
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 22.22 ft.
 Depth to Water * 10.68 ft.
 Length of Water Column 11.54 ft.
 Volume of Water in Well 1.88 gal.(s)
 3X Volume of Water in Well 5.64 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity µS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>10.68</u>	initial <u>24.74</u>	initial <u>744.58</u>	initial <u>1.66</u>	initial <u>8.15</u>	initial <u>-104.8</u>	initial <u>143</u>
5 min	<u>11.34</u>	<u>14.51</u>	<u>880.96</u>	<u>0.07</u>	<u>7.93</u>	<u>-103.1</u>	<u>117</u>
10 min	<u>11.35</u>	<u>13.51</u>	<u>895.92</u>	<u>0.04</u>	<u>7.93</u>	<u>-99.5</u>	<u>59.3</u>
15 min	<u>11.33</u>	<u>13.48</u>	<u>896.07</u>	<u>0.03</u>	<u>7.93</u>	<u>-100.2</u>	<u>42.9</u>
20 min	<u>11.30</u>	<u>13.48</u>	<u>894.87</u>	<u>0.03</u>	<u>7.93</u>	<u>-113.8</u>	<u>33.5</u>
25 min		<u>13.45</u>	<u>900.11</u>	<u>0.03</u>	<u>7.93</u>	<u>-98.7</u>	<u>21.4</u>
30 min	<u>11.25</u>	<u>13.53</u>	<u>901.04</u>	<u>0.03</u>	<u>7.93</u>	<u>-97.9</u>	<u>16.0</u>
35 min		<u>13.07</u>	<u>890.00</u>	<u>-0.01</u>	<u>7.94</u>	<u>-110.8</u>	<u>17.4</u>
40 min		<u>12.51</u>	<u>898.09</u>	<u>-0.01</u>	<u>7.94</u>	<u>-97.1</u>	<u>14.7</u>
45 min		<u>12.39</u>	<u>903.59</u>	<u>-0.01</u>	<u>7.94</u>	<u>-97.2</u>	<u>14.2</u>
50 min	<u>11.50</u>	<u>12.48</u>	<u>896.12</u>	<u>-0.02</u>	<u>7.94</u>	<u>-97.2</u>	<u>15.5</u>
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 16:40

Physical Appearance at Start

Physical Appearance at Sampling

Color orange/ clear
 Odor none
 Turbidity (> 100 NTU) 143
 Sheen/Free Product none

Color clear
 Odor none
 Turbidity (> 100 NTU) 15.5
 Sheen/Free Product none

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	3	15 ml plastic	None	No

Notes:

Standard Groundwater Sampling Log

Date 6/10/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KRR

Weather partly cloudy 70°F
 Well # OBG MW-18S
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 30.88 ft.
 Depth to Water * 12.17 ft.
 Length of Water Column 18.71 ft.
 Volume of Water in Well 3.05 gal.(s)
 3X Volume of Water in Well 9.15 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2.75 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity µS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>12.17</u>	initial <u>26.32</u>	initial <u>1126.1</u>	initial <u>3.99</u>	initial <u>7.00</u>	initial <u>200.2</u>	initial <u>17.4</u>
5 min	<u>12.37</u>	<u>14.16</u>	<u>915.23</u>	<u>0.80</u>	<u>7.11</u>	<u>115.6</u>	<u>13.7</u>
10 min	<u>12.37</u>	<u>13.49</u>	<u>970.57</u>	<u>0.72</u>	<u>7.10</u>	<u>82.7</u>	<u>14.1</u>
15 min	<u>12.36</u>	<u>13.40</u>	<u>1067.5</u>	<u>0.55</u>	<u>7.09</u>	<u>65.2</u>	<u>10.3</u>
20 min	<u>12.36</u>	<u>13.48</u>	<u>1192.3</u>	<u>0.40</u>	<u>7.08</u>	<u>58.4</u>	<u>7.2</u>
25 min	<u>12.36</u>	<u>13.40</u>	<u>1277.4</u>	<u>0.31</u>	<u>7.08</u>	<u>41.1</u>	<u>5.7</u>
30 min	<u>12.37</u>	<u>13.35</u>	<u>1326.5</u>	<u>0.28</u>	<u>7.07</u>	<u>34.9</u>	<u>3.8</u>
35 min	<u>12.36</u>	<u>13.71</u>	<u>1362.0</u>	<u>0.25</u>	<u>7.07</u>	<u>30.9</u>	<u>3.88</u>
40 min		<u>13.66</u>	<u>1392.9</u>	<u>0.24</u>	<u>7.06</u>	<u>28.3</u>	<u>3.43</u>
45 min	<u>12.36</u>	<u>13.85</u>	<u>1408.1</u>	<u>0.21</u>	<u>7.06</u>	<u>28.0</u>	<u>3.14</u>
50 min		<u>14.12</u>	<u>1422.8</u>	<u>0.19</u>	<u>7.05</u>	<u>27.4</u>	<u>3.68</u>
55 min	<u>12.37</u>	<u>14.07</u>	<u>1415.6</u>	<u>0.17</u>	<u>7.06</u>	<u>27.6</u>	<u>4.49</u>
60 min		<u>14.08</u>	<u>1435.2</u>	<u>0.17</u>	<u>7.04</u>	<u>26.8</u>	<u>0.99</u>
65 min		<u>13.99</u>	<u>1436.5</u>	<u>0.15</u>	<u>7.02</u>	<u>26.4</u>	<u>3.32</u>
70 min		<u>13.94</u>	<u>1436.7</u>	<u>0.14</u>	<u>7.02</u>	<u>19.1</u>	<u>1.66</u>
75 min	<u>12.37</u>	<u>13.92</u>	<u>1444.8</u>	<u>0.15</u>	<u>7.02</u>	<u>23.7</u>	<u>1.06</u>
80 min							
85 min							
90 min							

Water Sample:

Time Collected 13:17

Physical Appearance at Start

Physical Appearance at Sampling

Color clear
 Odor none
 Turbidity (> 100 NTU) 17.4
 Sheen/Free Product none

Color clear
 Odor none
 Turbidity (> 100 NTU) 1.06
 Sheen/Free Product none

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	3	15 ml plastic	None	No

Notes:

Standard Groundwater Sampling Log

Date 6/12/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KBS

Weather mostly cloudy 70s
 Well # OBG MW-21
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 17.38 ft.
 Depth to Water * 4.52 ft.
 Length of Water Column 12.86 ft.
 Volume of Water in Well 2.10 gal.(s)
 3X Volume of Water in Well 6.29 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal.(s)
 Did well go dry? No

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>4.77</u>	initial <u>22.88</u>	initial <u>1.22</u>	initial <u>4.27</u>	initial <u>7.18</u>	initial <u>-4.6</u>	initial _____
5 min	<u>6.04</u>	<u>20.72</u>	<u>1.3</u>	<u>1.96</u>	<u>7.02</u>	<u>-21.3</u>	<u>44.9</u>
10 min	<u>6.04</u>	<u>18.34</u>	<u>1.36</u>	<u>0.84</u>	<u>6.98</u>	<u>28.7</u>	<u>54.7</u>
15 min	<u>5.26</u>	<u>17.57</u>	<u>1.37</u>	<u>0.46</u>	<u>6.98</u>	<u>31.1</u>	<u>57.0</u>
20 min	<u>5.38</u>	<u>18.07</u>	<u>1.38</u>	<u>0.34</u>	<u>6.97</u>	<u>-33.7</u>	<u>66.3</u>
25 min	<u>5.42</u>	<u>18.03</u>	<u>1.37</u>	<u>0.27</u>	<u>6.97</u>	<u>-35.2</u>	<u>51.5</u>
30 min	<u>5.45</u>	<u>17.66</u>	<u>1.38</u>	<u>0.20</u>	<u>6.97</u>	<u>-36.5</u>	<u>43.2</u>
35 min	<u>5.47</u>	<u>18.29</u>	<u>1.36</u>	<u>0.17</u>	<u>6.97</u>	<u>-38.5</u>	<u>39.9</u>
40 min	<u>5.48</u>	<u>17.76</u>	<u>1.37</u>	<u>0.13</u>	<u>6.97</u>	<u>-38.6</u>	<u>35.3</u>
45 min	<u>5.49</u>	<u>17.65</u>	<u>1.38</u>	<u>0.11</u>	<u>6.97</u>	<u>-39.5</u>	<u>31.5</u>
50 min	<u>5.49</u>	<u>17.64</u>	<u>1.38</u>	<u>0.09</u>	<u>6.97</u>	<u>-40.1</u>	<u>29.7</u>
55 min	_____	_____	_____	_____	_____	_____	_____
60 min	_____	_____	_____	_____	_____	_____	_____
65 min	_____	_____	_____	_____	_____	_____	_____
70 min	_____	_____	_____	_____	_____	_____	_____
75 min	_____	_____	_____	_____	_____	_____	_____
80 min	_____	_____	_____	_____	_____	_____	_____
85 min	_____	_____	_____	_____	_____	_____	_____
90 min	_____	_____	_____	_____	_____	_____	_____

Water Sample:

Time Collected 12:12

Physical Appearance at Start _____

Physical Appearance at Sampling _____

Color few rust color globs
 Odor no
 Turbidity (> 100 NTU) 44.9
 Sheen/Free Product no

Color clear
 Odor no
 Turbidity (> 100 NTU) 29.7
 Sheen/Free Product no

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	3	15 ml plastic	None	No

Notes:

Standard Groundwater Sampling Log

Date 6/14/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KBS

Weather mostly cloudy 70's
 Well # OBG MW-22
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 26.62 ft.
 Depth to Water * 3.79 ft.
 Length of Water Column 22.83 ft.
 Volume of Water in Well 3.72 gal.(s)
 3X Volume of Water in Well 11.16 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 3/4 gal.(s)
 Did well go dry? No

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>3.94</u>	initial <u>24.82</u>	initial <u>0.75</u>	initial <u>0.38</u>	initial <u>6.77</u>	initial <u>65.0</u>	initial <u>79.4</u>
5 min	<u>3.94</u>	<u>19.40</u>	<u>0.79</u>	<u>0.32</u>	<u>6.76</u>	<u>62.8</u>	<u>77.6</u>
10 min	<u>3.94</u>	<u>17.22</u>	<u>0.82</u>	<u>0.40</u>	<u>6.76</u>	<u>63.7</u>	<u>79.6</u>
15 min	<u>3.94</u>	<u>16.50</u>	<u>0.84</u>	<u>0.40</u>	<u>6.75</u>	<u>65.5</u>	<u>83.8</u>
20 min	<u>3.94</u>	<u>16.35</u>	<u>0.84</u>	<u>0.34</u>	<u>6.75</u>	<u>66.8</u>	<u>65.6</u>
25 min	<u>3.94</u>	<u>15.71</u>	<u>0.85</u>	<u>0.28</u>	<u>6.76</u>	<u>66.7</u>	<u>71.9</u>
30 min	<u>3.94</u>	<u>15.92</u>	<u>0.85</u>	<u>0.27</u>	<u>6.75</u>	<u>66.7</u>	<u>77.2</u>
35 min	<u>3.94</u>	<u>15.96</u>	<u>0.85</u>	<u>0.27</u>	<u>6.75</u>	<u>66.7</u>	<u>72.4</u>
40 min	_____	_____	_____	_____	_____	_____	_____
45 min	_____	_____	_____	_____	_____	_____	_____
50 min	_____	_____	_____	_____	_____	_____	_____
55 min	_____	_____	_____	_____	_____	_____	_____
60 min	_____	_____	_____	_____	_____	_____	_____
65 min	_____	_____	_____	_____	_____	_____	_____
70 min	_____	_____	_____	_____	_____	_____	_____
75 min	_____	_____	_____	_____	_____	_____	_____
80 min	_____	_____	_____	_____	_____	_____	_____
85 min	_____	_____	_____	_____	_____	_____	_____
90 min	_____	_____	_____	_____	_____	_____	_____

Water Sample:

Time Collected 11:52

Physical Appearance at Start _____

Physical Appearance at Sampling _____

Color slightly cloudy/ light grey
 Odor no
 Turbidity (> 100 NTU) 79.4
 Sheen/Free Product no

Color slightly cloudy
 Odor no
 Turbidity (> 100 NTU) 72.4
 Sheen/Free Product no

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	3	15 ml plastic	None	No
PFAS TOP Assay	6	15 ml plastic	None	No

Notes:

MW-DUP-061422 collected here

Standard Groundwater Sampling Log

Date 6/13/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KBS

Weather Hazy, 70's
 Well # OBG MW-23
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 33.43 ft.
 Depth to Water * 26.78 ft.
 Length of Water Column 6.65 ft.
 Volume of Water in Well 1.08 gal.(s)
 3X Volume of Water in Well 3.25 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 3/4 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial		initial 32.40	initial 0.99	initial 3.45	initial 7.02	initial 101.8	initial 73.7
5 min	26.87	21.94	1.05	2.11	7.04	83.2	74.2
10 min	26.87	16.15	1.14	1.53	6.99	4.1	49.3
15 min	26.87	15.32	1.15	1.54	7.00	-9.1	21.5
20 min	26.87	15.11	1.17	1.16	6.95	-16.9	12.7
25 min	26.87	15.16	1.17	0.89	7.03	-23.6	8.83
30 min	26.87	15.07	1.17	0.69	7.00	-33.6	6.25
35 min	26.87	15.13	1.16	0.56	7.01	-38.8	5.30
40 min	26.87	15.02	1.17	0.50	7.02	-40.5	5.41
45 min	26.87	14.97	1.17	0.51	7.00	-41.7	3.58
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 15:58

Physical Appearance at Start

Physical Appearance at Sampling

Color cloudy/ light gray
 Odor no
 Turbidity (> 100 NTU) 73.7
 Sheen/Free Product no

Color clear
 Odor no
 Turbidity (> 100 NTU) 3.58
 Sheen/Free Product no

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	3	15 ml plastic	None	No

Notes:

Standard Groundwater Sampling Log

Date 6/10/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KRR

Weather 70°F, partly cloudy
 Well # OBG MW-24
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 23.84 ft.
 Depth to Water * 3.22 ft.
 Length of Water Column 20.62 ft.
 Volume of Water in Well 3.36 gal.(s)
 3X Volume of Water in Well 10.08 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 3/4 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity µS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>3.22</u>	initial <u>22.66</u>	initial <u>786.84</u>	initial <u>3.07</u>	initial <u>7.28</u>	initial <u>110.2</u>	initial <u>23.4</u>
5 min	<u>4.54</u>	<u>14.12</u>	<u>927.79</u>	<u>0.07</u>	<u>7.18</u>	<u>67.2</u>	<u>24.9</u>
10 min	<u>4.9</u>	<u>14.24</u>	<u>929.99</u>	<u>0.07</u>	<u>7.18</u>	<u>57.1</u>	<u>18.8</u>
15 min	<u>5.29</u>	<u>14.17</u>	<u>937.41</u>	<u>0.05</u>	<u>7.17</u>	<u>43.6</u>	<u>23.1</u>
20 min	<u>5.52</u>	<u>14.03</u>	<u>935.78</u>	<u>0.04</u>	<u>7.15</u>	<u>36.4</u>	<u>21.9</u>
25 min	<u>6.04</u>	<u>13.62</u>	<u>936.08</u>	<u>0.02</u>	<u>7.16</u>	<u>33.8</u>	<u>13.9</u>
30 min	<u>6.20</u>	<u>13.60</u>	<u>938.44</u>	<u>0.02</u>	<u>7.18</u>	<u>30.3</u>	<u>11.7</u>
35 min	<u>6.45</u>	<u>13.61</u>	<u>936.27</u>	<u>0.01</u>	<u>7.15</u>	<u>26.0</u>	<u>14.9</u>
40 min	<u>6.86</u>	<u>13.59</u>	<u>930.88</u>	<u>0.00</u>	<u>7.15</u>	<u>26.1</u>	<u>17.7</u>
45 min	<u>7.06</u>	<u>13.77</u>	<u>943.81</u>	<u>0.00</u>	<u>7.17</u>	<u>24.7</u>	<u>10.5</u>
50 min	<u>7.26</u>	<u>13.80</u>	<u>938.61</u>	<u>0.01</u>	<u>7.18</u>	<u>23.3</u>	<u>11.1</u>
55 min	<u>7.43</u>	<u>13.89</u>	<u>946.26</u>	<u>0.01</u>	<u>7.14</u>	<u>19.3</u>	<u>12.4</u>
60 min	<u>7.55</u>	<u>13.98</u>	<u>948.02</u>	<u>0.01</u>	<u>7.17</u>	<u>19.4</u>	<u>11.3</u>
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 15:30

Physical Appearance at Start

Physical Appearance at Sampling

Color clear
 Odor none
 Turbidity (> 100 NTU) 23.4
 Sheen/Free Product none

Color clear
 Odor none
 Turbidity (> 100 NTU) 11.3
 Sheen/Free Product none

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	3	15 ml plastic	None	No

Notes:

Standard Groundwater Sampling Log

Date 6/14/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KRR

Weather Sunny, 77°F
 Well # OBG MW-26
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 11.04 ft.
 Depth to Water * 5.63 ft.
 Length of Water Column 5.41 ft.
 Volume of Water in Well 0.88 gal.(s)
 3X Volume of Water in Well 2.65 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 1/2 gal.(s)
 Did well go dry? No

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity µS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>4.8</u>	initial <u>29.75</u>	initial <u>1677.3</u>	initial <u>1.38</u>	initial <u>6.92</u>	initial <u>137.9</u>	initial <u>427</u>
5 min	<u>5.25</u>	<u>20.03</u>	<u>1914.6</u>	<u>0.20</u>	<u>6.91</u>	<u>0.5</u>	<u>129</u>
10 min	<u>5.27</u>	<u>18.69</u>	<u>1942.9</u>	<u>0.10</u>	<u>6.91</u>	<u>-5.7</u>	<u>94</u>
15 min							
20 min	Aqua Troll Turned Off & Tablet Updated						
25 min							
30 min	<u>5.30</u>	<u>18.11</u>	<u>1959.9</u>	<u>0.09</u>	<u>6.89</u>	<u>-6.1</u>	<u>36.7</u>
35 min	<u>5.32</u>	<u>18.07</u>	<u>1980.9</u>	<u>0.09</u>	<u>6.89</u>	<u>-3.2</u>	<u>20.9</u>
40 min		<u>18.11</u>	<u>1966.3</u>	<u>0.10</u>	<u>6.89</u>	<u>-2.3</u>	<u>24.5</u>
45 min	<u>5.30</u>	<u>18.56</u>	<u>1991.9</u>	<u>0.12</u>	<u>6.88</u>	<u>-11.3</u>	<u>15.1</u>
50 min		<u>18.13</u>	<u>1982.1</u>	<u>0.12</u>	<u>6.89</u>	<u>-8.2</u>	<u>20.1</u>
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							
95 min							
100 min							

Water Sample:

Time Collected 14:20

Physical Appearance at Start

Physical Appearance at Sampling

Color cloudy/ white
 Odor none
 Turbidity (> 100 NTU) 427
 Sheen/Free Product none

Color clear
 Odor none
 Turbidity (> 100 NTU) 20.1
 Sheen/Free Product none

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	3	15 ml plastic	None	No
PFAS TOP Assay	6	15 ml plastic	None	No

Notes:

Standard Groundwater Sampling Log

Date 6/14/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KRR

Weather Sunny 76 °F
 Well # OBG MW-27
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 31.75 ft.
 Depth to Water * 21.74 ft.
 Length of Water Column 10.01 ft.
 Volume of Water in Well 1.63 gal.(s)
 3X Volume of Water in Well 4.89 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity µS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>21.74</u>	initial <u>22.59</u>	initial <u>1507.6</u>	initial <u>5.34</u>	initial <u>7.25</u>	initial <u>69.8</u>	initial <u>600</u>
5 min	<u>21.90</u>	<u>18.56</u>	<u>1598.4</u>	<u>6.40</u>	<u>6.97</u>	<u>120.6</u>	<u>208</u>
10 min	<u>21.90</u>	<u>18.36</u>	<u>1502.4</u>	<u>6.43</u>	<u>6.98</u>	<u>124.8</u>	<u>160</u>
15 min		<u>18.58</u>	<u>1594.1</u>	<u>6.37</u>	<u>6.92</u>	<u>125.6</u>	<u>145</u>
20 min		<u>18.53</u>	<u>1609.6</u>	<u>6.36</u>	<u>6.92</u>	<u>128.5</u>	<u>91.7</u>
25 min		<u>18.78</u>	<u>1597.6</u>	<u>6.15</u>	<u>6.95</u>	<u>186.2</u>	<u>47.5</u>
30 min	<u>21.90</u>	<u>18.85</u>	<u>1602.3</u>	<u>6.19</u>	<u>6.96</u>	<u>127.5</u>	<u>38.3</u>
35 min		<u>18.69</u>	<u>1603.6</u>	<u>6.11</u>	<u>6.94</u>	<u>122.0</u>	<u>21.7</u>
40 min		<u>20.53</u>	<u>1588.8</u>	<u>5.80</u>	<u>6.93</u>	<u>122.7</u>	<u>34.7</u>
45 min		<u>19.14</u>	<u>1605.6</u>	<u>6.21</u>	<u>6.93</u>	<u>176.1</u>	<u>32.5</u>
50 min		<u>19.39</u>	<u>1582.8</u>	<u>5.75</u>	<u>6.93</u>	<u>124.9</u>	<u>28.3</u>
55 min		<u>18.92</u>	<u>1619.0</u>	<u>6.04</u>	<u>6.94</u>	<u>120.3</u>	<u>23.0</u>
60 min	<u>21.90</u>	<u>19.00</u>	<u>1601.3</u>	<u>5.73</u>	<u>6.93</u>	<u>119.5</u>	<u>17.0</u>
65 min		<u>18.96</u>	<u>1625.0</u>	<u>5.55</u>	<u>6.92</u>	<u>172.2</u>	<u>17.6</u>
70 min		<u>18.86</u>	<u>1610.7</u>	<u>5.24</u>	<u>6.93</u>	<u>121.0</u>	<u>16.0</u>
75 min		<u>19.41</u>	<u>1603.6</u>	<u>5.49</u>	<u>6.95</u>	<u>170.2</u>	<u>15.4</u>
80 min		<u>19.69</u>	<u>1598.4</u>	<u>5.09</u>	<u>6.92</u>	<u>168.8</u>	<u>15.2</u>
85 min	<u>21.85</u>	<u>19.61</u>	<u>1602.4</u>	<u>5.16</u>	<u>6.91</u>	<u>170.6</u>	<u>13.0</u>
90 min							

Water Sample:

Time Collected 12:50

Physical Appearance at Start

Physical Appearance at Sampling

Color orange/ brown flecks
 Odor none
 Turbidity (> 100 NTU) 600
 Sheen/Free Product none

Color clear/ orange
 Odor none
 Turbidity (> 100 NTU) 13.0
 Sheen/Free Product none

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	3	15 ml plastic	None	No

Notes:

Standard Groundwater Sampling Log

Date 6/13/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KBS

Weather mostly sunny 70's
 Well # OBG MW-28
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 17.25 ft.
 Depth to Water * 11.42 ft.
 Length of Water Column 5.83 ft.
 Volume of Water in Well 0.95 gal.(s)
 3X Volume of Water in Well 2.85 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 3/4 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>11.45</u>	initial <u>22.39</u>	initial <u>0.35</u>	initial <u>4.68</u>	initial <u>7.32</u>	initial <u>120.1</u>	initial <u>35.3</u>
5 min	<u>11.45</u>	<u>16.17</u>	<u>0.34</u>	<u>3.61</u>	<u>7.10</u>	<u>112.7</u>	<u>21.6</u>
10 min	<u>11.45</u>	<u>14.66</u>	<u>0.34</u>	<u>3.38</u>	<u>7.00</u>	<u>106.6</u>	<u>15.6</u>
15 min	<u>11.45</u>	<u>14.33</u>	<u>0.35</u>	<u>3.89</u>	<u>6.97</u>	<u>107.0</u>	<u>8.17</u>
20 min	<u>11.45</u>	<u>14.34</u>	<u>0.35</u>	<u>4.15</u>	<u>6.97</u>	<u>107.3</u>	<u>6.48</u>
25 min	<u>11.45</u>	<u>14.16</u>	<u>0.35</u>	<u>4.27</u>	<u>6.96</u>	<u>106.8</u>	<u>4.52</u>
30 min	<u>11.45</u>	<u>14.03</u>	<u>0.35</u>	<u>4.20</u>	<u>6.95</u>	<u>105.1</u>	<u>4.28</u>
35 min	_____	_____	_____	_____	_____	_____	_____
40 min	_____	_____	_____	_____	_____	_____	_____
45 min	_____	_____	_____	_____	_____	_____	_____
50 min	_____	_____	_____	_____	_____	_____	_____
55 min	_____	_____	_____	_____	_____	_____	_____
60 min	_____	_____	_____	_____	_____	_____	_____
65 min	_____	_____	_____	_____	_____	_____	_____
70 min	_____	_____	_____	_____	_____	_____	_____
75 min	_____	_____	_____	_____	_____	_____	_____
80 min	_____	_____	_____	_____	_____	_____	_____
85 min	_____	_____	_____	_____	_____	_____	_____
90 min	_____	_____	_____	_____	_____	_____	_____

Water Sample:

Time Collected 14:28

Physical Appearance at Start _____

Physical Appearance at Sampling _____

Color clear
 Odor no
 Turbidity (> 100 NTU) 35.3
 Sheen/Free Product no

Color clear
 Odor no
 Turbidity (> 100 NTU) 4.28
 Sheen/Free Product no

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	3	15 ml plastic	None	No

Notes:

Standard Groundwater Sampling Log

Date 6/13/2022
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940102192
 Personnel KBS

Weather Hazy, 70's
 Well # OBG MW-29
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 33.93 ft.
 Depth to Water * 23.58 ft.
 Length of Water Column 10.35 ft.
 Volume of Water in Well 1.69 gal.(s)
 3X Volume of Water in Well 5.06 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>23.55</u>	initial <u>23.35</u>	initial <u>1.08</u>	initial <u>0.81</u>	initial <u>6.97</u>	initial <u>37.3</u>	initial <u>27.9</u>
5 min	<u>23.55</u>	<u>21.55</u>	<u>1.11</u>	<u>0.72</u>	<u>6.96</u>	<u>25.6</u>	<u>20.4</u>
10 min	<u>23.55</u>	<u>19.17</u>	<u>1.15</u>	<u>0.61</u>	<u>6.98</u>	<u>-24.9</u>	<u>35.0</u>
15 min	<u>23.55</u>	<u>18.07</u>	<u>1.17</u>	<u>0.54</u>	<u>6.96</u>	<u>-39.6</u>	<u>13.1</u>
20 min	<u>23.55</u>	<u>17.17</u>	<u>1.19</u>	<u>0.48</u>	<u>6.96</u>	<u>-44.2</u>	
25 min	<u>23.55</u>	<u>16.73</u>	<u>1.19</u>	<u>0.44</u>	<u>6.97</u>	<u>-50.7</u>	<u>13.3</u>
30 min	<u>23.55</u>	<u>16.42</u>	<u>1.19</u>	<u>0.38</u>	<u>6.97</u>	<u>-55.5</u>	<u>10.6</u>
35 min	<u>23.55</u>	<u>16.35</u>	<u>1.19</u>	<u>0.37</u>	<u>6.97</u>	<u>-56.6</u>	<u>8.13</u>
40 min	<u>23.55</u>	<u>16.17</u>	<u>1.19</u>	<u>0.34</u>	<u>6.97</u>	<u>-56.2</u>	<u>5.10</u>
45 min							
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 16:58

Physical Appearance at Start

Physical Appearance at Sampling

Color rust globs/ clear
 Odor no
 Turbidity (> 100 NTU) 28
 Sheen/Free Product no

Color clear
 Odor no
 Turbidity (> 100 NTU) 5.10
 Sheen/Free Product no

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
PFAS (7979)	3	15 ml plastic	None	No

Notes: DUP collected

APPENDIX B ANALYTICAL LABORATORY RESULTS



Analytical Laboratory Report

Report ID: S36846.01(01)
Generated on 06/29/2022

Report to

Attention: Clifford Yantz
Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Additional Contacts: Kevin Schneider

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S36846.01-S36846.06
Project: RACER Coldwater Road
Collected Date(s): 06/06/2022 - 06/08/2022
Submitted Date/Time: 06/08/2022 15:30
Sampled by: Kevin Schneider
P.O. #: 1940004462 TASK 37

Table of Contents

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
ASTMD7979-19M	ASTM Method D7979 - 19 Modified (Isotopic Dilution)

Parameter Summary

Parameter	Synonym	Cas #
PFBA	Perfluorobutanoic Acid	375-22-4
PFPeA	Perfluoropentanoic Acid	2706-90-3
4:2 FTSA	4:2 Fluorotelomer Sulfonic Acid	757124-72-4
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFPeS	Perfluoropentane Sulfonic Acid	2706-91-4
6:2 FTSA	6:2 Fluorotelomer Sulfonic Acid	27619-97-2
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFHxS-LN	Perfluorohexane Sulfonic Acid - LN	355-46-4-LN
PFHxS-BR	Perfluorohexane Sulfonic Acid - BR	355-46-4-BR
PFNA	Perfluorononanoic Acid	375-95-1
8:2 FTSA	8:2 Fluorotelomer Sulfonic Acid	39108-34-4
PFHpS	Perfluoroheptane Sulfonic Acid	375-92-8
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFOS-LN	Perfluorooctane Sulfonic Acid - LN	1763-23-1-LN
PFOS-BR	Perfluorooctane Sulfonic Acid - BR	1763-23-1-BR
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFNS	Perfluorononane Sulfonic Acid	68259-12-1
PFDoDA	Perfluorododecanoic Acid	307-55-1
PFDS	Perfluorodecane Sulfonic Acid	335-77-3
PFTTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6



Analytical Laboratory Report

Sample Summary (6 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S36846.01	Vault-A	Wastewater	06/06/22 15:40
S36846.02	Vault-C	Wastewater	06/07/22 12:00
S36846.03	Vault-E	Wastewater	06/07/22 14:30
S36846.04	Vault-DUP-060722	Wastewater	06/07/22 00:01
S36846.05	Field Blank-060822	Liquid	06/08/22 11:08
S36846.06	B-9	Groundwater	06/08/22 11:25



Analytical Laboratory Report

Lab Sample ID: S36846.01

Sample Tag: Vault-A

Collected Date/Time: 06/06/2022 15:40

Matrix: Wastewater

COC Reference: 148230

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.39/6.81/11	ASTMD7979-19M	06/23/22 17:15	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/24/22 09:16, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	12	9.9	9.9	ng/L	1.97	375-22-4	
PFPeA*	Not detected	3.9	0.99	ng/L	1.97	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.97	757124-72-4	
PFHxA*	2.2	2.0	1.4	ng/L	1.97	307-24-4	
PFBS*	4.9	2.0	1.4	ng/L	1.97	375-73-5	
PFHpA*	2.3	2.0	1.4	ng/L	1.97	375-85-9	
PFPeS*	9.5	2.0	1.8	ng/L	1.97	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.97	27619-97-2	
PFOA*	4.8	2.0	1.6	ng/L	1.97	335-67-1	
PFHxS*	19	2.0	1.6	ng/L	1.97	355-46-4	
PFHxS-LN*	15	2.0	1.6	ng/L	1.97	355-46-4-LN	
PFHxS-BR*	3.2	2.0	1.6	ng/L	1.97	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.97	375-95-1	
8:2 FTSA*	Not detected	2.0	0.99	ng/L	1.97	39108-34-4	
PFHpS*	5.5	2.0	2.0	ng/L	1.97	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.97	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.97	2355-31-9	
EtFOSAA*	Not detected	3.9	2.0	ng/L	1.97	2991-50-6	
PFOS*	360	2.0	1.9	ng/L	1.97	1763-23-1	
PFOS-LN*	180	2.0	1.9	ng/L	1.97	1763-23-1-LN	
PFOS-BR*	180	2.0	1.9	ng/L	1.97	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.97	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.97	68259-12-1	
PFDODA*	Not detected	2.0	1.6	ng/L	1.97	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.97	335-77-3	
PFTTrDA*	Not detected	2.0	1.2	ng/L	1.97	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.97	754-91-6	
PFTeDA*	Not detected	3.9	1.8	ng/L	1.97	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.97	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.97	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.97	919005-14-4	
HFPO-DA*	Not detected	9.9	2.0	ng/L	1.97	13252-13-6	



Analytical Laboratory Report

Lab Sample ID: S36846.02

Sample Tag: Vault-C

Collected Date/Time: 06/07/2022 12:00

Matrix: Wastewater

COC Reference: 148230

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.28/7.01/11	ASTMD7979-19M	06/23/22 17:15	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/24/22 09:35, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	13	10	10	ng/L	2.09	375-22-4	
PFPeA*	Not detected	4.2	1.0	ng/L	2.09	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.09	757124-72-4	
PFHxA*	3.2	2.1	1.5	ng/L	2.09	307-24-4	
PFBS*	5.8	2.1	1.5	ng/L	2.09	375-73-5	
PFHpA*	1.7	2.1	1.5	ng/L	2.09	375-85-9	J
PFPeS*	7.5	2.1	1.9	ng/L	2.09	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.09	27619-97-2	
PFOA*	7.9	2.1	1.7	ng/L	2.09	335-67-1	
PFHxS*	23	2.1	1.7	ng/L	2.09	355-46-4	
PFHxS-LN*	18	2.1	1.7	ng/L	2.09	355-46-4-LN	
PFHxS-BR*	3.8	2.1	1.7	ng/L	2.09	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.09	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.09	39108-34-4	
PFHpS*	5.1	2.1	2.1	ng/L	2.09	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.09	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.09	2355-31-9	
EtFOSAA*	Not detected	4.2	2.1	ng/L	2.09	2991-50-6	
PFOS*	390	2.1	2.0	ng/L	2.09	1763-23-1	
PFOS-LN*	220	2.1	2.0	ng/L	2.09	1763-23-1-LN	
PFOS-BR*	160	2.1	2.0	ng/L	2.09	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.5	ng/L	2.09	2058-94-8	
PFNS*	Not detected	2.1	1.5	ng/L	2.09	68259-12-1	
PFDoDA*	Not detected	2.1	1.7	ng/L	2.09	307-55-1	
PFDS*	Not detected	2.1	1.5	ng/L	2.09	335-77-3	
PFTTrDA*	Not detected	2.1	1.3	ng/L	2.09	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.09	754-91-6	
PFTeDA*	Not detected	4.2	1.9	ng/L	2.09	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.09	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.5	ng/L	2.09	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.09	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.09	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S36846.03

Sample Tag: Vault-E

Collected Date/Time: 06/07/2022 14:30

Matrix: Wastewater

COC Reference: 148230

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.37/6.99/11	ASTMD7979-19M	06/23/22 17:15	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/24/22 09:55, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.04	375-22-4	
PFPeA*	1.6	4.1	1.0	ng/L	2.04	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.04	757124-72-4	
PFHxA*	2.0	2.0	1.4	ng/L	2.04	307-24-4	J
PFBS*	7.4	2.0	1.4	ng/L	2.04	375-73-5	
PFHpA*	2.2	2.0	1.4	ng/L	2.04	375-85-9	
PFPeS*	8.4	2.0	1.8	ng/L	2.04	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2.04	27619-97-2	
PFOA*	9.6	2.0	1.6	ng/L	2.04	335-67-1	
PFHxS*	29	2.0	1.6	ng/L	2.04	355-46-4	
PFHxS-LN*	23	2.0	1.6	ng/L	2.04	355-46-4-LN	
PFHxS-BR*	5.7	2.0	1.6	ng/L	2.04	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.04	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.04	39108-34-4	
PFHpS*	6.7	2.0	2.0	ng/L	2.04	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.04	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.04	2355-31-9	
EtFOSAA*	Not detected	4.1	2.0	ng/L	2.04	2991-50-6	
PFOS*	440	2.0	2.0	ng/L	2.04	1763-23-1	
PFOS-LN*	230	2.0	2.0	ng/L	2.04	1763-23-1-LN	
PFOS-BR*	210	2.0	2.0	ng/L	2.04	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.04	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.04	68259-12-1	
PFDODA*	Not detected	2.0	1.6	ng/L	2.04	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.04	335-77-3	
PFTTrDA*	Not detected	2.0	1.2	ng/L	2.04	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.04	754-91-6	
PFTeDA*	Not detected	4.1	1.8	ng/L	2.04	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.04	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.04	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.04	919005-14-4	
HFPO-DA*	Not detected	10	2.0	ng/L	2.04	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S36846.04

Sample Tag: Vault-DUP-060722

Collected Date/Time: 06/07/2022 00:01

Matrix: Wastewater

COC Reference: 148230

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.14/6.85/11	ASTMD7979-19M	06/23/22 17:15	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/24/22 10:14, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	15	10	10	ng/L	2.08	375-22-4	
PFPeA*	Not detected	4.2	1.0	ng/L	2.08	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.08	757124-72-4	
PFHxA*	3.2	2.1	1.5	ng/L	2.08	307-24-4	
PFBS*	5.1	2.1	1.5	ng/L	2.08	375-73-5	
PFHpA*	2.2	2.1	1.5	ng/L	2.08	375-85-9	
PFPeS*	6.4	2.1	1.9	ng/L	2.08	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.08	27619-97-2	
PFOA*	5.6	2.1	1.7	ng/L	2.08	335-67-1	
PFHxS*	17	2.1	1.7	ng/L	2.08	355-46-4	
PFHxS-LN*	13	2.1	1.7	ng/L	2.08	355-46-4-LN	
PFHxS-BR*	3.9	2.1	1.7	ng/L	2.08	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.08	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.08	39108-34-4	
PFHpS*	4.4	2.1	2.1	ng/L	2.08	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.08	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.08	2355-31-9	
EtFOSAA*	Not detected	4.2	2.1	ng/L	2.08	2991-50-6	
PFOS*	340	2.1	2.0	ng/L	2.08	1763-23-1	
PFOS-LN*	180	2.1	2.0	ng/L	2.08	1763-23-1-LN	
PFOS-BR*	150	2.1	2.0	ng/L	2.08	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.5	ng/L	2.08	2058-94-8	
PFNS*	Not detected	2.1	1.5	ng/L	2.08	68259-12-1	
PFDODA*	Not detected	2.1	1.7	ng/L	2.08	307-55-1	
PFDS*	Not detected	2.1	1.5	ng/L	2.08	335-77-3	
PFTTrDA*	Not detected	2.1	1.2	ng/L	2.08	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.08	754-91-6	
PFTeDA*	Not detected	4.2	1.9	ng/L	2.08	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.08	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.5	ng/L	2.08	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.08	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.08	13252-13-6	



Analytical Laboratory Report

Lab Sample ID: S36846.05

Sample Tag: Field Blank-060822

Collected Date/Time: 06/08/2022 11:08

Matrix: Liquid

COC Reference: 148230

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.17/6.91/9	ASTMD7979-19M	06/23/22 17:15	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/24/22 10:34, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	11	11	ng/L	2.11	375-22-4	
PFPeA*	Not detected	4.2	1.1	ng/L	2.11	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.11	757124-72-4	
PFHxA*	Not detected	2.1	1.5	ng/L	2.11	307-24-4	
PFBS*	Not detected	2.1	1.5	ng/L	2.11	375-73-5	
PFHpA*	Not detected	2.1	1.5	ng/L	2.11	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.11	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.11	27619-97-2	
PFOA*	Not detected	2.1	1.7	ng/L	2.11	335-67-1	
PFHxS*	Not detected	2.1	1.7	ng/L	2.11	355-46-4	
PFHxS-LN*	Not detected	2.1	1.7	ng/L	2.11	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.7	ng/L	2.11	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.11	375-95-1	
8:2 FTSA*	Not detected	2.1	1.1	ng/L	2.11	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.11	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.11	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.11	2355-31-9	
EtFOSAA*	Not detected	4.2	2.1	ng/L	2.11	2991-50-6	
PFOS*	Not detected	2.1	2.1	ng/L	2.11	1763-23-1	
PFOS-LN*	Not detected	2.1	2.1	ng/L	2.11	1763-23-1-LN	
PFOS-BR*	Not detected	2.1	2.1	ng/L	2.11	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.5	ng/L	2.11	2058-94-8	
PFNS*	Not detected	2.1	1.5	ng/L	2.11	68259-12-1	
PFDODA*	Not detected	2.1	1.7	ng/L	2.11	307-55-1	
PFDS*	Not detected	2.1	1.5	ng/L	2.11	335-77-3	
PFTTrDA*	Not detected	2.1	1.3	ng/L	2.11	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.11	754-91-6	
PFTeDA*	Not detected	4.2	1.9	ng/L	2.11	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.11	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.5	ng/L	2.11	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.11	919005-14-4	
HFPO-DA*	Not detected	11	2.1	ng/L	2.11	13252-13-6	



Analytical Laboratory Report

Lab Sample ID: S36846.06

Sample Tag: B-9

Collected Date/Time: 06/08/2022 11:25

Matrix: Groundwater

COC Reference: 148230

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.31/6.95/11	ASTMD7979-19M	06/23/22 17:15	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/24/22 10:53, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	22	10	10	ng/L	2.05	375-22-4	
PFPeA*	3.6	4.1	1.0	ng/L	2.05	2706-90-3	J
4:2 FTSA*	Not detected	2.1	1.6	ng/L	2.05	757124-72-4	
PFHxA*	14	2.1	1.4	ng/L	2.05	307-24-4	
PFBS*	2.9	2.1	1.4	ng/L	2.05	375-73-5	
PFHpA*	2.6	2.1	1.4	ng/L	2.05	375-85-9	
PFPeS*	Not detected	2.1	1.8	ng/L	2.05	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.05	27619-97-2	
PFOA*	8.3	2.1	1.6	ng/L	2.05	335-67-1	
PFHxS*	9.1	2.1	1.6	ng/L	2.05	355-46-4	
PFHxS-LN*	7.7	2.1	1.6	ng/L	2.05	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.6	ng/L	2.05	355-46-4-BR	
PFNA*	Not detected	2.1	1.8	ng/L	2.05	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.05	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.05	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.05	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.05	2355-31-9	
EtFOSAA*	Not detected	4.1	2.1	ng/L	2.05	2991-50-6	
PFOS*	21	2.1	2.0	ng/L	2.05	1763-23-1	
PFOS-LN*	2.5	2.1	2.0	ng/L	2.05	1763-23-1-LN	
PFOS-BR*	18	2.1	2.0	ng/L	2.05	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.4	ng/L	2.05	2058-94-8	
PFNS*	Not detected	2.1	1.4	ng/L	2.05	68259-12-1	
PFDoDA*	Not detected	2.1	1.6	ng/L	2.05	307-55-1	
PFDS*	Not detected	2.1	1.4	ng/L	2.05	335-77-3	
PFTTrDA*	Not detected	2.1	1.2	ng/L	2.05	72629-94-8	
FOSA*	Not detected	2.1	1.8	ng/L	2.05	754-91-6	
PFTeDA*	Not detected	4.1	1.8	ng/L	2.05	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.8	ng/L	2.05	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.4	ng/L	2.05	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.05	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.05	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL

Merit Laboratories Login Checklist

Lab Set ID:S36846

Client:OBG02 (Ramboll Americas)

Project: RACER Coldwater Road

Submitted:06/08/2022 15:30 Login User: PFD

Attention: Clifford Yantz

Address: Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Selection	Description	Note
-----------	-------------	------

Sample Receiving

- | | | |
|-----|--|--|
| 01. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 3.6 |
| 02. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun |
| 03. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped |
| 04. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box |
| 05. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |

Chain of Custody

- | | | |
|-----|--|--|
| 06. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out |
| 07. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab |
| 08. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC |
| 09. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontracted to: |

Preservation

- | | | |
|-----|--|---|
| 10. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation |
| 11. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs) |
| 12. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab? |

Bottle Conditions

- | | | |
|-----|--|---|
| 13. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact |
| 14. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used |
| 15. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used |
| 16. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received |
| 17. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration |
| 18. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time |
| 19. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Do water VOC or TOX bottles contain headspace |

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____



Quality Control Report

Report ID: QC-S36846-01
Generated on 06/29/2022

Report to

Attention: Clifford Yantz
Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S36846.01-S36846.06
Project: RACER Coldwater Road
Submitted Date/Time: 06/08/2022 15:30
Sampled by: Kevin Schneider
P.O. #: 1940004462 TASK 37

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-7)
Prep Batch Summary (Page 8)
Internal Standards per Lab Sample (Pages 9-14)
Internal Standards per QC Sample (Pages 15-19)
Batch QC Results (Pages 20-24)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S36846.01

Sample Tag: Vault-A

Collected Date/Time: 06/06/2022 15:40

Matrix: Wastewater

COC Reference: 148230

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/24/22 09:16	AK220623	PF220623W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S36846.02

Sample Tag: Vault-C

Collected Date/Time: 06/07/2022 12:00

Matrix: Wastewater

COC Reference: 148230

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/24/22 09:35	AK220623	PF220623W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S36846.03

Sample Tag: Vault-E

Collected Date/Time: 06/07/2022 14:30

Matrix: Wastewater

COC Reference: 148230

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/24/22 09:55	AK220623	PF220623W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S36846.04

Sample Tag: Vault-DUP-060722

Collected Date/Time: 06/07/2022 00:01

Matrix: Wastewater

COC Reference: 148230

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/24/22 10:14	AK220623	PF220623W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S36846.05

Sample Tag: Field Blank-060822

Collected Date/Time: 06/08/2022 11:08

Matrix: Liquid

COC Reference: 148230

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/24/22 10:34	AK220623	PF220623W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S36846.06

Sample Tag: B-9

Collected Date/Time: 06/08/2022 11:25

Matrix: Groundwater

COC Reference: 148230

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/24/22 10:53	AK220623	PF220623W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF220623W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S36846.01	28 PFAs	ASTMD7979-19M	06/24/22 09:16	AK220623
S36846.02	28 PFAs	ASTMD7979-19M	06/24/22 09:35	AK220623
S36846.03	28 PFAs	ASTMD7979-19M	06/24/22 09:55	AK220623
S36846.04	28 PFAs	ASTMD7979-19M	06/24/22 10:14	AK220623
S36846.05	28 PFAs	ASTMD7979-19M	06/24/22 10:34	AK220623
S36846.06	28 PFAs	ASTMD7979-19M	06/24/22 10:53	AK220623

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S36846.01

Sample Tag: Vault-A

Collected Date/Time: 06/06/2022 15:40

Matrix: Wastewater

COC Reference: 148230

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220623, Run Date: 06/24/2022 09:16, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		82.2	50.0	150.0
M2-6:2FTSA		88.5	50.0	150.0
M2-8:2FTSA		96.5	50.0	150.0
M2PFTeDA		168.8	12.0	218.0
M3PFBS		97.7	50.0	150.0
M3PFHxS		110.1	50.0	150.0
M4PFHpA		103.3	50.0	150.0
M5PFHxA		94.2	50.0	150.0
M5PFPeA		98.9	50.0	150.0
M6PFDA		107.5	50.0	150.0
M7PFUnDA		108.4	50.0	150.0
M8FOSA		100.9	50.0	150.0
M8PFOA		96.7	50.0	150.0
M8PFOS		112.3	50.0	150.0
M9-PFNA		99.1	50.0	150.0
MPFBA		107.6	50.0	150.0
MPFDoDA		99.9	50.0	150.0
d3N-MeFOSAA		133.5	50.0	150.0
d5EtFOSAA		91.1	50.0	150.0
MHFPO-DA		105.1	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S36846.02

Sample Tag: Vault-C

Collected Date/Time: 06/07/2022 12:00

Matrix: Wastewater

COC Reference: 148230

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220623, Run Date: 06/24/2022 09:35, Matrix: WW, Dilution: 2.09

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		86.2	50.0	150.0
M2-6:2FTSA		96.4	50.0	150.0
M2-8:2FTSA		102.5	50.0	150.0
M2PFTeDA		186.4	12.0	218.0
M3PFBS		99.4	50.0	150.0
M3PFHxS		92.2	50.0	150.0
M4PFHpA		107.5	50.0	150.0
M5PFHxA		90.2	50.0	150.0
M5PFPeA		111.0	50.0	150.0
M6PFDA		101.5	50.0	150.0
M7PFUnDA		114.5	50.0	150.0
M8FOSA		104.8	50.0	150.0
M8PFOA		98.6	50.0	150.0
M8PFOS		103.0	50.0	150.0
M9-PFNA		105.0	50.0	150.0
MPFBA		109.5	50.0	150.0
MPFDoDA		115.1	50.0	150.0
d3N-MeFOSAA		127.4	50.0	150.0
d5EtFOSAA		100.3	50.0	150.0
MHFPO-DA		98.5	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S36846.03

Sample Tag: Vault-E

Collected Date/Time: 06/07/2022 14:30

Matrix: Wastewater

COC Reference: 148230

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220623, Run Date: 06/24/2022 09:55, Matrix: WW, Dilution: 2.04

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		78.8	50.0	150.0
M2-6:2FTSA		98.2	50.0	150.0
M2-8:2FTSA		122.7	50.0	150.0
M2PFTeDA		190.9	12.0	218.0
M3PFBS		105.2	50.0	150.0
M3PFHxS		101.5	50.0	150.0
M4PFHpA		107.0	50.0	150.0
M5PFHxA		98.6	50.0	150.0
M5PFPeA		108.4	50.0	150.0
M6PFDA		113.9	50.0	150.0
M7PFUnDA		128.6	50.0	150.0
M8FOSA		103.4	50.0	150.0
M8PFOA		102.2	50.0	150.0
M8PFOS		96.6	50.0	150.0
M9-PFNA		104.9	50.0	150.0
MPFBA		110.5	50.0	150.0
MPFDoDA		112.6	50.0	150.0
d3N-MeFOSAA		117.1	50.0	150.0
d5EtFOSAA		106.3	50.0	150.0
MHFPO-DA		99.2	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S36846.04

Sample Tag: Vault-DUP-060722

Collected Date/Time: 06/07/2022 00:01

Matrix: Wastewater

COC Reference: 148230

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220623, Run Date: 06/24/2022 10:14, Matrix: WW, Dilution: 2.08

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		75.5	50.0	150.0
M2-6:2FTSA		94.1	50.0	150.0
M2-8:2FTSA		101.9	50.0	150.0
M2PFTeDA		160.0	12.0	218.0
M3PFBS		103.2	50.0	150.0
M3PFHxS		104.1	50.0	150.0
M4PFHpA		110.3	50.0	150.0
M5PFHxA		99.6	50.0	150.0
M5PFPeA		105.2	50.0	150.0
M6PFDA		108.7	50.0	150.0
M7PFUnDA		110.5	50.0	150.0
M8FOSA		102.9	50.0	150.0
M8PFOA		101.6	50.0	150.0
M8PFOS		103.1	50.0	150.0
M9-PFNA		112.2	50.0	150.0
MPFBA		109.0	50.0	150.0
MPFDoDA		96.8	50.0	150.0
d3N-MeFOSAA		114.1	50.0	150.0
d5EtFOSAA		102.9	50.0	150.0
MHFPO-DA		100.0	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S36846.05

Sample Tag: Field Blank-060822

Collected Date/Time: 06/08/2022 11:08

Matrix: Liquid

COC Reference: 148230

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220623, Run Date: 06/24/2022 10:34, Matrix: WW, Dilution: 2.11

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		104.4	50.0	150.0
M2-6:2FTSA		112.5	50.0	150.0
M2-8:2FTSA		109.3	50.0	150.0
M2PFTeDA		101.3	12.0	218.0
M3PFBS		100.6	50.0	150.0
M3PFHxS		108.8	50.0	150.0
M4PFHpA		111.9	50.0	150.0
M5PFHxA		104.0	50.0	150.0
M5PFPeA		109.1	50.0	150.0
M6PFDA		115.2	50.0	150.0
M7PFUnDA		115.3	50.0	150.0
M8FOSA		101.7	50.0	150.0
M8PFOA		98.7	50.0	150.0
M8PFOS		112.2	50.0	150.0
M9-PFNA		115.8	50.0	150.0
MPFBA		98.2	50.0	150.0
MPFDoDA		96.1	50.0	150.0
d3N-MeFOSAA		122.8	50.0	150.0
d5EtFOSAA		96.8	50.0	150.0
MHFPO-DA		90.8	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S36846.06

Sample Tag: B-9

Collected Date/Time: 06/08/2022 11:25

Matrix: Groundwater

COC Reference: 148230

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220623, Run Date: 06/24/2022 10:53, Matrix: WW, Dilution: 2.05

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		88.4	50.0	150.0
M2-6:2FTSA		89.7	50.0	150.0
M2-8:2FTSA		112.5	50.0	150.0
M2PFTeDA		171.6	12.0	218.0
M3PFBS		115.2	50.0	150.0
M3PFHxS		100.3	50.0	150.0
M4PFHpA		111.7	50.0	150.0
M5PFHxA		104.1	50.0	150.0
M5PFPeA		110.2	50.0	150.0
M6PFDA		110.0	50.0	150.0
M7PFUnDA		122.5	50.0	150.0
M8FOSA		109.0	50.0	150.0
M8PFOA		104.4	50.0	150.0
M8PFOS		117.2	50.0	150.0
M9-PFNA		112.5	50.0	150.0
MPFBA		113.5	50.0	150.0
MPFDoDA		109.4	50.0	150.0
d3N-MeFOSAA		112.5	50.0	150.0
d5EtFOSAA		99.2	50.0	150.0
MHFPO-DA		106.4	50.0	150.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: PF220623W2

QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: DQ220623.BLK220623BR

Run in Batch: DQ220623, Run Date: 06/24/2022 13:52, Prep Date: 06/23/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		122.3	50.0	150.0
M2-6:2FTSA		125.7	50.0	150.0
M2-8:2FTSA		107.4	50.0	150.0
M2PFTeDA		109.0	12.0	218.0
M3PFBS		107.1	50.0	150.0
M3PFHxS		98.4	50.0	150.0
M4PFHpA		107.6	50.0	150.0
M5PFHxA		94.7	50.0	150.0
M5PFPeA		101.3	50.0	150.0
M6PFDA		107.1	50.0	150.0
M7PFUnDA		112.4	50.0	150.0
M8FOSA		89.3	50.0	150.0
M8PFOA		99.8	50.0	150.0
M8PFOS		108.5	50.0	150.0
M9-PFNA		92.0	50.0	150.0
MPFBA		100.3	50.0	150.0
MPFDoDA		107.0	50.0	150.0
d3N-MeFOSAA		104.9	50.0	150.0
d5EtFOSAA		116.9	50.0	150.0
MHFPO-DA		93.4	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample (LCS)

Lab Sample ID: DQ220623.LCS220623BR

Run in Batch: DQ220623, Run Date: 06/24/2022 13:13, Prep Date: 06/23/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		121.2	50.0	150.0
M2-6:2FTSA		117.9	50.0	150.0
M2-8:2FTSA		105.7	50.0	150.0
M2PFTeDA		118.6	12.0	218.0
M3PFBS		94.4	50.0	150.0
M3PFHxS		100.7	50.0	150.0
M4PFHpA		98.0	50.0	150.0
M5PFHxA		92.1	50.0	150.0
M5PFPeA		98.7	50.0	150.0
M6PFDA		96.3	50.0	150.0
M7PFUnDA		105.6	50.0	150.0
M8FOSA		86.5	50.0	150.0
M8PFOA		101.8	50.0	150.0
M8PFOS		81.5	50.0	150.0
M9-PFNA		100.7	50.0	150.0
MPFBA		91.2	50.0	150.0
MPFDoDA		99.5	50.0	150.0
d3N-MeFOSAA		95.1	50.0	150.0
d5EtFOSAA		108.8	50.0	150.0
MHFPO-DA		84.5	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: DQ220623.LCSD220623BR, Parent Sample ID: DQ220623.LCS220623BR

Run in Batch: DQ220623, Run Date: 06/24/2022 13:33, Prep Date: 06/23/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		125.7	50.0	150.0
M2-6:2FTSA		110.6	50.0	150.0
M2-8:2FTSA		114.6	50.0	150.0
M2PFTeDA		119.7	12.0	218.0
M3PFBS		99.0	50.0	150.0
M3PFHxS		93.2	50.0	150.0
M4PFHpA		98.4	50.0	150.0
M5PFHxA		93.8	50.0	150.0
M5PFPeA		98.2	50.0	150.0
M6PFDA		98.1	50.0	150.0
M7PFUnDA		101.8	50.0	150.0
M8FOSA		87.0	50.0	150.0
M8PFOA		102.2	50.0	150.0
M8PFOS		87.1	50.0	150.0
M9-PFNA		98.9	50.0	150.0
MPFBA		92.7	50.0	150.0
MPFDoDA		99.4	50.0	150.0
d3N-MeFOSAA		97.3	50.0	150.0
d5EtFOSAA		108.5	50.0	150.0
MHFPO-DA		95.1	50.0	150.0

QC Report - Internal Standards per QC Sample

Matrix Spike (MS)

Lab Sample ID: DQ220623.3696803M, Parent Sample ID: S36968.03

Run in Batch: DQ220623, Run Date: 06/23/2022 23:27, Prep Date: 06/23/2022, Matrix: WW, Dilution: 2.1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		106.6	50.0	150.0
M2-6:2FTSA		116.4	50.0	150.0
M2-8:2FTSA		124.9	50.0	150.0
M2PFTeDA		118.1	12.0	218.0
M3PFBS		105.5	50.0	150.0
M3PFHxS		96.3	50.0	150.0
M4PFHpA		112.5	50.0	150.0
M5PFHxA		118.5	50.0	150.0
M5PFPeA		112.4	50.0	150.0
M6PFDA		105.6	50.0	150.0
M7PFUnDA		105.2	50.0	150.0
M8FOSA		134.1	50.0	150.0
M8PFOA		122.2	50.0	150.0
M8PFOS		104.5	50.0	150.0
M9-PFNA		129.1	50.0	150.0
MPFBA		108.7	50.0	150.0
MPFDoDA		134.8	50.0	150.0
d3N-MeFOSAA		120.8	50.0	150.0
d5EtFOSAA		106.3	50.0	150.0
MHFPO-DA		110.7	50.0	150.0

QC Report - Internal Standards per QC Sample

Duplicate (DUP)

Lab Sample ID: DQ220623.3696804D, Parent Sample ID: S36968.04

Run in Batch: DQ220623, Run Date: 06/24/2022 00:06, Prep Date: 06/23/2022, Matrix: WW, Dilution: 2.12

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		107.6	50.0	150.0
M2-6:2FTSA		115.6	50.0	150.0
M2-8:2FTSA		118.3	50.0	150.0
M2PFTeDA		138.8	12.0	218.0
M3PFBS		105.6	50.0	150.0
M3PFHxS		111.2	50.0	150.0
M4PFHpA		125.3	50.0	150.0
M5PFHxA		118.5	50.0	150.0
M5PFPeA		117.1	50.0	150.0
M6PFDA		123.0	50.0	150.0
M7PFUnDA		115.8	50.0	150.0
M8FOSA		128.2	50.0	150.0
M8PFOA		115.6	50.0	150.0
M8PFOS		123.6	50.0	150.0
M9-PFNA		112.7	50.0	150.0
MPFBA		111.3	50.0	150.0
MPFDoDA		115.4	50.0	150.0
d3N-MeFOSAA		114.3	50.0	150.0
d5EtFOSAA		108.8	50.0	150.0
MHFPO-DA		120.7	50.0	150.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF220623W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: DQ220623.BLK220623BR

Run in Batch: DQ220623, Run Date: 06/24/2022 13:52, Prep Date: 06/23/2022, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFMPA		ND	1	ng/l
FPrPA (3:3 FTCA)		ND	1	ng/l
PFPPrS		ND	1	ng/l
PFMBA		ND	1	ng/l
NFDHA		ND	1	ng/l
FPePA (5:3 FTCA)		ND	1	ng/l
PFEESA		ND	1	ng/l
PFBSA		ND	1	ng/l
FHpPA (7:3 FTCA)		ND	1	ng/l
PFECHS		ND	1	ng/l
PFHxSA		ND	1	ng/l
PFBA		ND	5	ng/l
PFPeA		ND	2	ng/l
4:2 FTSA		ND	1	ng/l
PFHxA		ND	1	ng/l
PFBS		ND	1	ng/l
PFHpA		ND	1	ng/l
PFPeS		ND	1	ng/l
6:2 FTSA		ND	1	ng/l
PFOA		ND	1	ng/l
PFHxS		ND	1	ng/l
PFHxS-LN		ND	1	ng/l
PFHxS-BR		ND	1	ng/l
PFNA		ND	1	ng/l
8:2 FTSA		ND	1	ng/l
PFHpS		ND	1	ng/l
PFDA		ND	1	ng/l
N-MeFOSAA		ND	1	ng/l
EtFOSAA		ND	2	ng/l
PFOS		ND	1	ng/l
PFOS-LN		ND	1	ng/l
PFOS-BR		ND	1	ng/l
PFUnDA		ND	1	ng/l
PFNS		ND	1	ng/l
PFDODA		ND	1	ng/l
PFDS		ND	1	ng/l
PFTTrDA		ND	1	ng/l
FOSA		ND	1	ng/l
PFTeDA		ND	2	ng/l
11CL-PF3OUdS		ND	1	ng/l
9CL-PF3ONS		ND	1	ng/l
ADONA		ND	1	ng/l
HFPO-DA		ND	1	ng/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF220623W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample (LCS)

Lab Sample ID: DQ220623.LCS220623BR

Run in Batch: DQ220623, Run Date: 06/24/2022 13:13, Prep Date: 06/23/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		90.8	70.0	130.0
PFMPA		105.2	70.0	130.0
FPrPA (3:3 FTCA)		80.8	70.0	130.0
PFPPrS		93.0	70.0	130.0
PFPeA		83.8	70.0	130.0
PFMBA		93.2	70.0	130.0
4:2 FTSA		88.6	70.0	130.0
NFDHA		106.4	70.0	130.0
PFHxA		86.4	70.0	130.0
PFBS		98.2	70.0	130.0
HFPO-DA		86.8	70.0	130.0
FPePA (5:3 FTCA)		92.2	70.0	130.0
PFEESA		107.0	70.0	130.0
PFHpA		90.2	70.0	130.0
PFPeS		83.8	70.0	130.0
ADONA		94.4	70.0	130.0
PFBSA		102.6	70.0	130.0
6:2 FTSA		85.0	70.0	130.0
PFOA		89.6	70.0	130.0
PFHxS		77.8	70.0	130.0
FHpPA (7:3 FTCA)		77.8	70.0	130.0
PFNA		83.6	70.0	130.0
8:2 FTSA		101.4	70.0	130.0
PFECHS		100.0	70.0	130.0
PFHpS		72.6	70.0	130.0
N-MeFOSAA		87.8	70.0	130.0
PFDA		85.0	70.0	130.0
EtFOSAA		85.6	70.0	130.0
PFOS		106.8	70.0	130.0
PFHxSA		100.8	70.0	130.0
PFUnDA		83.4	70.0	130.0
9CL-PF3ONS		95.0	70.0	130.0
PFNS		91.0	70.0	130.0
PFDoDA		81.8	70.0	130.0
PFDS		88.4	70.0	130.0
FOSA		88.2	70.0	130.0
PFTTrDA		95.2	70.0	130.0
11CL-PF3OUdS		97.4	70.0	130.0
PFTeDA		97.8	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: DQ220623.LCSD220623BR, Parent Sample ID: DQ220623.LCS220623BR

Run in Batch: DQ220623, Run Date: 06/24/2022 13:33, Prep Date: 06/23/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		89.6	70.0	130.0	1.3	30.0
PFMPA		96.6	70.0	130.0	8.5	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF220623W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: DQ220623.LCSD220623BR, Parent Sample ID: DQ220623.LCS220623BR

Run in Batch: DQ220623, Run Date: 06/24/2022 13:33, Prep Date: 06/23/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
FPrPA (3:3 FTCA)		76.4	70.0	130.0	5.6	30.0
PFPPrS		89.4	70.0	130.0	3.9	30.0
PFPeA		82.8	70.0	130.0	1.2	30.0
PFMBA		92.8	70.0	130.0	0.4	30.0
4:2 FTSA		91.6	70.0	130.0	3.3	30.0
NFDHA		96.4	70.0	130.0	9.9	30.0
PFHxA		81.6	70.0	130.0	5.7	30.0
PFBS		90.8	70.0	130.0	7.8	30.0
HFPO-DA		76.4	70.0	130.0	12.7	30.0
FPePA (5:3 FTCA)		84.2	70.0	130.0	9.1	30.0
PFEESA		99.8	70.0	130.0	7.0	30.0
PFHpA		83.4	70.0	130.0	7.8	30.0
PFPeS		90.2	70.0	130.0	7.4	30.0
ADONA		91.8	70.0	130.0	2.8	30.0
PFBSA		101.8	70.0	130.0	0.8	30.0
6:2 FTSA		88.6	70.0	130.0	4.1	30.0
PFOA		88.4	70.0	130.0	1.3	30.0
PFHxS		83.2	70.0	130.0	6.7	30.0
FHpPA (7:3 FTCA)		74.8	70.0	130.0	3.9	30.0
PFNA		86.4	70.0	130.0	3.3	30.0
8:2 FTSA		95.8	70.0	130.0	5.7	30.0
PFECHS		93.8	70.0	130.0	6.4	30.0
PFHpS		84.2	70.0	130.0	14.8	30.0
N-MeFOSAA		81.8	70.0	130.0	7.1	30.0
PFDA		76.8	70.0	130.0	10.1	30.0
EtFOSAA		79.6	70.0	130.0	7.3	30.0
PFOS		102.2	70.0	130.0	4.4	30.0
PFHxSA		103.6	70.0	130.0	2.7	30.0
PFUnDA		95.4	70.0	130.0	13.4	30.0
9CL-PF3ONS		89.8	70.0	130.0	5.6	30.0
PFNS		90.8	70.0	130.0	0.2	30.0
PFDoDA		82.4	70.0	130.0	0.7	30.0
PFDS		93.2	70.0	130.0	5.3	30.0
FOSA		91.6	70.0	130.0	3.8	30.0
PFTTrDA		92.2	70.0	130.0	3.2	30.0
11CL-PF3OUdS		91.0	70.0	130.0	6.8	30.0
PFTeDA		96.4	70.0	130.0	1.4	30.0

Matrix Spike (MS)

Lab Sample ID: DQ220623.3696803M, Parent Sample ID: S36968.03

Run in Batch: DQ220623, Run Date: 06/23/2022 23:27, Prep Date: 06/23/2022, Matrix: WW, Dilution: 2.1

Analyte	Flags	% Rec	LCL	UCL
PFBA		110.5	70.0	130.0
PFPeA		123.8	70.0	130.0
4:2 FTSA		104.8	70.0	130.0
PFHxA		104.8	70.0	130.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF220623W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Matrix Spike (MS) (continued)

Lab Sample ID: DQ220623.3696803M, Parent Sample ID: S36968.03

Run in Batch: DQ220623, Run Date: 06/23/2022 23:27, Prep Date: 06/23/2022, Matrix: WW, Dilution: 2.1

Analyte	Flags	% Rec	LCL	UCL
PFBS	*	133.3	70.0	130.0
PFHpA		102.9	70.0	130.0
PFPeS		123.8	70.0	130.0
6:2 FTSA		95.2	70.0	130.0
PFOA		76.2	70.0	130.0
PFHxS	*	381.0	70.0	130.0
PFNA		92.6	70.0	130.0
8:2 FTSA		123.8	70.0	130.0
PFHpS	*	152.4	70.0	130.0
PFDA		104.8	70.0	130.0
N-MeFOSAA		90.5	70.0	130.0
EtFOSAA		95.2	70.0	130.0
PFOS	*	-95.2	70.0	130.0
PFUnDA		104.8	70.0	130.0
PFNS		104.8	70.0	130.0
PFDoDA		80.0	70.0	130.0
PFDS		95.2	70.0	130.0
PFTTrDA		93.3	70.0	130.0
FOSA		95.2	70.0	130.0
PFTeDA		104.8	70.0	130.0
11CL-PF3OUdS		114.3	70.0	130.0
9CL-PF3ONS		104.8	70.0	130.0
ADONA		95.2	70.0	130.0
HFPO-DA		95.2	70.0	130.0

Duplicate (DUP)

Lab Sample ID: DQ220623.3696804D, Parent Sample ID: S36968.04

Run in Batch: DQ220623, Run Date: 06/24/2022 00:06, Prep Date: 06/23/2022, Matrix: WW, Dilution: 2.12

Analyte	Flags	RPD	RPD CL
PFBA		5.7	30.0
PFPeA		8.0	30.0
4:2 FTSA		NC	30.0
PFHxA		0.0	30.0
PFBS		16.1	30.0
PFHpA		9.5	30.0
PFPeS		18.4	30.0
6:2 FTSA		10.9	30.0
PFOA		8.2	30.0
PFHxS		13.7	30.0
PFHxS-LN		14.3	30.0
PFHxS-BR		16.2	30.0
PFNA		NC	30.0
8:2 FTSA		NC	30.0
PFHpS		16.9	30.0
PFDA		NC	30.0
N-MeFOSAA		NC	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF220623W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Duplicate (DUP) (continued)

Lab Sample ID: DQ220623.3696804D, Parent Sample ID: S36968.04

Run in Batch: DQ220623, Run Date: 06/24/2022 00:06, Prep Date: 06/23/2022, Matrix: WW, Dilution: 2.12

Analyte	Flags	RPD	RPD CL
EtFOSAA		NC	30.0
PFOS		5.2	30.0
PFOS-LN		2.8	30.0
PFOS-BR		6.7	30.0
PFUnDA		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTTrDA		NC	30.0
FOSA		NC	30.0
PFTeDA		NC	30.0
11CL-PF3OUdS		NC	30.0
9CL-PF3ONS		NC	30.0
ADONA		NC	30.0
HFPO-DA		NC	30.0



Analytical Laboratory Report

Report ID: S37004.01(01)
Generated on 06/29/2022

Report to

Attention: Clifford Yantz
Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

Phone: 313-333-0211 FAX:
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John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S37004.01-S37004.04
Project: RACER Coldwater Road
Collected Date(s): 06/08/2022 - 06/10/2022
Submitted Date/Time: 06/10/2022 15:00
Sampled by: Kevin Schneider
P.O. #: 1940004462 TASK 37

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
ASTMD7979-19M	ASTM Method D7979 - 19 Modified (Isotopic Dilution)

Parameter Summary

Parameter	Synonym	Cas #
PFBA	Perfluorobutanoic Acid	375-22-4
PFPeA	Perfluoropentanoic Acid	2706-90-3
4:2 FTSA	4:2 Fluorotelomer Sulfonic Acid	757124-72-4
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFPeS	Perfluoropentane Sulfonic Acid	2706-91-4
6:2 FTSA	6:2 Fluorotelomer Sulfonic Acid	27619-97-2
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFHxS-LN	Perfluorohexane Sulfonic Acid - LN	355-46-4-LN
PFHxS-BR	Perfluorohexane Sulfonic Acid - BR	355-46-4-BR
PFNA	Perfluorononanoic Acid	375-95-1
8:2 FTSA	8:2 Fluorotelomer Sulfonic Acid	39108-34-4
PFHpS	Perfluoroheptane Sulfonic Acid	375-92-8
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFOS-LN	Perfluorooctane Sulfonic Acid - LN	1763-23-1-LN
PFOS-BR	Perfluorooctane Sulfonic Acid - BR	1763-23-1-BR
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFNS	Perfluorononane Sulfonic Acid	68259-12-1
PFDoDA	Perfluorododecanoic Acid	307-55-1
PFDS	Perfluorodecane Sulfonic Acid	335-77-3
PFTTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6



Analytical Laboratory Report

Sample Summary (4 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S37004.01	B-7	Groundwater	06/08/22 12:41
S37004.02	B-27D	Groundwater	06/09/22 15:46
S37004.03	OBG MW-18S	Groundwater	06/10/22 13:17
S37004.04	Field Blank-061022	Liquid	06/10/22 13:35



Analytical Laboratory Report

Lab Sample ID: S37004.01

Sample Tag: B-7

Collected Date/Time: 06/08/2022 12:41

Matrix: Groundwater

COC Reference: 148231

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.31/6.98/11	ASTMD7979-19M	06/23/22 17:15	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/24/22 12:31, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.06	375-22-4	
PFPeA*	2.3	4.1	1.0	ng/L	2.06	2706-90-3	J
4:2 FTSA*	Not detected	2.1	1.6	ng/L	2.06	757124-72-4	
PFHxA*	3.2	2.1	1.4	ng/L	2.06	307-24-4	
PFBS*	4.4	2.1	1.4	ng/L	2.06	375-73-5	
PFHpA*	1.4	2.1	1.4	ng/L	2.06	375-85-9	J
PFPeS*	4.8	2.1	1.9	ng/L	2.06	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.06	27619-97-2	
PFOA*	5.1	2.1	1.6	ng/L	2.06	335-67-1	
PFHxS*	16	2.1	1.6	ng/L	2.06	355-46-4	
PFHxS-LN*	13	2.1	1.6	ng/L	2.06	355-46-4-LN	
PFHxS-BR*	2.6	2.1	1.6	ng/L	2.06	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.06	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.06	39108-34-4	
PFHpS*	2.4	2.1	2.1	ng/L	2.06	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.06	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.06	2355-31-9	
EtFOSAA*	Not detected	4.1	2.1	ng/L	2.06	2991-50-6	
PFOS*	87	2.1	2.0	ng/L	2.06	1763-23-1	
PFOS-LN*	48	2.1	2.0	ng/L	2.06	1763-23-1-LN	
PFOS-BR*	38	2.1	2.0	ng/L	2.06	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.4	ng/L	2.06	2058-94-8	
PFNS*	Not detected	2.1	1.4	ng/L	2.06	68259-12-1	
PFDODA*	Not detected	2.1	1.6	ng/L	2.06	307-55-1	
PFDS*	Not detected	2.1	1.4	ng/L	2.06	335-77-3	
PFTTrDA*	Not detected	2.1	1.2	ng/L	2.06	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.06	754-91-6	
PFTeDA*	Not detected	4.1	1.9	ng/L	2.06	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.06	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.4	ng/L	2.06	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.06	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.06	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S37004.02

Sample Tag: B-27D

Collected Date/Time: 06/09/2022 15:46

Matrix: Groundwater

COC Reference: 148231

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.52/7.01/11	ASTMD7979-19M	06/23/22 17:15	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/24/22 12:50, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2	375-22-4	
PFPeA*	Not detected	4.0	1.0	ng/L	2	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	2	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	2	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	2	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	2	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	2	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	2	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	2	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	2	2991-50-6	
PFOS*	Not detected	2.0	2.0	ng/L	2	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	2	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	2.0	ng/L	2	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2	335-77-3	
PFTTrDA*	Not detected	2.0	1.2	ng/L	2	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	2	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2	919005-14-4	
HFPO-DA*	Not detected	10	2.0	ng/L	2	13252-13-6	



Analytical Laboratory Report

Lab Sample ID: S37004.03

Sample Tag: OBG MW-18S

Collected Date/Time: 06/10/2022 13:17

Matrix: Groundwater

COC Reference: 148231

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.16/6.90/11	ASTMD7979-19M	06/23/22 17:15	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/24/22 13:10, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.09	375-22-4	
PFPeA*	Not detected	4.2	1.0	ng/L	2.09	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.09	757124-72-4	
PFHxA*	Not detected	2.1	1.5	ng/L	2.09	307-24-4	
PFBS*	Not detected	2.1	1.5	ng/L	2.09	375-73-5	
PFHpA*	Not detected	2.1	1.5	ng/L	2.09	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.09	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.09	27619-97-2	
PFOA*	Not detected	2.1	1.7	ng/L	2.09	335-67-1	
PFHxS*	2.3	2.1	1.7	ng/L	2.09	355-46-4	
PFHxS-LN*	Not detected	2.1	1.7	ng/L	2.09	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.7	ng/L	2.09	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.09	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.09	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.09	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.09	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.09	2355-31-9	
EtFOSAA*	Not detected	4.2	2.1	ng/L	2.09	2991-50-6	
PFOS*	Not detected	2.1	2.0	ng/L	2.09	1763-23-1	
PFOS-LN*	Not detected	2.1	2.0	ng/L	2.09	1763-23-1-LN	
PFOS-BR*	Not detected	2.1	2.0	ng/L	2.09	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.5	ng/L	2.09	2058-94-8	
PFNS*	Not detected	2.1	1.5	ng/L	2.09	68259-12-1	
PFDODA*	Not detected	2.1	1.7	ng/L	2.09	307-55-1	
PFDS*	Not detected	2.1	1.5	ng/L	2.09	335-77-3	
PFTTrDA*	Not detected	2.1	1.3	ng/L	2.09	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.09	754-91-6	
PFTeDA*	Not detected	4.2	1.9	ng/L	2.09	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.09	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.5	ng/L	2.09	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.09	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.09	13252-13-6	



Analytical Laboratory Report

Lab Sample ID: S37004.04

Sample Tag: Field Blank-061022

Collected Date/Time: 06/10/2022 13:35

Matrix: Liquid

COC Reference: 148231

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.39/7.04/11	ASTMD7979-19M	06/23/22 17:15	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/24/22 13:29, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.06	375-22-4	
PFPeA*	Not detected	4.1	1.0	ng/L	2.06	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.6	ng/L	2.06	757124-72-4	
PFHxA*	Not detected	2.1	1.4	ng/L	2.06	307-24-4	
PFBS*	Not detected	2.1	1.4	ng/L	2.06	375-73-5	
PFHpA*	Not detected	2.1	1.4	ng/L	2.06	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.06	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.06	27619-97-2	
PFOA*	Not detected	2.1	1.6	ng/L	2.06	335-67-1	
PFHxS*	Not detected	2.1	1.6	ng/L	2.06	355-46-4	
PFHxS-LN*	Not detected	2.1	1.6	ng/L	2.06	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.6	ng/L	2.06	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.06	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.06	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.06	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.06	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.06	2355-31-9	
EtFOSAA*	Not detected	4.1	2.1	ng/L	2.06	2991-50-6	
PFOS*	Not detected	2.1	2.0	ng/L	2.06	1763-23-1	
PFOS-LN*	Not detected	2.1	2.0	ng/L	2.06	1763-23-1-LN	
PFOS-BR*	Not detected	2.1	2.0	ng/L	2.06	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.4	ng/L	2.06	2058-94-8	
PFNS*	Not detected	2.1	1.4	ng/L	2.06	68259-12-1	
PFDODA*	Not detected	2.1	1.6	ng/L	2.06	307-55-1	
PFDS*	Not detected	2.1	1.4	ng/L	2.06	335-77-3	
PFTTrDA*	Not detected	2.1	1.2	ng/L	2.06	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.06	754-91-6	
PFTeDA*	Not detected	4.1	1.9	ng/L	2.06	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.06	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.4	ng/L	2.06	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.06	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.06	13252-13-6	

Merit Laboratories Login Checklist

Lab Set ID:S37004

Client:OBG02 (Ramboll Americas)

Project: RACER Coldwater Road

Submitted:06/10/2022 15:00 Login User: MMC

Attention: Clifford Yantz

Address: Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Selection	Description	Note
-----------	-------------	------

Sample Receiving

- | | | |
|-----|--|--|
| 01. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 2.3 |
| 02. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun |
| 03. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped |
| 04. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box |
| 05. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |

Chain of Custody

- | | | |
|-----|--|--|
| 06. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out |
| 07. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab |
| 08. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC |
| 09. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontracted to: |

Preservation

- | | | |
|-----|--|---|
| 10. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation |
| 11. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs) |
| 12. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab? |

Bottle Conditions

- | | | |
|-----|--|---|
| 13. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact |
| 14. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used |
| 15. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used |
| 16. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received |
| 17. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration |
| 18. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time |
| 19. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Do water VOC or TOX bottles contain headspace |

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____



Quality Control Report

Report ID: QC-S37004-01
Generated on 06/29/2022

Report to

Attention: Clifford Yantz
Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S37004.01-S37004.04
Project: RACER Coldwater Road
Submitted Date/Time: 06/10/2022 15:00
Sampled by: Kevin Schneider
P.O. #: 1940004462 TASK 37

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-5)
Prep Batch Summary (Page 6)
Internal Standards per Lab Sample (Pages 7-10)
Internal Standards per QC Sample (Pages 11-15)
Batch QC Results (Pages 16-20)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S37004.01

Sample Tag: B-7

Collected Date/Time: 06/08/2022 12:41

Matrix: Groundwater

COC Reference: 148231

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/24/22 12:31	AK220623	PF220623W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37004.02

Sample Tag: B-27D

Collected Date/Time: 06/09/2022 15:46

Matrix: Groundwater

COC Reference: 148231

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/24/22 12:50	AK220623	PF220623W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37004.03

Sample Tag: OBG MW-18S

Collected Date/Time: 06/10/2022 13:17

Matrix: Groundwater

COC Reference: 148231

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/24/22 13:10	AK220623	PF220623W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37004.04

Sample Tag: Field Blank-061022

Collected Date/Time: 06/10/2022 13:35

Matrix: Liquid

COC Reference: 148231

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/24/22 13:29	AK220623	PF220623W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF220623W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S37004.01	28 PFAs	ASTMD7979-19M	06/24/22 12:31	AK220623
S37004.02	28 PFAs	ASTMD7979-19M	06/24/22 12:50	AK220623
S37004.03	28 PFAs	ASTMD7979-19M	06/24/22 13:10	AK220623
S37004.04	28 PFAs	ASTMD7979-19M	06/24/22 13:29	AK220623

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37004.01

Sample Tag: B-7

Collected Date/Time: 06/08/2022 12:41

Matrix: Groundwater

COC Reference: 148231

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220623, Run Date: 06/24/2022 12:31, Matrix: WW, Dilution: 2.06

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		82.2	50.0	150.0
M2-6:2FTSA		95.5	50.0	150.0
M2-8:2FTSA		107.4	50.0	150.0
M2PFTeDA		163.1	12.0	218.0
M3PFBS		100.0	50.0	150.0
M3PFHxS		101.8	50.0	150.0
M4PFHpA		110.1	50.0	150.0
M5PFHxA		99.2	50.0	150.0
M5PFPeA		111.0	50.0	150.0
M6PFDA		110.2	50.0	150.0
M7PFUnDA		113.1	50.0	150.0
M8FOSA		103.4	50.0	150.0
M8PFOA		93.2	50.0	150.0
M8PFOS		114.9	50.0	150.0
M9-PFNA		108.2	50.0	150.0
MPFBA		115.3	50.0	150.0
MPFDoDA		122.7	50.0	150.0
d3N-MeFOSAA		107.2	50.0	150.0
d5EtFOSAA		106.3	50.0	150.0
MHFPO-DA		108.2	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37004.02

Sample Tag: B-27D

Collected Date/Time: 06/09/2022 15:46

Matrix: Groundwater

COC Reference: 148231

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220623, Run Date: 06/24/2022 12:50, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		79.7	50.0	150.0
M2-6:2FTSA		110.1	50.0	150.0
M2-8:2FTSA		108.5	50.0	150.0
M2PFTeDA		172.3	12.0	218.0
M3PFBS		99.1	50.0	150.0
M3PFHxS		102.8	50.0	150.0
M4PFHpA		110.8	50.0	150.0
M5PFHxA		101.1	50.0	150.0
M5PFPeA		108.4	50.0	150.0
M6PFDA		111.2	50.0	150.0
M7PFUnDA		114.9	50.0	150.0
M8FOSA		108.3	50.0	150.0
M8PFOA		106.3	50.0	150.0
M8PFOS		108.0	50.0	150.0
M9-PFNA		123.6	50.0	150.0
MPFBA		114.0	50.0	150.0
MPFDoDA		106.2	50.0	150.0
d3N-MeFOSAA		114.3	50.0	150.0
d5EtFOSAA		103.5	50.0	150.0
MHFPO-DA		107.7	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37004.03

Sample Tag: OBG MW-18S

Collected Date/Time: 06/10/2022 13:17

Matrix: Groundwater

COC Reference: 148231

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220623, Run Date: 06/24/2022 13:10, Matrix: WW, Dilution: 2.09

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		77.5	50.0	150.0
M2-6:2FTSA		107.8	50.0	150.0
M2-8:2FTSA		112.8	50.0	150.0
M2PFTeDA		95.4	12.0	218.0
M3PFBS		108.2	50.0	150.0
M3PFHxS		109.3	50.0	150.0
M4PFHpA		101.4	50.0	150.0
M5PFHxA		96.7	50.0	150.0
M5PFPeA		107.7	50.0	150.0
M6PFDA		112.0	50.0	150.0
M7PFUnDA		104.5	50.0	150.0
M8FOSA		109.2	50.0	150.0
M8PFOA		111.0	50.0	150.0
M8PFOS		113.7	50.0	150.0
M9-PFNA		120.7	50.0	150.0
MPFBA		115.7	50.0	150.0
MPFDoDA		104.0	50.0	150.0
d3N-MeFOSAA		138.2	50.0	150.0
d5EtFOSAA		105.3	50.0	150.0
MHFPO-DA		103.3	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37004.04

Sample Tag: Field Blank-061022

Collected Date/Time: 06/10/2022 13:35

Matrix: Liquid

COC Reference: 148231

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220623, Run Date: 06/24/2022 13:29, Matrix: WW, Dilution: 2.06

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		105.4	50.0	150.0
M2-6:2FTSA		109.5	50.0	150.0
M2-8:2FTSA		117.3	50.0	150.0
M2PFTeDA		139.3	12.0	218.0
M3PFBS		111.9	50.0	150.0
M3PFHxS		99.7	50.0	150.0
M4PFHpA		117.4	50.0	150.0
M5PFHxA		98.4	50.0	150.0
M5PFPeA		113.8	50.0	150.0
M6PFDA		110.8	50.0	150.0
M7PFUnDA		113.2	50.0	150.0
M8FOSA		107.5	50.0	150.0
M8PFOA		102.5	50.0	150.0
M8PFOS		103.8	50.0	150.0
M9-PFNA		115.1	50.0	150.0
MPFBA		105.2	50.0	150.0
MPFDoDA		113.6	50.0	150.0
d3N-MeFOSAA		127.7	50.0	150.0
d5EtFOSAA		108.7	50.0	150.0
MHFPO-DA		115.0	50.0	150.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: PF220623W2

QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: DQ220623.BLK220623BR

Run in Batch: DQ220623, Run Date: 06/24/2022 13:52, Prep Date: 06/23/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		122.3	50.0	150.0
M2-6:2FTSA		125.7	50.0	150.0
M2-8:2FTSA		107.4	50.0	150.0
M2PFTeDA		109.0	12.0	218.0
M3PFBS		107.1	50.0	150.0
M3PFHxS		98.4	50.0	150.0
M4PFHpA		107.6	50.0	150.0
M5PFHxA		94.7	50.0	150.0
M5PFPeA		101.3	50.0	150.0
M6PFDA		107.1	50.0	150.0
M7PFUnDA		112.4	50.0	150.0
M8FOSA		89.3	50.0	150.0
M8PFOA		99.8	50.0	150.0
M8PFOS		108.5	50.0	150.0
M9-PFNA		92.0	50.0	150.0
MPFBA		100.3	50.0	150.0
MPFDoDA		107.0	50.0	150.0
d3N-MeFOSAA		104.9	50.0	150.0
d5EtFOSAA		116.9	50.0	150.0
MHFPO-DA		93.4	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample (LCS)

Lab Sample ID: DQ220623.LCS220623BR

Run in Batch: DQ220623, Run Date: 06/24/2022 13:13, Prep Date: 06/23/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		121.2	50.0	150.0
M2-6:2FTSA		117.9	50.0	150.0
M2-8:2FTSA		105.7	50.0	150.0
M2PFTeDA		118.6	12.0	218.0
M3PFBS		94.4	50.0	150.0
M3PFHxS		100.7	50.0	150.0
M4PFHpA		98.0	50.0	150.0
M5PFHxA		92.1	50.0	150.0
M5PFPeA		98.7	50.0	150.0
M6PFDA		96.3	50.0	150.0
M7PFUnDA		105.6	50.0	150.0
M8FOSA		86.5	50.0	150.0
M8PFOA		101.8	50.0	150.0
M8PFOS		81.5	50.0	150.0
M9-PFNA		100.7	50.0	150.0
MPFBA		91.2	50.0	150.0
MPFDoDA		99.5	50.0	150.0
d3N-MeFOSAA		95.1	50.0	150.0
d5EtFOSAA		108.8	50.0	150.0
MHFPO-DA		84.5	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: DQ220623.LCSD220623BR, Parent Sample ID: DQ220623.LCS220623BR

Run in Batch: DQ220623, Run Date: 06/24/2022 13:33, Prep Date: 06/23/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		125.7	50.0	150.0
M2-6:2FTSA		110.6	50.0	150.0
M2-8:2FTSA		114.6	50.0	150.0
M2PFTeDA		119.7	12.0	218.0
M3PFBS		99.0	50.0	150.0
M3PFHxS		93.2	50.0	150.0
M4PFHpA		98.4	50.0	150.0
M5PFHxA		93.8	50.0	150.0
M5PFPeA		98.2	50.0	150.0
M6PFDA		98.1	50.0	150.0
M7PFUnDA		101.8	50.0	150.0
M8FOSA		87.0	50.0	150.0
M8PFOA		102.2	50.0	150.0
M8PFOS		87.1	50.0	150.0
M9-PFNA		98.9	50.0	150.0
MPFBA		92.7	50.0	150.0
MPFDoDA		99.4	50.0	150.0
d3N-MeFOSAA		97.3	50.0	150.0
d5EtFOSAA		108.5	50.0	150.0
MHFPO-DA		95.1	50.0	150.0

QC Report - Internal Standards per QC Sample

Matrix Spike (MS)

Lab Sample ID: DQ220623.3696803M, Parent Sample ID: S36968.03

Run in Batch: DQ220623, Run Date: 06/23/2022 23:27, Prep Date: 06/23/2022, Matrix: WW, Dilution: 2.1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		106.6	50.0	150.0
M2-6:2FTSA		116.4	50.0	150.0
M2-8:2FTSA		124.9	50.0	150.0
M2PFTeDA		118.1	12.0	218.0
M3PFBS		105.5	50.0	150.0
M3PFHxS		96.3	50.0	150.0
M4PFHpA		112.5	50.0	150.0
M5PFHxA		118.5	50.0	150.0
M5PFPeA		112.4	50.0	150.0
M6PFDA		105.6	50.0	150.0
M7PFUnDA		105.2	50.0	150.0
M8FOSA		134.1	50.0	150.0
M8PFOA		122.2	50.0	150.0
M8PFOS		104.5	50.0	150.0
M9-PFNA		129.1	50.0	150.0
MPFBA		108.7	50.0	150.0
MPFDoDA		134.8	50.0	150.0
d3N-MeFOSAA		120.8	50.0	150.0
d5EtFOSAA		106.3	50.0	150.0
MHFPO-DA		110.7	50.0	150.0

QC Report - Internal Standards per QC Sample

Duplicate (DUP)

Lab Sample ID: DQ220623.3696804D, Parent Sample ID: S36968.04

Run in Batch: DQ220623, Run Date: 06/24/2022 00:06, Prep Date: 06/23/2022, Matrix: WW, Dilution: 2.12

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		107.6	50.0	150.0
M2-6:2FTSA		115.6	50.0	150.0
M2-8:2FTSA		118.3	50.0	150.0
M2PFTeDA		138.8	12.0	218.0
M3PFBS		105.6	50.0	150.0
M3PFHxS		111.2	50.0	150.0
M4PFHpA		125.3	50.0	150.0
M5PFHxA		118.5	50.0	150.0
M5PFPeA		117.1	50.0	150.0
M6PFDA		123.0	50.0	150.0
M7PFUnDA		115.8	50.0	150.0
M8FOSA		128.2	50.0	150.0
M8PFOA		115.6	50.0	150.0
M8PFOS		123.6	50.0	150.0
M9-PFNA		112.7	50.0	150.0
MPFBA		111.3	50.0	150.0
MPFDoDA		115.4	50.0	150.0
d3N-MeFOSAA		114.3	50.0	150.0
d5EtFOSAA		108.8	50.0	150.0
MHFPO-DA		120.7	50.0	150.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF220623W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: DQ220623.BLK220623BR

Run in Batch: DQ220623, Run Date: 06/24/2022 13:52, Prep Date: 06/23/2022, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFMPA		ND	1	ng/l
FPrPA (3:3 FTCA)		ND	1	ng/l
PFPPrS		ND	1	ng/l
PFMBA		ND	1	ng/l
NFDHA		ND	1	ng/l
FPePA (5:3 FTCA)		ND	1	ng/l
PFEESA		ND	1	ng/l
PFBSA		ND	1	ng/l
FHpPA (7:3 FTCA)		ND	1	ng/l
PFECHS		ND	1	ng/l
PFHxSA		ND	1	ng/l
PFBA		ND	5	ng/l
PFPeA		ND	2	ng/l
4:2 FTSA		ND	1	ng/l
PFHxA		ND	1	ng/l
PFBS		ND	1	ng/l
PFHpA		ND	1	ng/l
PFPeS		ND	1	ng/l
6:2 FTSA		ND	1	ng/l
PFOA		ND	1	ng/l
PFHxS		ND	1	ng/l
PFHxS-LN		ND	1	ng/l
PFHxS-BR		ND	1	ng/l
PFNA		ND	1	ng/l
8:2 FTSA		ND	1	ng/l
PFHpS		ND	1	ng/l
PFDA		ND	1	ng/l
N-MeFOSAA		ND	1	ng/l
EtFOSAA		ND	2	ng/l
PFOS		ND	1	ng/l
PFOS-LN		ND	1	ng/l
PFOS-BR		ND	1	ng/l
PFUnDA		ND	1	ng/l
PFNS		ND	1	ng/l
PFDODA		ND	1	ng/l
PFDS		ND	1	ng/l
PFTTrDA		ND	1	ng/l
FOSA		ND	1	ng/l
PFTeDA		ND	2	ng/l
11CL-PF3OUdS		ND	1	ng/l
9CL-PF3ONS		ND	1	ng/l
ADONA		ND	1	ng/l
HFPO-DA		ND	1	ng/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF220623W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample (LCS)

Lab Sample ID: DQ220623.LCS220623BR

Run in Batch: DQ220623, Run Date: 06/24/2022 13:13, Prep Date: 06/23/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		90.8	70.0	130.0
PFMPA		105.2	70.0	130.0
FPrPA (3:3 FTCA)		80.8	70.0	130.0
PFPPrS		93.0	70.0	130.0
PFPeA		83.8	70.0	130.0
PFMBA		93.2	70.0	130.0
4:2 FTSA		88.6	70.0	130.0
NFDHA		106.4	70.0	130.0
PFHxA		86.4	70.0	130.0
PFBS		98.2	70.0	130.0
HFPO-DA		86.8	70.0	130.0
FPePA (5:3 FTCA)		92.2	70.0	130.0
PFEESA		107.0	70.0	130.0
PFHpA		90.2	70.0	130.0
PFPeS		83.8	70.0	130.0
ADONA		94.4	70.0	130.0
PFBSA		102.6	70.0	130.0
6:2 FTSA		85.0	70.0	130.0
PFOA		89.6	70.0	130.0
PFHxS		77.8	70.0	130.0
FHpPA (7:3 FTCA)		77.8	70.0	130.0
PFNA		83.6	70.0	130.0
8:2 FTSA		101.4	70.0	130.0
PFECHS		100.0	70.0	130.0
PFHpS		72.6	70.0	130.0
N-MeFOSAA		87.8	70.0	130.0
PFDA		85.0	70.0	130.0
EtFOSAA		85.6	70.0	130.0
PFOS		106.8	70.0	130.0
PFHxSA		100.8	70.0	130.0
PFUnDA		83.4	70.0	130.0
9CL-PF3ONS		95.0	70.0	130.0
PFNS		91.0	70.0	130.0
PFDoDA		81.8	70.0	130.0
PFDS		88.4	70.0	130.0
FOSA		88.2	70.0	130.0
PFTTrDA		95.2	70.0	130.0
11CL-PF3OUdS		97.4	70.0	130.0
PFTeDA		97.8	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: DQ220623.LCSD220623BR, Parent Sample ID: DQ220623.LCS220623BR

Run in Batch: DQ220623, Run Date: 06/24/2022 13:33, Prep Date: 06/23/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		89.6	70.0	130.0	1.3	30.0
PFMPA		96.6	70.0	130.0	8.5	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF220623W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: DQ220623.LCSD220623BR, Parent Sample ID: DQ220623.LCS220623BR

Run in Batch: DQ220623, Run Date: 06/24/2022 13:33, Prep Date: 06/23/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
FPrPA (3:3 FTCA)		76.4	70.0	130.0	5.6	30.0
PFPPrS		89.4	70.0	130.0	3.9	30.0
PFPeA		82.8	70.0	130.0	1.2	30.0
PFMBA		92.8	70.0	130.0	0.4	30.0
4:2 FTSA		91.6	70.0	130.0	3.3	30.0
NFDHA		96.4	70.0	130.0	9.9	30.0
PFHxA		81.6	70.0	130.0	5.7	30.0
PFBS		90.8	70.0	130.0	7.8	30.0
HFPO-DA		76.4	70.0	130.0	12.7	30.0
FPePA (5:3 FTCA)		84.2	70.0	130.0	9.1	30.0
PFEESA		99.8	70.0	130.0	7.0	30.0
PFHpA		83.4	70.0	130.0	7.8	30.0
PFPeS		90.2	70.0	130.0	7.4	30.0
ADONA		91.8	70.0	130.0	2.8	30.0
PFBSA		101.8	70.0	130.0	0.8	30.0
6:2 FTSA		88.6	70.0	130.0	4.1	30.0
PFOA		88.4	70.0	130.0	1.3	30.0
PFHxS		83.2	70.0	130.0	6.7	30.0
FHpPA (7:3 FTCA)		74.8	70.0	130.0	3.9	30.0
PFNA		86.4	70.0	130.0	3.3	30.0
8:2 FTSA		95.8	70.0	130.0	5.7	30.0
PFECHS		93.8	70.0	130.0	6.4	30.0
PFHpS		84.2	70.0	130.0	14.8	30.0
N-MeFOSAA		81.8	70.0	130.0	7.1	30.0
PFDA		76.8	70.0	130.0	10.1	30.0
EtFOSAA		79.6	70.0	130.0	7.3	30.0
PFOS		102.2	70.0	130.0	4.4	30.0
PFHxSA		103.6	70.0	130.0	2.7	30.0
PFUnDA		95.4	70.0	130.0	13.4	30.0
9CL-PF3ONS		89.8	70.0	130.0	5.6	30.0
PFNS		90.8	70.0	130.0	0.2	30.0
PFDoDA		82.4	70.0	130.0	0.7	30.0
PFDS		93.2	70.0	130.0	5.3	30.0
FOSA		91.6	70.0	130.0	3.8	30.0
PFTTrDA		92.2	70.0	130.0	3.2	30.0
11CL-PF3OUdS		91.0	70.0	130.0	6.8	30.0
PFTeDA		96.4	70.0	130.0	1.4	30.0

Matrix Spike (MS)

Lab Sample ID: DQ220623.3696803M, Parent Sample ID: S36968.03

Run in Batch: DQ220623, Run Date: 06/23/2022 23:27, Prep Date: 06/23/2022, Matrix: WW, Dilution: 2.1

Analyte	Flags	% Rec	LCL	UCL
PFBA		110.5	70.0	130.0
PFPeA		123.8	70.0	130.0
4:2 FTSA		104.8	70.0	130.0
PFHxA		104.8	70.0	130.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF220623W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Matrix Spike (MS) (continued)

Lab Sample ID: DQ220623.3696803M, Parent Sample ID: S36968.03

Run in Batch: DQ220623, Run Date: 06/23/2022 23:27, Prep Date: 06/23/2022, Matrix: WW, Dilution: 2.1

Analyte	Flags	% Rec	LCL	UCL
PFBS	*	133.3	70.0	130.0
PFHpA		102.9	70.0	130.0
PFPeS		123.8	70.0	130.0
6:2 FTSA		95.2	70.0	130.0
PFOA		76.2	70.0	130.0
PFHxS	*	381.0	70.0	130.0
PFNA		92.6	70.0	130.0
8:2 FTSA		123.8	70.0	130.0
PFHpS	*	152.4	70.0	130.0
PFDA		104.8	70.0	130.0
N-MeFOSAA		90.5	70.0	130.0
EtFOSAA		95.2	70.0	130.0
PFOS	*	-95.2	70.0	130.0
PFUnDA		104.8	70.0	130.0
PFNS		104.8	70.0	130.0
PFDoDA		80.0	70.0	130.0
PFDS		95.2	70.0	130.0
PFTTrDA		93.3	70.0	130.0
FOSA		95.2	70.0	130.0
PFTeDA		104.8	70.0	130.0
11CL-PF3OUdS		114.3	70.0	130.0
9CL-PF3ONS		104.8	70.0	130.0
ADONA		95.2	70.0	130.0
HFPO-DA		95.2	70.0	130.0

Duplicate (DUP)

Lab Sample ID: DQ220623.3696804D, Parent Sample ID: S36968.04

Run in Batch: DQ220623, Run Date: 06/24/2022 00:06, Prep Date: 06/23/2022, Matrix: WW, Dilution: 2.12

Analyte	Flags	RPD	RPD CL
PFBA		5.7	30.0
PFPeA		8.0	30.0
4:2 FTSA		NC	30.0
PFHxA		0.0	30.0
PFBS		16.1	30.0
PFHpA		9.5	30.0
PFPeS		18.4	30.0
6:2 FTSA		10.9	30.0
PFOA		8.2	30.0
PFHxS		13.7	30.0
PFHxS-LN		14.3	30.0
PFHxS-BR		16.2	30.0
PFNA		NC	30.0
8:2 FTSA		NC	30.0
PFHpS		16.9	30.0
PFDA		NC	30.0
N-MeFOSAA		NC	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF220623W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Duplicate (DUP) (continued)

Lab Sample ID: DQ220623.3696804D, Parent Sample ID: S36968.04

Run in Batch: DQ220623, Run Date: 06/24/2022 00:06, Prep Date: 06/23/2022, Matrix: WW, Dilution: 2.12

Analyte	Flags	RPD	RPD CL
EtFOSAA		NC	30.0
PFOS		5.2	30.0
PFOS-LN		2.8	30.0
PFOS-BR		6.7	30.0
PFUnDA		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTTrDA		NC	30.0
FOSA		NC	30.0
PFTeDA		NC	30.0
11CL-PF3OUdS		NC	30.0
9CL-PF3ONS		NC	30.0
ADONA		NC	30.0
HFPO-DA		NC	30.0



Analytical Laboratory Report

Report ID: S37064.01(01)
Generated on 07/07/2022

Report to

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Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

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Report Summary

Lab Sample ID(s): S37064.01-S37064.17
Project: RACER Coldwater Road
Collected Date(s): 06/10/2022 - 06/14/2022
Submitted Date/Time: 06/14/2022 15:30
Sampled by: Kevin Schneider
P.O. #: 1940004462 TASK 37

Table of Contents

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
ASTMD7979-19M	ASTM Method D7979 - 19 Modified (Isotopic Dilution)

Parameter Summary

Parameter	Synonym	Cas #
PFBA	Perfluorobutanoic Acid	375-22-4
PFPeA	Perfluoropentanoic Acid	2706-90-3
4:2 FTSA	4:2 Fluorotelomer Sulfonic Acid	757124-72-4
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFPeS	Perfluoropentane Sulfonic Acid	2706-91-4
6:2 FTSA	6:2 Fluorotelomer Sulfonic Acid	27619-97-2
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFHxS-LN	Perfluorohexane Sulfonic Acid - LN	355-46-4-LN
PFHxS-BR	Perfluorohexane Sulfonic Acid - BR	355-46-4-BR
PFNA	Perfluorononanoic Acid	375-95-1
8:2 FTSA	8:2 Fluorotelomer Sulfonic Acid	39108-34-4
PFHpS	Perfluoroheptane Sulfonic Acid	375-92-8
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFOS-LN	Perfluorooctane Sulfonic Acid - LN	1763-23-1-LN
PFOS-BR	Perfluorooctane Sulfonic Acid - BR	1763-23-1-BR
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFNS	Perfluorononane Sulfonic Acid	68259-12-1
PFDoDA	Perfluorododecanoic Acid	307-55-1
PFDS	Perfluorodecane Sulfonic Acid	335-77-3
PFTTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6



Analytical Laboratory Report

Sample Summary (17 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S37064.01	OBG-MW-24	Groundwater	06/10/22 15:30
S37064.02	OBG-MW-13	Groundwater	06/10/22 15:38
S37064.03	OBG-MW-21	Groundwater	06/12/22 12:12
S37064.04	OBG-MW-12S	Groundwater	06/12/22 13:12
S37064.05	OBG-MW-28	Groundwater	06/13/22 14:28
S37064.06	OBG-MW-9	Groundwater	06/13/22 14:55
S37064.07	OBG-MW-23	Groundwater	06/13/22 15:58
S37064.08	OBG-MW-29	Groundwater	06/13/22 16:58
S37064.09	OBG-MW-17S	Groundwater	06/13/22 16:40
S37064.10	MW-DUP-061322	Groundwater	06/13/22 00:01
S37064.11	OBG-MW-11	Groundwater	06/14/22 10:08
S37064.12	OBG-MW-14	Groundwater	06/14/22 10:52
S37064.13	OBG-MW-22	Groundwater	06/14/22 11:52
S37064.14	OBG-MW-26	Groundwater	06/14/22 14:20
S37064.15	OBG-MW-27	Groundwater	06/14/22 12:50
S37064.16	MW-DUP-061422	Groundwater	06/14/22 00:01
S37064.17	Field Blank-061422	Liquid	06/14/22 11:54



Analytical Laboratory Report

Lab Sample ID: S37064.01

Sample Tag: OBG-MW-24

Collected Date/Time: 06/10/2022 15:30

Matrix: Groundwater

COC Reference: 148226

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.93/6.91/12	ASTMD7979-19M	06/30/22 13:28	JGH	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/22 20:44, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10.0	10.0	ng/L	1.99	375-22-4	
PFPeA*	Not detected	4.0	1.00	ng/L	1.99	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.99	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	1.99	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	1.99	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.99	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.99	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.99	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	1.99	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	1.99	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.99	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	1.99	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.99	375-95-1	
8:2 FTSA*	Not detected	2.0	1.00	ng/L	1.99	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.99	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.99	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.99	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	1.99	2991-50-6	
PFOS*	Not detected	2.0	2.0	ng/L	1.99	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	1.99	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	2.0	ng/L	1.99	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.99	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.99	68259-12-1	
PFDODA*	Not detected	2.0	1.6	ng/L	1.99	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.99	335-77-3	
PFTTrDA*	Not detected	2.0	1.2	ng/L	1.99	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.99	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	1.99	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.99	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.99	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.99	919005-14-4	
HFPO-DA*	Not detected	10.0	2.0	ng/L	1.99	13252-13-6	



Analytical Laboratory Report

Lab Sample ID: S37064.02

Sample Tag: OBG-MW-13

Collected Date/Time: 06/10/2022 15:38

Matrix: Groundwater

COC Reference: 148226

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.75/6.94/12	ASTMD7979-19M	06/30/22 13:28	JGH	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/22 21:04, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.07	375-22-4	
PFPeA*	Not detected	4.1	1.0	ng/L	2.07	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.07	757124-72-4	
PFHxA*	Not detected	2.1	1.4	ng/L	2.07	307-24-4	
PFBS*	Not detected	2.1	1.4	ng/L	2.07	375-73-5	
PFHpA*	Not detected	2.1	1.4	ng/L	2.07	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.07	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.07	27619-97-2	
PFOA*	Not detected	2.1	1.7	ng/L	2.07	335-67-1	
PFHxS*	Not detected	2.1	1.7	ng/L	2.07	355-46-4	
PFHxS-LN*	Not detected	2.1	1.7	ng/L	2.07	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.7	ng/L	2.07	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.07	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.07	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.07	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.07	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.07	2355-31-9	
EtFOSAA*	Not detected	4.1	2.1	ng/L	2.07	2991-50-6	
PFOS*	Not detected	2.1	2.0	ng/L	2.07	1763-23-1	
PFOS-LN*	Not detected	2.1	2.0	ng/L	2.07	1763-23-1-LN	
PFOS-BR*	Not detected	2.1	2.0	ng/L	2.07	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.4	ng/L	2.07	2058-94-8	
PFNS*	Not detected	2.1	1.4	ng/L	2.07	68259-12-1	
PFDODA*	Not detected	2.1	1.7	ng/L	2.07	307-55-1	
PFDS*	Not detected	2.1	1.4	ng/L	2.07	335-77-3	
PFTTrDA*	Not detected	2.1	1.2	ng/L	2.07	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.07	754-91-6	
PFTeDA*	Not detected	4.1	1.9	ng/L	2.07	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.07	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.4	ng/L	2.07	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.07	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.07	13252-13-6	



Analytical Laboratory Report

Lab Sample ID: S37064.03

Sample Tag: OBG-MW-21

Collected Date/Time: 06/12/2022 12:12

Matrix: Groundwater

COC Reference: 148226

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	13.24/6.92/12	ASTMD7979-19M	06/30/22 13:28	JGH	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/22 21:23, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.5	9.5	ng/L	1.9	375-22-4	
PFPeA*	Not detected	3.8	0.95	ng/L	1.9	2706-90-3	
4:2 FTSA*	Not detected	1.9	1.5	ng/L	1.9	757124-72-4	
PFHxA*	Not detected	1.9	1.3	ng/L	1.9	307-24-4	
PFBS*	3.2	1.9	1.3	ng/L	1.9	375-73-5	1
PFHpA*	Not detected	1.9	1.3	ng/L	1.9	375-85-9	
PFPeS*	4.3	1.9	1.7	ng/L	1.9	2706-91-4	1
6:2 FTSA*	Not detected	1.9	1.9	ng/L	1.9	27619-97-2	
PFOA*	Not detected	1.9	1.5	ng/L	1.9	335-67-1	
PFHxS*	6.2	1.9	1.5	ng/L	1.9	355-46-4	1
PFHxS-LN*	3.4	1.9	1.5	ng/L	1.9	355-46-4-LN	1
PFHxS-BR*	2.8	1.9	1.5	ng/L	1.9	355-46-4-BR	1
PFNA*	Not detected	1.9	1.7	ng/L	1.9	375-95-1	
8:2 FTSA*	Not detected	1.9	0.95	ng/L	1.9	39108-34-4	
PFHpS*	Not detected	1.9	1.9	ng/L	1.9	375-92-8	
PFDA*	Not detected	1.9	1.9	ng/L	1.9	335-76-2	
N-MeFOSAA*	Not detected	1.9	1.9	ng/L	1.9	2355-31-9	
EtFOSAA*	Not detected	3.8	1.9	ng/L	1.9	2991-50-6	
PFOS*	2.1	1.9	1.9	ng/L	1.9	1763-23-1	1
PFOS-LN*	Not detected	1.9	1.9	ng/L	1.9	1763-23-1-LN	
PFOS-BR*	Not detected	1.9	1.9	ng/L	1.9	1763-23-1-BR	
PFUnDA*	Not detected	1.9	1.3	ng/L	1.9	2058-94-8	
PFNS*	Not detected	1.9	1.3	ng/L	1.9	68259-12-1	
PFDODA*	Not detected	1.9	1.5	ng/L	1.9	307-55-1	
PFDS*	Not detected	1.9	1.3	ng/L	1.9	335-77-3	
PFTTrDA*	Not detected	1.9	1.1	ng/L	1.9	72629-94-8	
FOSA*	Not detected	1.9	1.7	ng/L	1.9	754-91-6	
PFTeDA*	Not detected	3.8	1.7	ng/L	1.9	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	1.7	ng/L	1.9	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	1.3	ng/L	1.9	756426-58-1	
ADONA*	Not detected	1.9	1.9	ng/L	1.9	919005-14-4	
HFPO-DA*	Not detected	9.5	1.9	ng/L	1.9	13252-13-6	

1-Qualifier ion out of range.



Analytical Laboratory Report

Lab Sample ID: S37064.04

Sample Tag: OBG-MW-12S

Collected Date/Time: 06/12/2022 13:12

Matrix: Groundwater

COC Reference: 148226

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.22/6.93/11	ASTMD7979-19M	06/30/22 13:28	JGH	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/22 21:43, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.08	375-22-4	
PFPeA*	Not detected	4.2	1.0	ng/L	2.08	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.08	757124-72-4	
PFHxA*	Not detected	2.1	1.5	ng/L	2.08	307-24-4	
PFBS*	3.9	2.1	1.5	ng/L	2.08	375-73-5	1
PFHpA*	Not detected	2.1	1.5	ng/L	2.08	375-85-9	
PFPeS*	5.5	2.1	1.9	ng/L	2.08	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.08	27619-97-2	
PFOA*	Not detected	2.1	1.7	ng/L	2.08	335-67-1	
PFHxS*	19	2.1	1.7	ng/L	2.08	355-46-4	1
PFHxS-LN*	16	2.1	1.7	ng/L	2.08	355-46-4-LN	1
PFHxS-BR*	2.8	2.1	1.7	ng/L	2.08	355-46-4-BR	1
PFNA*	Not detected	2.1	1.9	ng/L	2.08	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.08	39108-34-4	1
PFHpS*	5.9	2.1	2.1	ng/L	2.08	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.08	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.08	2355-31-9	
EtFOSAA*	Not detected	4.2	2.1	ng/L	2.08	2991-50-6	
PFOS*	210	2.1	2.0	ng/L	2.08	1763-23-1	
PFOS-LN*	39	2.1	2.0	ng/L	2.08	1763-23-1-LN	
PFOS-BR*	170	2.1	2.0	ng/L	2.08	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.5	ng/L	2.08	2058-94-8	
PFNS*	Not detected	2.1	1.5	ng/L	2.08	68259-12-1	
PFDoDA*	Not detected	2.1	1.7	ng/L	2.08	307-55-1	
PFDS*	Not detected	2.1	1.5	ng/L	2.08	335-77-3	
PFTTrDA*	Not detected	2.1	1.2	ng/L	2.08	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.08	754-91-6	
PFTeDA*	Not detected	4.2	1.9	ng/L	2.08	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.08	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.5	ng/L	2.08	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.08	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.08	13252-13-6	

1-Qualifier ion out of range.

I-Matrix interference with internal standard



Analytical Laboratory Report

Lab Sample ID: S37064.05

Sample Tag: OBG-MW-28

Collected Date/Time: 06/13/2022 14:28

Matrix: Groundwater

COC Reference: 148226

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.82/6.97/12	ASTMD7979-19M	06/30/22 13:28	JGH	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/22 22:02, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.05	375-22-4	
PFPeA*	Not detected	4.1	1.0	ng/L	2.05	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.6	ng/L	2.05	757124-72-4	
PFHxA*	Not detected	2.1	1.4	ng/L	2.05	307-24-4	
PFBS*	2.4	2.1	1.4	ng/L	2.05	375-73-5	
PFHpA*	1.5	2.1	1.4	ng/L	2.05	375-85-9	J
PFPeS*	Not detected	2.1	1.8	ng/L	2.05	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.05	27619-97-2	
PFOA*	8.9	2.1	1.6	ng/L	2.05	335-67-1	
PFHxS*	1.8	2.1	1.6	ng/L	2.05	355-46-4	J
PFHxS-LN*	Not detected	2.1	1.6	ng/L	2.05	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.6	ng/L	2.05	355-46-4-BR	
PFNA*	Not detected	2.1	1.8	ng/L	2.05	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.05	39108-34-4	I
PFHpS*	Not detected	2.1	2.1	ng/L	2.05	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.05	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.05	2355-31-9	
EtFOSAA*	Not detected	4.1	2.1	ng/L	2.05	2991-50-6	
PFOS*	2.8	2.1	2.0	ng/L	2.05	1763-23-1	
PFOS-LN*	Not detected	2.1	2.0	ng/L	2.05	1763-23-1-LN	
PFOS-BR*	2.7	2.1	2.0	ng/L	2.05	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.4	ng/L	2.05	2058-94-8	
PFNS*	Not detected	2.1	1.4	ng/L	2.05	68259-12-1	
PFDoDA*	Not detected	2.1	1.6	ng/L	2.05	307-55-1	
PFDS*	Not detected	2.1	1.4	ng/L	2.05	335-77-3	
PFTTrDA*	Not detected	2.1	1.2	ng/L	2.05	72629-94-8	
FOSA*	Not detected	2.1	1.8	ng/L	2.05	754-91-6	
PFTeDA*	Not detected	4.1	1.8	ng/L	2.05	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.8	ng/L	2.05	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.4	ng/L	2.05	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.05	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.05	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL

I-Matrix interference with internal standard



Analytical Laboratory Report

Lab Sample ID: S37064.06

Sample Tag: OBG-MW-9

Collected Date/Time: 06/13/2022 14:55

Matrix: Groundwater

COC Reference: 148226

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.81/7.00/12	ASTMD7979-19M	06/30/22 13:28	JGH	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/22 22:22, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.07	375-22-4	
PFPeA*	Not detected	4.1	1.0	ng/L	2.07	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.07	757124-72-4	
PFHxA*	Not detected	2.1	1.4	ng/L	2.07	307-24-4	
PFBS*	1.8	2.1	1.4	ng/L	2.07	375-73-5	J
PFHpA*	Not detected	2.1	1.4	ng/L	2.07	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.07	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.07	27619-97-2	
PFOA*	Not detected	2.1	1.7	ng/L	2.07	335-67-1	
PFHxS*	3.4	2.1	1.7	ng/L	2.07	355-46-4	1
PFHxS-LN*	2.5	2.1	1.7	ng/L	2.07	355-46-4-LN	1
PFHxS-BR*	Not detected	2.1	1.7	ng/L	2.07	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.07	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.07	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.07	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.07	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.07	2355-31-9	I
EtFOSAA*	3.3	4.1	2.1	ng/L	2.07	2991-50-6	J
PFOS*	4.0	2.1	2.0	ng/L	2.07	1763-23-1	
PFOS-LN*	Not detected	2.1	2.0	ng/L	2.07	1763-23-1-LN	
PFOS-BR*	2.1	2.1	2.0	ng/L	2.07	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.4	ng/L	2.07	2058-94-8	
PFNS*	Not detected	2.1	1.4	ng/L	2.07	68259-12-1	
PFDODA*	Not detected	2.1	1.7	ng/L	2.07	307-55-1	
PFDS*	4.9	2.1	1.4	ng/L	2.07	335-77-3	
PFTTrDA*	Not detected	2.1	1.2	ng/L	2.07	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.07	754-91-6	
PFTeDA*	Not detected	4.1	1.9	ng/L	2.07	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.07	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.4	ng/L	2.07	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.07	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.07	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL

1-Qualifier ion out of range.

I-Matrix interference with internal standard



Analytical Laboratory Report

Lab Sample ID: S37064.07

Sample Tag: OBG-MW-23

Collected Date/Time: 06/13/2022 15:58

Matrix: Groundwater

COC Reference: 148226

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.75/6.9/12	ASTMD7979-19M	06/30/22 13:28	JGH	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/22 22:41, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.05	375-22-4	
PFPeA*	Not detected	4.1	1.0	ng/L	2.05	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.6	ng/L	2.05	757124-72-4	
PFHxA*	Not detected	2.1	1.4	ng/L	2.05	307-24-4	
PFBS*	Not detected	2.1	1.4	ng/L	2.05	375-73-5	
PFHpA*	Not detected	2.1	1.4	ng/L	2.05	375-85-9	
PFPeS*	Not detected	2.1	1.8	ng/L	2.05	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.05	27619-97-2	
PFOA*	Not detected	2.1	1.6	ng/L	2.05	335-67-1	
PFHxS*	Not detected	2.1	1.6	ng/L	2.05	355-46-4	
PFHxS-LN*	Not detected	2.1	1.6	ng/L	2.05	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.6	ng/L	2.05	355-46-4-BR	
PFNA*	Not detected	2.1	1.8	ng/L	2.05	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.05	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.05	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.05	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.05	2355-31-9	
EtFOSAA*	Not detected	4.1	2.1	ng/L	2.05	2991-50-6	
PFOS*	Not detected	2.1	2.0	ng/L	2.05	1763-23-1	
PFOS-LN*	Not detected	2.1	2.0	ng/L	2.05	1763-23-1-LN	
PFOS-BR*	Not detected	2.1	2.0	ng/L	2.05	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.4	ng/L	2.05	2058-94-8	
PFNS*	Not detected	2.1	1.4	ng/L	2.05	68259-12-1	
PFDODA*	Not detected	2.1	1.6	ng/L	2.05	307-55-1	
PFDS*	Not detected	2.1	1.4	ng/L	2.05	335-77-3	
PFTTrDA*	Not detected	2.1	1.2	ng/L	2.05	72629-94-8	
FOSA*	Not detected	2.1	1.8	ng/L	2.05	754-91-6	
PFTeDA*	Not detected	4.1	1.8	ng/L	2.05	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.8	ng/L	2.05	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.4	ng/L	2.05	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.05	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.05	13252-13-6	



Analytical Laboratory Report

Lab Sample ID: S37064.08

Sample Tag: OBG-MW-29

Collected Date/Time: 06/13/2022 16:58

Matrix: Groundwater

COC Reference: 148226

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	13.14/6.87/12	ASTMD7979-19M	06/30/22 13:28	JGH	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/22 23:01, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	14	9.6	ng/L	1.91	375-22-4	X
PFPeA*	Not detected	3.8	0.96	ng/L	1.91	2706-90-3	
4:2 FTSA*	Not detected	1.9	1.5	ng/L	1.91	757124-72-4	
PFHxA*	Not detected	1.9	1.3	ng/L	1.91	307-24-4	
PFBS*	15	1.9	1.3	ng/L	1.91	375-73-5	
PFHpA*	Not detected	1.9	1.3	ng/L	1.91	375-85-9	
PFPeS*	21	1.9	1.7	ng/L	1.91	2706-91-4	
6:2 FTSA*	Not detected	1.9	1.9	ng/L	1.91	27619-97-2	
PFOA*	Not detected	1.9	1.5	ng/L	1.91	335-67-1	
PFHxS*	37	1.9	1.5	ng/L	1.91	355-46-4	1
PFHxS-LN*	25	1.9	1.5	ng/L	1.91	355-46-4-LN	1
PFHxS-BR*	12	1.9	1.5	ng/L	1.91	355-46-4-BR	
PFNA*	Not detected	1.9	1.7	ng/L	1.91	375-95-1	
8:2 FTSA*	Not detected	1.9	0.96	ng/L	1.91	39108-34-4	
PFHpS*	Not detected	1.9	1.9	ng/L	1.91	375-92-8	
PFDA*	Not detected	1.9	1.9	ng/L	1.91	335-76-2	
N-MeFOSAA*	Not detected	1.9	1.9	ng/L	1.91	2355-31-9	I
EtFOSAA*	Not detected	3.8	1.9	ng/L	1.91	2991-50-6	
PFOS*	3.0	1.9	1.9	ng/L	1.91	1763-23-1	1
PFOS-LN*	Not detected	1.9	1.9	ng/L	1.91	1763-23-1-LN	
PFOS-BR*	2.6	1.9	1.9	ng/L	1.91	1763-23-1-BR	1
PFUnDA*	Not detected	1.9	1.3	ng/L	1.91	2058-94-8	
PFNS*	Not detected	1.9	1.3	ng/L	1.91	68259-12-1	
PFDODA*	Not detected	1.9	1.5	ng/L	1.91	307-55-1	
PFDS*	Not detected	1.9	1.3	ng/L	1.91	335-77-3	
PFTTrDA*	Not detected	1.9	1.1	ng/L	1.91	72629-94-8	
FOSA*	Not detected	1.9	1.7	ng/L	1.91	754-91-6	
PFTeDA*	Not detected	3.8	1.7	ng/L	1.91	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	1.7	ng/L	1.91	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	1.3	ng/L	1.91	756426-58-1	
ADONA*	Not detected	1.9	1.9	ng/L	1.91	919005-14-4	
HFPO-DA*	Not detected	9.6	1.9	ng/L	1.91	13252-13-6	

X-Elevated reporting limit due to matrix interference

1-Qualifier ion out of range.

I-Matrix interference with internal standard



Analytical Laboratory Report

Lab Sample ID: S37064.09

Sample Tag: OBG-MW-17S

Collected Date/Time: 06/13/2022 16:40

Matrix: Groundwater

COC Reference: 148226

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.08/6.92/10	ASTMD7979-19M	06/30/22 13:28	JGH	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/22 23:20, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	11	9.7	9.7	ng/L	1.94	375-22-4	
PFPeA*	Not detected	3.9	0.97	ng/L	1.94	2706-90-3	
4:2 FTSA*	Not detected	1.9	1.6	ng/L	1.94	757124-72-4	
PFHxA*	Not detected	1.9	1.4	ng/L	1.94	307-24-4	
PFBS*	2.7	1.9	1.4	ng/L	1.94	375-73-5	
PFHpA*	Not detected	1.9	1.4	ng/L	1.94	375-85-9	
PFPeS*	2.8	1.9	1.7	ng/L	1.94	2706-91-4	
6:2 FTSA*	Not detected	1.9	1.9	ng/L	1.94	27619-97-2	
PFOA*	2.2	1.9	1.6	ng/L	1.94	335-67-1	
PFHxS*	13	1.9	1.6	ng/L	1.94	355-46-4	1
PFHxS-LN*	11	1.9	1.6	ng/L	1.94	355-46-4-LN	1
PFHxS-BR*	1.7	1.9	1.6	ng/L	1.94	355-46-4-BR	J1
PFNA*	Not detected	1.9	1.7	ng/L	1.94	375-95-1	
8:2 FTSA*	Not detected	1.9	0.97	ng/L	1.94	39108-34-4	
PFHpS*	5.0	1.9	1.9	ng/L	1.94	375-92-8	1
PFDA*	Not detected	1.9	1.9	ng/L	1.94	335-76-2	
N-MeFOSAA*	Not detected	1.9	1.9	ng/L	1.94	2355-31-9	
EtFOSAA*	Not detected	3.9	1.9	ng/L	1.94	2991-50-6	
PFOS*	540	1.9	1.9	ng/L	1.94	1763-23-1	
PFOS-LN*	300	1.9	1.9	ng/L	1.94	1763-23-1-LN	
PFOS-BR*	240	1.9	1.9	ng/L	1.94	1763-23-1-BR	
PFUnDA*	Not detected	1.9	1.4	ng/L	1.94	2058-94-8	
PFNS*	Not detected	1.9	1.4	ng/L	1.94	68259-12-1	
PFDODA*	Not detected	1.9	1.6	ng/L	1.94	307-55-1	
PFDS*	Not detected	1.9	1.4	ng/L	1.94	335-77-3	
PFTTrDA*	Not detected	1.9	1.2	ng/L	1.94	72629-94-8	
FOSA*	Not detected	1.9	1.7	ng/L	1.94	754-91-6	
PFTeDA*	Not detected	3.9	1.7	ng/L	1.94	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	1.7	ng/L	1.94	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	1.4	ng/L	1.94	756426-58-1	
ADONA*	Not detected	1.9	1.9	ng/L	1.94	919005-14-4	
HFPO-DA*	Not detected	9.7	1.9	ng/L	1.94	13252-13-6	

1-Qualifier ion out of range.

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S37064.10

Sample Tag: MW-DUP-061322

Collected Date/Time: 06/13/2022 00:01

Matrix: Groundwater

COC Reference: 148226

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	13.01/6.88/12	ASTMD7979-19M	06/30/22 13:28	JGH	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/22 23:40, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.8	9.8	ng/L	1.96	375-22-4	
PFPeA*	Not detected	3.9	0.98	ng/L	1.96	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.96	757124-72-4	
PFHxA*	4.6	2.0	1.4	ng/L	1.96	307-24-4	
PFBS*	17	2.0	1.4	ng/L	1.96	375-73-5	
PFHpA*	1.5	2.0	1.4	ng/L	1.96	375-85-9	J
PFPeS*	24	2.0	1.8	ng/L	1.96	2706-91-4	1
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.96	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	1.96	335-67-1	
PFHxS*	38	2.0	1.6	ng/L	1.96	355-46-4	1
PFHxS-LN*	26	2.0	1.6	ng/L	1.96	355-46-4-LN	1
PFHxS-BR*	12	2.0	1.6	ng/L	1.96	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.96	375-95-1	
8:2 FTSA*	Not detected	2.0	0.98	ng/L	1.96	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.96	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.96	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.96	2355-31-9	
EtFOSAA*	Not detected	3.9	2.0	ng/L	1.96	2991-50-6	
PFOS*	3.7	2.0	1.9	ng/L	1.96	1763-23-1	1
PFOS-LN*	Not detected	2.0	1.9	ng/L	1.96	1763-23-1-LN	
PFOS-BR*	3.4	2.0	1.9	ng/L	1.96	1763-23-1-BR	1
PFUnDA*	Not detected	2.0	1.4	ng/L	1.96	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.96	68259-12-1	
PFDODA*	Not detected	2.0	1.6	ng/L	1.96	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.96	335-77-3	
PFTTrDA*	Not detected	2.0	1.2	ng/L	1.96	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.96	754-91-6	
PFTeDA*	Not detected	3.9	1.8	ng/L	1.96	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.96	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.96	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.96	919005-14-4	
HFPO-DA*	Not detected	9.8	2.0	ng/L	1.96	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL

1-Qualifier ion out of range.



Analytical Laboratory Report

Lab Sample ID: S37064.11

Sample Tag: OBG-MW-11

Collected Date/Time: 06/14/2022 10:08

Matrix: Groundwater

COC Reference: 148226

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.95/6.99/12	ASTMD7979-19M	06/30/22 13:28	JGH	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/22 23:59, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	49	10	10	ng/L	2.01	375-22-4	
PFPeA*	4.9	4.0	1.0	ng/L	2.01	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.01	757124-72-4	
PFHxA*	17	2.0	1.4	ng/L	2.01	307-24-4	
PFBS*	74	2.0	1.4	ng/L	2.01	375-73-5	
PFHpA*	7.4	2.0	1.4	ng/L	2.01	375-85-9	
PFPeS*	120	2.0	1.8	ng/L	2.01	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2.01	27619-97-2	
PFOA*	31	2.0	1.6	ng/L	2.01	335-67-1	
PFHxS*	410	2.0	1.6	ng/L	2.01	355-46-4	1
PFHxS-LN*	350	2.0	1.6	ng/L	2.01	355-46-4-LN	1
PFHxS-BR*	67	2.0	1.6	ng/L	2.01	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.01	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.01	39108-34-4	1
PFHpS*	10	2.0	2.0	ng/L	2.01	375-92-8	1
PFDA*	Not detected	2.0	2.0	ng/L	2.01	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.01	2355-31-9	1
EtFOSAA*	Not detected	4.0	2.0	ng/L	2.01	2991-50-6	
PFOS*	120	2.0	2.0	ng/L	2.01	1763-23-1	
PFOS-LN*	17	2.0	2.0	ng/L	2.01	1763-23-1-LN	
PFOS-BR*	100	2.0	2.0	ng/L	2.01	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.01	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.01	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2.01	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.01	335-77-3	
PFTTrDA*	Not detected	2.0	1.2	ng/L	2.01	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.01	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	2.01	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.01	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.01	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.01	919005-14-4	
HFPO-DA*	Not detected	10	2.0	ng/L	2.01	13252-13-6	

1-Qualifier ion out of range.

I-Matrix interference with internal standard



Analytical Laboratory Report

Lab Sample ID: S37064.12

Sample Tag: OBG-MW-14

Collected Date/Time: 06/14/2022 10:52

Matrix: Groundwater

COC Reference: 144811

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
4	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.67/6.93/12	ASTMD7979-19M	06/30/22 13:28	JGH	
Initial wt. (g) / Final wt. (g) / Volume (ml) (Rep)	9.5/14.5/30	ASTMD7979-19M	06/27/22 09:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 07/01/22 00:19, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	21	10	10	ng/L	2.09	375-22-4	
PFPeA*	7.1	4.2	1.0	ng/L	2.09	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.09	757124-72-4	
PFHxA*	8.3	2.1	1.5	ng/L	2.09	307-24-4	1
PFBS*	27	2.1	1.5	ng/L	2.09	375-73-5	
PFHpA*	3.8	2.1	1.5	ng/L	2.09	375-85-9	
PFPeS*	53	2.1	1.9	ng/L	2.09	2706-91-4	1
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.09	27619-97-2	
PFOA*	35	2.1	1.7	ng/L	2.09	335-67-1	
PFHxS*	240	2.1	1.7	ng/L	2.09	355-46-4	1
PFHxS-LN*	210	2.1	1.7	ng/L	2.09	355-46-4-LN	1
PFHxS-BR*	37	2.1	1.7	ng/L	2.09	355-46-4-BR	1
PFNA*	Not detected	2.1	1.9	ng/L	2.09	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.09	39108-34-4	1
PFHpS*	44	2.1	2.1	ng/L	2.09	375-92-8	1
PFDA*	Not detected	2.1	2.1	ng/L	2.09	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.09	2355-31-9	1
EtFOSAA*	Not detected	4.2	2.1	ng/L	2.09	2991-50-6	
PFOS*	1,800	2.1	2.0	ng/L	2.09	1763-23-1	
PFOS-LN*	840	2.1	2.0	ng/L	2.09	1763-23-1-LN	
PFOS-BR*	1,000	2.1	2.0	ng/L	2.09	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.5	ng/L	2.09	2058-94-8	
PFNS*	Not detected	2.1	1.5	ng/L	2.09	68259-12-1	
PFDoDA*	Not detected	2.1	1.7	ng/L	2.09	307-55-1	
PFDS*	Not detected	2.1	1.5	ng/L	2.09	335-77-3	
PFTTrDA*	Not detected	2.1	1.3	ng/L	2.09	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.09	754-91-6	
PFTeDA*	Not detected	4.2	1.9	ng/L	2.09	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.09	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.5	ng/L	2.09	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.09	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.09	13252-13-6	

1-Qualifier ion out of range.

I-Matrix interference with internal standard



Analytical Laboratory Report

Lab Sample ID: S37064.12 (continued)

Sample Tag: OBG-MW-14

28 PFAs TOP ASSAY, Method: ASTMD7979-19M, Run Date: 06/27/22 15:42, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	51	30	30	ng/L	6	375-22-4	
PFPeA*	51	12	3.0	ng/L	6	2706-90-3	
4:2 FTSA*	Not detected	6.0	4.8	ng/L	6	757124-72-4	
PFHxA*	44	6.0	4.2	ng/L	6	307-24-4	
PFBS*	19	6.0	4.2	ng/L	6	375-73-5	
PFHpA*	6.5	6.0	4.2	ng/L	6	375-85-9	
PFPeS*	37	6.0	5.4	ng/L	6	2706-91-4	
6:2 FTSA*	Not detected	6.0	6.0	ng/L	6	27619-97-2	
PFOA*	29	6.0	4.8	ng/L	6	335-67-1	
PFHxS*	180	6.0	4.8	ng/L	6	355-46-4	
PFHxS-LN*	150	6.0	4.8	ng/L	6	355-46-4-LN	
PFHxS-BR*	28	6.0	4.8	ng/L	6	355-46-4-BR	
PFNA*	Not detected	6.0	5.4	ng/L	6	375-95-1	
8:2 FTSA*	Not detected	6.0	3.0	ng/L	6	39108-34-4	I
PFHpS*	42	6.0	6.0	ng/L	6	375-92-8	
PFDA*	Not detected	6.0	6.0	ng/L	6	335-76-2	
N-MeFOSAA*	Not detected	6.0	6.0	ng/L	6	2355-31-9	
EtFOSAA*	Not detected	12	6.0	ng/L	6	2991-50-6	
PFOS*	1,300	6.0	5.9	ng/L	6	1763-23-1	
PFOS-LN*	540	6.0	5.9	ng/L	6	1763-23-1-LN	
PFOS-BR*	680	6.0	5.9	ng/L	6	1763-23-1-BR	
PFUnDA*	Not detected	6.0	4.2	ng/L	6	2058-94-8	
PFNS*	Not detected	6.0	4.2	ng/L	6	68259-12-1	
PFDODA*	Not detected	6.0	4.8	ng/L	6	307-55-1	
PFDS*	Not detected	6.0	4.2	ng/L	6	335-77-3	
PFTTrDA*	Not detected	6.0	3.6	ng/L	6	72629-94-8	
FOSA*	Not detected	6.0	5.4	ng/L	6	754-91-6	
PFTeDA*	Not detected	12	5.4	ng/L	6	376-06-7	
11Cl-PF3OUdS*	Not detected	6.0	5.4	ng/L	6	763051-92-9	
9Cl-PF3ONS*	Not detected	6.0	4.2	ng/L	6	756426-58-1	
ADONA*	Not detected	6.0	6.0	ng/L	6	919005-14-4	
HFPO-DA*	Not detected	6.0	6.0	ng/L	6	13252-13-6	

I-Matrix interference with internal standard



Analytical Laboratory Report

Lab Sample ID: S37064.13

Sample Tag: OBG-MW-22

Collected Date/Time: 06/14/2022 11:52

Matrix: Groundwater

COC Reference: 144811

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
4	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.46/6.96/11	ASTMD7979-19M	06/30/22 13:28	JGH	
Initial wt. (g) / Final wt. (g) / Volume (ml) (Rep)	9.5/14.5/30	ASTMD7979-19M	06/27/22 09:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 07/01/22 00:38, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2	375-22-4	
PFPeA*	Not detected	4.0	1.0	ng/L	2	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	2	307-24-4	
PFBS*	5.3	2.0	1.4	ng/L	2	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2	375-85-9	
PFPeS*	6.9	2.0	1.8	ng/L	2	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2	27619-97-2	
PFOA*	6.0	2.0	1.6	ng/L	2	335-67-1	
PFHxS*	32	2.0	1.6	ng/L	2	355-46-4	1
PFHxS-LN*	27	2.0	1.6	ng/L	2	355-46-4-LN	1
PFHxS-BR*	5.1	2.0	1.6	ng/L	2	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2	39108-34-4	
PFHpS*	20	2.0	2.0	ng/L	2	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	2	2991-50-6	
PFOS*	2,300	2.0	2.0	ng/L	2	1763-23-1	E
PFOS-LN*	1,300	2.0	2.0	ng/L	2	1763-23-1-LN	
PFOS-BR*	1,000	2.0	2.0	ng/L	2	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2	335-77-3	
PFTTrDA*	Not detected	2.0	1.2	ng/L	2	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	2	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2	919005-14-4	
HFPO-DA*	Not detected	10	2.0	ng/L	2	13252-13-6	

1-Qualifier ion out of range.

E-Concentration exceeds calibration range



Analytical Laboratory Report

Lab Sample ID: S37064.13 (continued)

Sample Tag: OBG-MW-22

28 PFAs (Replicate 01), Method: ASTMD7979-19M, Run Date: 07/05/22 21:39, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	100	100	ng/L	20	375-22-4	Y
PFPeA*	Not detected	40	10	ng/L	20	2706-90-3	Y
4:2 FTSA*	Not detected	20	16	ng/L	20	757124-72-4	Y
PFHxA*	Not detected	20	14	ng/L	20	307-24-4	Y
PFBS*	Not detected	20	14	ng/L	20	375-73-5	Y
PFHpA*	Not detected	20	14	ng/L	20	375-85-9	Y
PFPeS*	Not detected	20	18	ng/L	20	2706-91-4	Y
6:2 FTSA*	Not detected	20	20	ng/L	20	27619-97-2	Y
PFOA*	Not detected	20	16	ng/L	20	335-67-1	Y
PFHxS*	34	20	16	ng/L	20	355-46-4	Y
PFHxS-LN*	27	20	16	ng/L	20	355-46-4-LN	Y
PFHxS-BR*	Not detected	20	16	ng/L	20	355-46-4-BR	Y
PFNA*	Not detected	20	18	ng/L	20	375-95-1	Y
8:2 FTSA*	Not detected	20	10	ng/L	20	39108-34-4	Y
PFHpS*	30	20	20	ng/L	20	375-92-8	Y
PFDA*	Not detected	20	20	ng/L	20	335-76-2	Y
N-MeFOSAA*	Not detected	20	20	ng/L	20	2355-31-9	Y
EtFOSAA*	Not detected	40	20	ng/L	20	2991-50-6	Y
PFOS*	2,300	20	20	ng/L	20	1763-23-1	Y
PFOS-LN*	1,300	20	20	ng/L	20	1763-23-1-LN	Y
PFOS-BR*	1,000	20	20	ng/L	20	1763-23-1-BR	Y
PFUnDA*	Not detected	20	14	ng/L	20	2058-94-8	Y
PFNS*	Not detected	20	14	ng/L	20	68259-12-1	Y
PFDODA*	Not detected	20	16	ng/L	20	307-55-1	Y
PFDS*	Not detected	20	14	ng/L	20	335-77-3	Y
PFTTrDA*	Not detected	20	12	ng/L	20	72629-94-8	Y
FOSA*	Not detected	20	18	ng/L	20	754-91-6	Y
PFTeDA*	Not detected	40	18	ng/L	20	376-06-7	Y
11Cl-PF3OUdS*	Not detected	20	18	ng/L	20	763051-92-9	Y
9Cl-PF3ONS*	Not detected	20	14	ng/L	20	756426-58-1	Y
ADONA*	Not detected	20	20	ng/L	20	919005-14-4	Y
HFPO-DA*	Not detected	100	20	ng/L	20	13252-13-6	Y

28 PFAs TOP ASSAY, Method: ASTMD7979-19M, Run Date: 06/27/22 16:02, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	35	30	30	ng/L	6	375-22-4	
PFPeA*	46	12	3.0	ng/L	6	2706-90-3	I
4:2 FTSA*	Not detected	6.0	4.8	ng/L	6	757124-72-4	
PFHxA*	38	6.0	4.2	ng/L	6	307-24-4	
PFBS*	5.0	6.0	4.2	ng/L	6	375-73-5	J
PFHpA*	Not detected	6.0	4.2	ng/L	6	375-85-9	
PFPeS*	6.2	6.0	5.4	ng/L	6	2706-91-4	
6:2 FTSA*	Not detected	6.0	6.0	ng/L	6	27619-97-2	
PFOA*	6.5	6.0	4.8	ng/L	6	335-67-1	
PFHxS*	27	6.0	4.8	ng/L	6	355-46-4	
PFHxS-LN*	23	6.0	4.8	ng/L	6	355-46-4-LN	
PFHxS-BR*	Not detected	6.0	4.8	ng/L	6	355-46-4-BR	

Y-Elevated reporting limit due to high target concentration

I-Matrix interference with internal standard

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S37064.13 (continued)

Sample Tag: OBG-MW-22

28 PFAs TOP ASSAY, Method: ASTMD7979-19M, Run Date: 06/27/22 16:02, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFNA*	Not detected	6.0	5.4	ng/L	6	375-95-1	
8:2 FTSA*	Not detected	6.0	3.0	ng/L	6	39108-34-4	I
PFHpS*	18	6.0	6.0	ng/L	6	375-92-8	
PFDA*	Not detected	6.0	6.0	ng/L	6	335-76-2	
N-MeFOSAA*	Not detected	6.0	6.0	ng/L	6	2355-31-9	
EtFOSAA*	Not detected	12	6.0	ng/L	6	2991-50-6	
PFOS*	1,500	6.0	5.9	ng/L	6	1763-23-1	
PFOS-LN*	830	6.0	5.9	ng/L	6	1763-23-1-LN	
PFOS-BR*	670	6.0	5.9	ng/L	6	1763-23-1-BR	
PFUnDA*	Not detected	6.0	4.2	ng/L	6	2058-94-8	
PFNS*	Not detected	6.0	4.2	ng/L	6	68259-12-1	
PFDoDA*	Not detected	6.0	4.8	ng/L	6	307-55-1	
PFDS*	Not detected	6.0	4.2	ng/L	6	335-77-3	
PFTTrDA*	Not detected	6.0	3.6	ng/L	6	72629-94-8	
FOSA*	Not detected	6.0	5.4	ng/L	6	754-91-6	
PFTeDA*	Not detected	12	5.4	ng/L	6	376-06-7	
11Cl-PF3OUdS*	Not detected	6.0	5.4	ng/L	6	763051-92-9	
9Cl-PF3ONS*	Not detected	6.0	4.2	ng/L	6	756426-58-1	
ADONA*	Not detected	6.0	6.0	ng/L	6	919005-14-4	
HFPO-DA*	Not detected	6.0	6.0	ng/L	6	13252-13-6	

I-Matrix interference with internal standard



Analytical Laboratory Report

Lab Sample ID: S37064.14

Sample Tag: OBG-MW-26

Collected Date/Time: 06/14/2022 14:20

Matrix: Groundwater

COC Reference: 144811

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
4	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.72/6.9/12	ASTMD7979-19M	06/30/22 13:28	JGH	
Initial wt. (g) / Final wt. (g) / Volume (ml) (Rep)	9.5/14.5/30	ASTMD7979-19M	06/27/22 09:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 07/01/22 00:58, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	27	10	10	ng/L	2.06	375-22-4	
PFPeA*	43	4.1	1.0	ng/L	2.06	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.6	ng/L	2.06	757124-72-4	
PFHxA*	34	2.1	1.4	ng/L	2.06	307-24-4	
PFBS*	4.7	2.1	1.4	ng/L	2.06	375-73-5	1
PFHpA*	6.1	2.1	1.4	ng/L	2.06	375-85-9	
PFPeS*	9.9	2.1	1.9	ng/L	2.06	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.06	27619-97-2	
PFOA*	37	2.1	1.6	ng/L	2.06	335-67-1	
PFHxS*	41	2.1	1.6	ng/L	2.06	355-46-4	1
PFHxS-LN*	36	2.1	1.6	ng/L	2.06	355-46-4-LN	1
PFHxS-BR*	4.4	2.1	1.6	ng/L	2.06	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.06	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.06	39108-34-4	
PFHpS*	13	2.1	2.1	ng/L	2.06	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.06	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.06	2355-31-9	
EtFOSAA*	Not detected	4.1	2.1	ng/L	2.06	2991-50-6	
PFOS*	560	2.1	2.0	ng/L	2.06	1763-23-1	
PFOS-LN*	200	2.1	2.0	ng/L	2.06	1763-23-1-LN	
PFOS-BR*	360	2.1	2.0	ng/L	2.06	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.4	ng/L	2.06	2058-94-8	
PFNS*	Not detected	2.1	1.4	ng/L	2.06	68259-12-1	
PFDoDA*	Not detected	2.1	1.6	ng/L	2.06	307-55-1	
PFDS*	2.6	2.1	1.4	ng/L	2.06	335-77-3	
PFTTrDA*	Not detected	2.1	1.2	ng/L	2.06	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.06	754-91-6	
PFTeDA*	Not detected	4.1	1.9	ng/L	2.06	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.06	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.4	ng/L	2.06	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.06	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.06	13252-13-6	

1-Qualifier ion out of range.



Analytical Laboratory Report

Lab Sample ID: S37064.14 (continued)

Sample Tag: OBG-MW-26

28 PFAs TOP ASSAY, Method: ASTMD7979-19M, Run Date: 06/27/22 16:21, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	30	30	ng/L	6	375-22-4	
PFPeA*	120	12	3.0	ng/L	6	2706-90-3	I
4:2 FTSA*	Not detected	6.0	4.8	ng/L	6	757124-72-4	I
PFHxA*	92	6.0	4.2	ng/L	6	307-24-4	
PFBS*	Not detected	6.0	4.2	ng/L	6	375-73-5	
PFHpA*	9.7	6.0	4.2	ng/L	6	375-85-9	
PFPeS*	7.1	6.0	5.4	ng/L	6	2706-91-4	
6:2 FTSA*	Not detected	6.0	6.0	ng/L	6	27619-97-2	I
PFOA*	23	6.0	4.8	ng/L	6	335-67-1	
PFHxS*	39	6.0	4.8	ng/L	6	355-46-4	
PFHxS-LN*	33	6.0	4.8	ng/L	6	355-46-4-LN	
PFHxS-BR*	Not detected	6.0	4.8	ng/L	6	355-46-4-BR	
PFNA*	Not detected	6.0	5.4	ng/L	6	375-95-1	
8:2 FTSA*	Not detected	6.0	3.0	ng/L	6	39108-34-4	I
PFHpS*	12	6.0	6.0	ng/L	6	375-92-8	
PFDA*	Not detected	6.0	6.0	ng/L	6	335-76-2	
N-MeFOSAA*	Not detected	6.0	6.0	ng/L	6	2355-31-9	I
EtFOSAA*	Not detected	12	6.0	ng/L	6	2991-50-6	I
PFOS*	380	6.0	5.9	ng/L	6	1763-23-1	
PFOS-LN*	150	6.0	5.9	ng/L	6	1763-23-1-LN	
PFOS-BR*	220	6.0	5.9	ng/L	6	1763-23-1-BR	
PFUnDA*	Not detected	6.0	4.2	ng/L	6	2058-94-8	
PFNS*	Not detected	6.0	4.2	ng/L	6	68259-12-1	
PFDODA*	Not detected	6.0	4.8	ng/L	6	307-55-1	
PFDS*	Not detected	6.0	4.2	ng/L	6	335-77-3	
PFTTrDA*	Not detected	6.0	3.6	ng/L	6	72629-94-8	
FOSA*	Not detected	6.0	5.4	ng/L	6	754-91-6	I
PFTeDA*	Not detected	12	5.4	ng/L	6	376-06-7	
11Cl-PF3OUdS*	Not detected	6.0	5.4	ng/L	6	763051-92-9	
9Cl-PF3ONS*	Not detected	6.0	4.2	ng/L	6	756426-58-1	
ADONA*	Not detected	6.0	6.0	ng/L	6	919005-14-4	
HFPO-DA*	Not detected	6.0	6.0	ng/L	6	13252-13-6	

I-Matrix interference with internal standard



Analytical Laboratory Report

Lab Sample ID: S37064.15

Sample Tag: OBG-MW-27

Collected Date/Time: 06/14/2022 12:50

Matrix: Groundwater

COC Reference: 144811

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.05/6.92/10	ASTMD7979-19M	06/30/22 13:28	JGH	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 07/01/22 01:17, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	35	9.8	9.8	ng/L	1.95	375-22-4	
PFPeA*	46	3.9	0.98	ng/L	1.95	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.95	757124-72-4	
PFHxA*	35	2.0	1.4	ng/L	1.95	307-24-4	
PFBS*	5.0	2.0	1.4	ng/L	1.95	375-73-5	
PFHpA*	4.4	2.0	1.4	ng/L	1.95	375-85-9	1
PFPeS*	9.2	2.0	1.8	ng/L	1.95	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.95	27619-97-2	
PFOA*	15	2.0	1.6	ng/L	1.95	335-67-1	
PFHxS*	42	2.0	1.6	ng/L	1.95	355-46-4	1
PFHxS-LN*	38	2.0	1.6	ng/L	1.95	355-46-4-LN	1
PFHxS-BR*	3.3	2.0	1.6	ng/L	1.95	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.95	375-95-1	
8:2 FTSA*	Not detected	2.0	0.98	ng/L	1.95	39108-34-4	
PFHpS*	15	2.0	2.0	ng/L	1.95	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.95	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.95	2355-31-9	
EtFOSAA*	Not detected	3.9	2.0	ng/L	1.95	2991-50-6	
PFOS*	480	2.0	1.9	ng/L	1.95	1763-23-1	
PFOS-LN*	130	2.0	1.9	ng/L	1.95	1763-23-1-LN	
PFOS-BR*	350	2.0	1.9	ng/L	1.95	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.95	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.95	68259-12-1	
PFDODA*	Not detected	2.0	1.6	ng/L	1.95	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.95	335-77-3	
PFTTrDA*	Not detected	2.0	1.2	ng/L	1.95	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.95	754-91-6	
PFTeDA*	Not detected	3.9	1.8	ng/L	1.95	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.95	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.95	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.95	919005-14-4	
HFPO-DA*	Not detected	9.8	2.0	ng/L	1.95	13252-13-6	

1-Qualifier ion out of range.



Analytical Laboratory Report

Lab Sample ID: S37064.16

Sample Tag: MW-DUP-061422

Collected Date/Time: 06/14/2022 00:01

Matrix: Groundwater

COC Reference: 144811

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.18/6.87/11	ASTMD7979-19M	06/30/22 13:28	JGH	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 07/01/22 01:37, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	13	10	10	ng/L	2.07	375-22-4	
PFPeA*	Not detected	4.1	1.0	ng/L	2.07	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.07	757124-72-4	
PFHxA*	Not detected	2.1	1.4	ng/L	2.07	307-24-4	
PFBS*	5.6	2.1	1.4	ng/L	2.07	375-73-5	
PFHpA*	Not detected	2.1	1.4	ng/L	2.07	375-85-9	
PFPeS*	8.1	2.1	1.9	ng/L	2.07	2706-91-4	1
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.07	27619-97-2	
PFOA*	7.4	2.1	1.7	ng/L	2.07	335-67-1	
PFHxS*	37	2.1	1.7	ng/L	2.07	355-46-4	1
PFHxS-LN*	32	2.1	1.7	ng/L	2.07	355-46-4-LN	1
PFHxS-BR*	5.4	2.1	1.7	ng/L	2.07	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.07	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.07	39108-34-4	
PFHpS*	21	2.1	2.1	ng/L	2.07	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.07	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.07	2355-31-9	
EtFOSAA*	Not detected	4.1	2.1	ng/L	2.07	2991-50-6	
PFOS*	2,400	2.1	2.0	ng/L	2.07	1763-23-1	E
PFOS-LN*	1,400	2.1	2.0	ng/L	2.07	1763-23-1-LN	
PFOS-BR*	1,000	2.1	2.0	ng/L	2.07	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.4	ng/L	2.07	2058-94-8	
PFNS*	Not detected	2.1	1.4	ng/L	2.07	68259-12-1	
PFDODA*	Not detected	2.1	1.7	ng/L	2.07	307-55-1	
PFDS*	Not detected	2.1	1.4	ng/L	2.07	335-77-3	
PFTTrDA*	Not detected	2.1	1.2	ng/L	2.07	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.07	754-91-6	
PFTeDA*	Not detected	4.1	1.9	ng/L	2.07	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.07	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.4	ng/L	2.07	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.07	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.07	13252-13-6	

1-Qualifier ion out of range.

E-Concentration exceeds calibration range



Analytical Laboratory Report

Lab Sample ID: S37064.16 (continued)

Sample Tag: MW-DUP-061422

28 PFAs (Replicate 01), Method: ASTMD7979-19M, Run Date: 07/05/22 21:59, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	100	100	ng/L	20.7	375-22-4	Y
PFPeA*	Not detected	41	10	ng/L	20.7	2706-90-3	Y
4:2 FTSA*	Not detected	21	17	ng/L	20.7	757124-72-4	Y
PFHxA*	Not detected	21	14	ng/L	20.7	307-24-4	Y
PFBS*	Not detected	21	14	ng/L	20.7	375-73-5	Y
PFHpA*	Not detected	21	14	ng/L	20.7	375-85-9	Y
PFPeS*	Not detected	21	19	ng/L	20.7	2706-91-4	Y
6:2 FTSA*	Not detected	21	21	ng/L	20.7	27619-97-2	Y
PFOA*	18	21	17	ng/L	20.7	335-67-1	JY
PFHxS*	33	21	17	ng/L	20.7	355-46-4	Y
PFHxS-LN*	26	21	17	ng/L	20.7	355-46-4-LN	Y
PFHxS-BR*	Not detected	21	17	ng/L	20.7	355-46-4-BR	Y
PFNA*	Not detected	21	19	ng/L	20.7	375-95-1	Y
8:2 FTSA*	Not detected	21	10	ng/L	20.7	39108-34-4	Y
PFHpS*	Not detected	21	21	ng/L	20.7	375-92-8	Y
PFDA*	Not detected	21	21	ng/L	20.7	335-76-2	Y
N-MeFOSAA*	Not detected	21	21	ng/L	20.7	2355-31-9	Y
EtFOSAA*	Not detected	41	21	ng/L	20.7	2991-50-6	Y
PFOS*	2,300	21	20	ng/L	20.7	1763-23-1	Y
PFOS-LN*	1,300	21	20	ng/L	20.7	1763-23-1-LN	Y
PFOS-BR*	970	21	20	ng/L	20.7	1763-23-1-BR	Y
PFUnDA*	Not detected	21	14	ng/L	20.7	2058-94-8	Y
PFNS*	Not detected	21	14	ng/L	20.7	68259-12-1	Y
PFDoDA*	Not detected	21	17	ng/L	20.7	307-55-1	Y
PFDS*	Not detected	21	14	ng/L	20.7	335-77-3	Y
PFTTrDA*	Not detected	21	12	ng/L	20.7	72629-94-8	Y
FOSA*	Not detected	21	19	ng/L	20.7	754-91-6	Y
PFTeDA*	Not detected	41	19	ng/L	20.7	376-06-7	Y
11Cl-PF3OUdS*	Not detected	21	19	ng/L	20.7	763051-92-9	Y
9Cl-PF3ONS*	Not detected	21	14	ng/L	20.7	756426-58-1	Y
ADONA*	Not detected	21	21	ng/L	20.7	919005-14-4	Y
HFPO-DA*	Not detected	100	21	ng/L	20.7	13252-13-6	Y

Y-Elevated reporting limit due to high target concentration

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S37064.17

Sample Tag: Field Blank-061422

Collected Date/Time: 06/14/2022 11:54

Matrix: Liquid

COC Reference: 144811

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.17/6.94/8	ASTMD7979-19M	06/30/22 13:28	JGH	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 07/01/22 01:56, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.5	9.5	ng/L	1.89	375-22-4	
PFPeA*	Not detected	3.8	0.95	ng/L	1.89	2706-90-3	
4:2 FTSA*	Not detected	1.9	1.5	ng/L	1.89	757124-72-4	
PFHxA*	Not detected	1.9	1.3	ng/L	1.89	307-24-4	
PFBS*	Not detected	1.9	1.3	ng/L	1.89	375-73-5	
PFHpA*	Not detected	1.9	1.3	ng/L	1.89	375-85-9	
PFPeS*	Not detected	1.9	1.7	ng/L	1.89	2706-91-4	
6:2 FTSA*	Not detected	1.9	1.9	ng/L	1.89	27619-97-2	
PFOA*	Not detected	1.9	1.5	ng/L	1.89	335-67-1	
PFHxS*	Not detected	1.9	1.5	ng/L	1.89	355-46-4	
PFHxS-LN*	Not detected	1.9	1.5	ng/L	1.89	355-46-4-LN	
PFHxS-BR*	Not detected	1.9	1.5	ng/L	1.89	355-46-4-BR	
PFNA*	Not detected	1.9	1.7	ng/L	1.89	375-95-1	
8:2 FTSA*	Not detected	1.9	0.95	ng/L	1.89	39108-34-4	I
PFHpS*	Not detected	1.9	1.9	ng/L	1.89	375-92-8	
PFDA*	Not detected	1.9	1.9	ng/L	1.89	335-76-2	
N-MeFOSAA*	Not detected	1.9	1.9	ng/L	1.89	2355-31-9	I
EtFOSAA*	Not detected	3.8	1.9	ng/L	1.89	2991-50-6	
PFOS*	Not detected	1.9	1.9	ng/L	1.89	1763-23-1	
PFOS-LN*	Not detected	1.9	1.9	ng/L	1.89	1763-23-1-LN	
PFOS-BR*	Not detected	1.9	1.9	ng/L	1.89	1763-23-1-BR	
PFUnDA*	Not detected	1.9	1.3	ng/L	1.89	2058-94-8	
PFNS*	Not detected	1.9	1.3	ng/L	1.89	68259-12-1	
PFDODA*	Not detected	1.9	1.5	ng/L	1.89	307-55-1	
PFDS*	Not detected	1.9	1.3	ng/L	1.89	335-77-3	
PFTTrDA*	Not detected	1.9	1.1	ng/L	1.89	72629-94-8	
FOSA*	Not detected	1.9	1.7	ng/L	1.89	754-91-6	
PFTeDA*	Not detected	3.8	1.7	ng/L	1.89	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	1.7	ng/L	1.89	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	1.3	ng/L	1.89	756426-58-1	
ADONA*	Not detected	1.9	1.9	ng/L	1.89	919005-14-4	
HFPO-DA*	Not detected	9.5	1.9	ng/L	1.89	13252-13-6	

I-Matrix interference with internal standard

Merit Laboratories Login Checklist

Lab Set ID:S37064

Client:OBG02 (Ramboll Americas)

Project: RACER Coldwater Road

Submitted:06/14/2022 15:30 Login User: JRM

Attention: Clifford Yantz

Address: Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Selection	Description	Note
-----------	-------------	------

Sample Receiving

- | | | |
|-----|--|--|
| 01. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 2.0 |
| 02. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun |
| 03. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped |
| 04. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box |
| 05. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |

Chain of Custody

- | | | |
|-----|--|--|
| 06. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out |
| 07. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab |
| 08. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC |
| 09. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontracted to: |

Preservation

- | | | |
|-----|--|---|
| 10. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation |
| 11. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs) |
| 12. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab? |

Bottle Conditions

- | | | |
|-----|--|---|
| 13. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact |
| 14. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used |
| 15. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used |
| 16. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received |
| 17. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration |
| 18. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time |
| 19. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Do water VOC or TOX bottles contain headspace |

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____



Merit Laboratories, Inc.

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Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 2 OF 2 144811

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME *Clifford Yantz / Kevin Schneider*
 COMPANY *Ramboll*
 ADDRESS *2090 Commonwealth Blvd*
 CITY *Ann Arbor* STATE *Mi* ZIP CODE *48105*
 PHONE NO. *313-333-0211* FAX NO. _____ P.O. NO. *1940044002 Task 37*
 E-MAIL ADDRESS *Kevin.Schneider@Ramboll.com* *Clifford.Yantz@Ramboll.com* QUOTE NO. _____

CONTACT NAME SAME
 COMPANY _____
 ADDRESS _____
 CITY _____ STATE _____ ZIP CODE _____
 PHONE NO. _____ E-MAIL ADDRESS _____

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME *RACER Coldwater Road* SAMPLER(S) - PLEASE PRINT/SIGN NAME *Kevin Schneider*
 TURNAROUND TIME REQUIRED 1 DAY 2 DAYS 3 DAYS STANDARD OTHER _____
 DELIVERABLES REQUIRED STD LEVEL II LEVEL III LEVEL IV EDD OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
 SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIFE A=AIR W=WASTE

Containers & Preservatives

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	PFAS (797a)	PFAS TOP Analysis
	DATE	TIME												
<i>37064.13</i>	<i>6/14/22</i>	<i>1052</i>	<i>OBG MW-14</i>	<i>GW</i>	<i>12</i>	<i>12</i>							<i>X</i>	<i>X</i>
<i>14.13</i>	<i>6/14/22</i>	<i>1152</i>	<i>OBG MW-22</i>	<i>GW</i>	<i>12</i>	<i>12</i>							<i>X</i>	<i>X</i>
<i>15.14</i>	<i>6/14/22</i>	<i>1420</i>	<i>OBG MW-26</i>	<i>GW</i>	<i>12</i>	<i>12</i>							<i>X</i>	<i>X</i>
<i>16.15</i>	<i>6/14/22</i>	<i>1250</i>	<i>OBG MW-27</i>	<i>GW</i>	<i>3</i>	<i>3</i>							<i>X</i>	
<i>17.16</i>	<i>6/14/22</i>	<i>—</i>	<i>MW-DUP-061422</i>	<i>GW</i>	<i>3</i>	<i>3</i>							<i>X</i>	
<i>18.17</i>	<i>6/14/22</i>	<i>1154</i>	<i>Field Blank-061422</i>	<i>L</i>	<i>1</i>	<i>1</i>							<i>X</i>	

1495

Certifications
 OHIO VAP Drinking Water
 DoD NPDES
 Project Locations
 Detroit New York
 Other _____
 Special Instructions

Low level Reporting with estimated values

RELINQUISHED BY: *[Signature]* DATE *6/14/22* TIME *1430*
 RECEIVED BY: *[Signature]* DATE *6/14/22* TIME *1430*
 RELINQUISHED BY: *[Signature]* DATE *6/14/22* TIME *1530*
 RECEIVED BY: *[Signature]* DATE *6/14/22* TIME *1530*

RELINQUISHED BY: _____ DATE _____ TIME _____
 RECEIVED BY: _____ DATE _____ TIME _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 NOTES: TEMP. ON ARRIVAL *2.0*

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

TOP ASSAY



S37064.12

Sample Tag
Date/Time Collected
Matrix

OBG-MW-14
6/14/2022 10:52
Water

TOTAL

ANALYTES		Pre-TOP	Post-TOP	Blank	Delta PFAS (less blank)
PFBA	ng/L	21.0	51	29	1.0
PFPeA	ng/L	7.1	51	36.6	7.3
4:2 FTSA	ng/L	Not detected	Not detected		
PFHxA	ng/L	8.3	44	31.6	4.1
PFBS	ng/L	27.0	19		-8.0
PFHpA	ng/L	3.8	6.5		2.7
PFPeS	ng/L	53.0	37		-16.0
6:2 FTSA	ng/L	Not detected	Not detected		
PFOA	ng/L	35.0	29		-6.0
PFHxS	ng/L	240.0	180		-60.0
PFHxS-LN	ng/L	210.0	150		-60.0
PFHxS-BR	ng/L	37.0	28		-9.0
PFNA	ng/L	Not detected	Not detected		
8:2 FTSA	ng/L	Not detected	Not detected		
PFHpS	ng/L	44	42		-2.0
PFDA	ng/L	Not detected	Not detected		
N-MeFOSAA	ng/L	Not detected	Not detected		
EtFOSAA	ng/L	Not detected	Not detected		
PFOS	ng/L	1800.0	1300		-500.0
PFOS-LN	ng/L	840.0	540		-300.0
PFOS-BR	ng/L	1000.0	680		-320.0
PFUnDA	ng/L	Not detected	Not detected		
PFNS	ng/L	Not detected	Not detected		
PFDoDA	ng/L	Not detected	Not detected		
PFDS	ng/L	Not detected	Not detected		
PFTTrDA	ng/L	Not detected	Not detected		
FOSA	ng/L	Not detected	Not detected		
PFTeDA	ng/L	Not detected	Not detected		
11Cl-PF3OUdS	ng/L	Not detected	Not detected		
9Cl-PF3ONS	ng/L	Not detected	Not detected		
ADONA	ng/L	Not detected	Not detected		
HFPO-DA	ng/L	Not detected	Not detected		
SUM PFAS	ng/L	2239	1760	97	-577

TOTAL PFC
%Change
-25.8%

TOP ASSAY



S37064.13

Sample Tag
Date/Time Collected
Matrix

OBG-MW-22
6/14/2022 11:52
Water

TOTAL

ANALYTES		Pre-TOP	Post-TOP	Blank	Delta PFAS (less blank)
PFBA	ng/L	Not detected	35	29	6.0
PFPeA	ng/L	Not detected	46	36.6	9.4
4:2 FTSA	ng/L	Not detected	Not detected		
PFHxA	ng/L	Not detected	38	31.6	6.4
PFBS	ng/L	5.3	5		-0.3
PFHpA	ng/L	Not detected	Not detected		
PFPeS	ng/L	6.9	6.2		-0.7
6:2 FTSA	ng/L	Not detected	Not detected		
PFOA	ng/L	6.0	6.5		0.5
PFHxS	ng/L	32.0	27		-5.0
PFHxS-LN	ng/L	27.0	23		-4.0
PFHxS-BR	ng/L	5.1	Not detected		-5.1
PFNA	ng/L	Not detected	Not detected		
8:2 FTSA	ng/L	Not detected	Not detected		
PFHpS	ng/L	20	18		-2.0
PFDA	ng/L	Not detected	Not detected		
N-MeFOSAA	ng/L	Not detected	Not detected		
EtFOSAA	ng/L	Not detected	Not detected		
PFOS	ng/L	2300.0	1500		-800.0
PFOS-LN	ng/L	1300.0	830		-470.0
PFOS-BR	ng/L	1000.0	670		-330.0
PFUnDA	ng/L	Not detected	Not detected		
PFNS	ng/L	Not detected	Not detected		
PFDoDA	ng/L	Not detected	Not detected		
PFDS	ng/L	Not detected	Not detected		
PFTTrDA	ng/L	Not detected	Not detected		
FOSA	ng/L	Not detected	Not detected		
PFTeDA	ng/L	Not detected	Not detected		
11Cl-PF3OUdS	ng/L	Not detected	Not detected		
9Cl-PF3ONS	ng/L	Not detected	Not detected		
ADONA	ng/L	Not detected	Not detected		
HFPO-DA	ng/L	Not detected	Not detected		
SUM PFAS	ng/L	2370	1682	97	-786

TOTAL PFC
%Change
-33.1%

TOP ASSAY



S37064.14

Sample Tag
Date/Time Collected
Matrix

OBG-MW-26
6/14/2022 14:20
Water

TOTAL

ANALYTES		Pre-TOP	Post-TOP	Blank	Delta PFAS (less blank) *
PFBA	ng/L	27.0	117.0	29	61.0
PFPeA	ng/L	43.0	120	36.6	40.4
4:2 FTSA	ng/L	Not detected	Not detected		
PFHxA	ng/L	34.0	92	31.6	26.4
PFBS	ng/L	4.7	Not detected		-4.7
PFHpA	ng/L	6.1	9.7		3.6
PFPeS	ng/L	9.9	7.1		-2.8
6:2 FTSA	ng/L	Not detected	Not detected		
PFOA	ng/L	37.0	23		-14.0
PFHxS	ng/L	41.0	39		-2.0
PFHxS-LN	ng/L	36.0	33		-3.0
PFHxS-BR	ng/L	4.4	Not detected		-5.1
PFNA	ng/L	Not detected	Not detected		
8:2 FTSA	ng/L	Not detected	Not detected		
PFHpS	ng/L	13	12		-1.0
PFDA	ng/L	Not detected	Not detected		
N-MeFOSAA	ng/L	Not detected	Not detected		
EtFOSAA	ng/L	Not detected	Not detected		
PFOS	ng/L	560.0	380		-180.0
PFOS-LN	ng/L	200.0	150		-50.0
PFOS-BR	ng/L	360.0	220		-140.0
PFUnDA	ng/L	Not detected	Not detected		
PFNS	ng/L	Not detected	Not detected		
PFDoDA	ng/L	Not detected	Not detected		
PFDS	ng/L	2.6	Not detected		-2.6
PFTTrDA	ng/L	Not detected	Not detected		
FOSA	ng/L	Not detected	Not detected		
PFTeDA	ng/L	Not detected	Not detected		
11Cl-PF3OUdS	ng/L	Not detected	Not detected		
9Cl-PF3ONS	ng/L	Not detected	Not detected		
ADONA	ng/L	Not detected	Not detected		
HFPO-DA	ng/L	Not detected	Not detected		
SUM PFAS	ng/L	778	800	97	-76

*Matrix Interference

TOTAL PFC
%Change
-9.7%



Quality Control Report

Report ID: QC-S37064-01
Generated on 07/07/2022

Report to

Attention: Clifford Yantz
Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S37064.01-S37064.17
Project: RACER Coldwater Road
Submitted Date/Time: 06/14/2022 15:30
Sampled by: Kevin Schneider
P.O. #: 1940004462 TASK 37

QC Report Sections

- Cover Page (Page 1)
- Analysis Summary (Pages 2-18)
- Prep Batch Summary (Page 19)
- Internal Standards per Lab Sample (Pages 20-41)
- Internal Standards per QC Sample (Pages 42-47)
- Batch QC Results (Pages 48-52)

Report Flag Descriptions

- *: QC result is outside of indicated control limits
- W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S37064.01

Sample Tag: OBG-MW-24

Collected Date/Time: 06/10/2022 15:30

Matrix: Groundwater

COC Reference: 148226

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/30/22 20:44	AK220630	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.02

Sample Tag: OBG-MW-13

Collected Date/Time: 06/10/2022 15:38

Matrix: Groundwater

COC Reference: 148226

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/30/22 21:04	AK220630	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.03

Sample Tag: OBG-MW-21

Collected Date/Time: 06/12/2022 12:12

Matrix: Groundwater

COC Reference: 148226

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/30/22 21:23	AK220630	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.04

Sample Tag: OBG-MW-12S

Collected Date/Time: 06/12/2022 13:12

Matrix: Groundwater

COC Reference: 148226

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/30/22 21:43	AK220630	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.05

Sample Tag: OBG-MW-28

Collected Date/Time: 06/13/2022 14:28

Matrix: Groundwater

COC Reference: 148226

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/30/22 22:02	AK220630	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.06

Sample Tag: OBG-MW-9

Collected Date/Time: 06/13/2022 14:55

Matrix: Groundwater

COC Reference: 148226

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/30/22 22:22	AK220630	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.07

Sample Tag: OBG-MW-23

Collected Date/Time: 06/13/2022 15:58

Matrix: Groundwater

COC Reference: 148226

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/30/22 22:41	AK220630	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.08

Sample Tag: OBG-MW-29

Collected Date/Time: 06/13/2022 16:58

Matrix: Groundwater

COC Reference: 148226

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/30/22 23:01	AK220630	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.09

Sample Tag: OBG-MW-17S

Collected Date/Time: 06/13/2022 16:40

Matrix: Groundwater

COC Reference: 148226

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/30/22 23:20	AK220630	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.10

Sample Tag: MW-DUP-061322

Collected Date/Time: 06/13/2022 00:01

Matrix: Groundwater

COC Reference: 148226

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/30/22 23:40	AK220630	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.11

Sample Tag: OBG-MW-11

Collected Date/Time: 06/14/2022 10:08

Matrix: Groundwater

COC Reference: 148226

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	06/30/22 23:59	AK220630	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.12

Sample Tag: OBG-MW-14

Collected Date/Time: 06/14/2022 10:52

Matrix: Groundwater

COC Reference: 144811

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr QC Types
Organics - Volatiles					
28 PFAs TOP ASSAY	ASTMD7979-19M	06/27/22 15:42	DQ220627TOP	PT220627W1	Yes BLK
28 PFAs	ASTMD7979-19M	07/01/22 00:19	AK220630	PF220630W1	Yes BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.13

Sample Tag: OBG-MW-22

Collected Date/Time: 06/14/2022 11:52

Matrix: Groundwater

COC Reference: 144811

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr QC Types
Organics - Volatiles					
28 PFAs TOP ASSAY	ASTMD7979-19M	06/27/22 16:02	DQ220627TOP	PT220627W1	Yes BLK
28 PFAs	ASTMD7979-19M	07/01/22 00:38	AK220630	PF220630W1	Yes BLK/LCS/LCSD/MS/DU
28 PFAs (Replicate 01)	ASTMD7979-19M	07/05/22 21:39	AK220705	PF220630W1	Yes BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.14

Sample Tag: OBG-MW-26

Collected Date/Time: 06/14/2022 14:20

Matrix: Groundwater

COC Reference: 144811

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr QC Types
Organics - Volatiles					
28 PFAs TOP ASSAY	ASTMD7979-19M	06/27/22 16:21	DQ220627TOP	PT220627W1	Yes BLK
28 PFAs	ASTMD7979-19M	07/01/22 00:58	AK220630	PF220630W1	Yes BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.15

Sample Tag: OBG-MW-27

Collected Date/Time: 06/14/2022 12:50

Matrix: Groundwater

COC Reference: 144811

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	07/01/22 01:17	AK220630	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.16

Sample Tag: MW-DUP-061422

Collected Date/Time: 06/14/2022 00:01

Matrix: Groundwater

COC Reference: 144811

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	07/01/22 01:37	AK220630	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU
28 PFAs (Replicate 01)	ASTMD7979-19M	07/05/22 21:59	AK220705	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S37064.17

Sample Tag: Field Blank-061422

Collected Date/Time: 06/14/2022 11:54

Matrix: Liquid

COC Reference: 144811

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	07/01/22 01:56	AK220630	PF220630W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF220630W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S37064.01	28 PFAs	ASTMD7979-19M	06/30/22 20:44	AK220630
S37064.02	28 PFAs	ASTMD7979-19M	06/30/22 21:04	AK220630
S37064.03	28 PFAs	ASTMD7979-19M	06/30/22 21:23	AK220630
S37064.04	28 PFAs	ASTMD7979-19M	06/30/22 21:43	AK220630
S37064.05	28 PFAs	ASTMD7979-19M	06/30/22 22:02	AK220630
S37064.06	28 PFAs	ASTMD7979-19M	06/30/22 22:22	AK220630
S37064.07	28 PFAs	ASTMD7979-19M	06/30/22 22:41	AK220630
S37064.08	28 PFAs	ASTMD7979-19M	06/30/22 23:01	AK220630
S37064.09	28 PFAs	ASTMD7979-19M	06/30/22 23:20	AK220630
S37064.10	28 PFAs	ASTMD7979-19M	06/30/22 23:40	AK220630
S37064.11	28 PFAs	ASTMD7979-19M	06/30/22 23:59	AK220630
S37064.12	28 PFAs	ASTMD7979-19M	07/01/22 00:19	AK220630
S37064.13	28 PFAs	ASTMD7979-19M	07/01/22 00:38	AK220630
S37064.13	28 PFAs (Replicate 01)	ASTMD7979-19M	07/05/22 21:39	AK220705
S37064.14	28 PFAs	ASTMD7979-19M	07/01/22 00:58	AK220630
S37064.15	28 PFAs	ASTMD7979-19M	07/01/22 01:17	AK220630
S37064.16	28 PFAs	ASTMD7979-19M	07/01/22 01:37	AK220630
S37064.16	28 PFAs (Replicate 01)	ASTMD7979-19M	07/05/22 21:59	AK220705
S37064.17	28 PFAs	ASTMD7979-19M	07/01/22 01:56	AK220630

Organics - Volatiles, Prep Batch ID: PT220627W1

Surrogates: Yes, QC Types: BLK

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S37064.12	28 PFAs TOP ASSAY	ASTMD7979-19M	06/27/22 15:42	DQ220627TOP
S37064.13	28 PFAs TOP ASSAY	ASTMD7979-19M	06/27/22 16:02	DQ220627TOP
S37064.14	28 PFAs TOP ASSAY	ASTMD7979-19M	06/27/22 16:21	DQ220627TOP

QC Report - Internal Standards per Lab Sample

Lab Sample ID: **S37064.01**

Sample Tag: OBG-MW-24

Collected Date/Time: 06/10/2022 15:30

Matrix: Groundwater

COC Reference: 148226

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 06/30/2022 20:44, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		83.5	50.0	150.0
M2-6:2FTSA		106.5	50.0	150.0
M2-8:2FTSA		135.1	50.0	150.0
M2PFTeDA		80.1	12.0	218.0
M3PFBS		82.8	50.0	150.0
M3PFHxS		81.8	50.0	150.0
M4PFHpA		97.6	50.0	150.0
M5PFHxA		96.5	50.0	150.0
M5PFPeA		96.3	50.0	150.0
M6PFDA		109.1	50.0	150.0
M7PFUnDA		88.0	50.0	150.0
M8FOSA		101.5	50.0	150.0
M8PFOA		98.7	50.0	150.0
M8PFOS		94.1	50.0	150.0
M9-PFNA		111.8	50.0	150.0
MPFBA		113.2	50.0	150.0
MPFDoDA		99.0	50.0	150.0
d3N-MeFOSAA		145.3	50.0	150.0
d5EtFOSAA		120.7	50.0	150.0
MHFPO-DA		90.7	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: **S37064.02**

Sample Tag: OBG-MW-13

Collected Date/Time: 06/10/2022 15:38

Matrix: Groundwater

COC Reference: 148226

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 06/30/2022 21:04, Matrix: WW, Dilution: 2.07

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		81.1	50.0	150.0
M2-6:2FTSA		98.1	50.0	150.0
M2-8:2FTSA		149.3	50.0	150.0
M2PFTeDA		100.9	12.0	218.0
M3PFBS		84.3	50.0	150.0
M3PFHxS		101.4	50.0	150.0
M4PFHpA		103.0	50.0	150.0
M5PFHxA		100.7	50.0	150.0
M5PFPeA		97.3	50.0	150.0
M6PFDA		102.6	50.0	150.0
M7PFUnDA		93.6	50.0	150.0
M8FOSA		104.7	50.0	150.0
M8PFOA		101.4	50.0	150.0
M8PFOS		94.8	50.0	150.0
M9-PFNA		99.2	50.0	150.0
MPFBA		118.8	50.0	150.0
MPFDoDA		106.7	50.0	150.0
d3N-MeFOSAA		145.7	50.0	150.0
d5EtFOSAA		140.0	50.0	150.0
MHFPO-DA		99.6	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: **S37064.03**

Sample Tag: OBG-MW-21

Collected Date/Time: 06/12/2022 12:12

Matrix: Groundwater

COC Reference: 148226

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 06/30/2022 21:23, Matrix: WW, Dilution: 1.9

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		82.2	50.0	150.0
M2-6:2FTSA		103.5	50.0	150.0
M2-8:2FTSA		146.1	50.0	150.0
M2PFTeDA		70.8	12.0	218.0
M3PFBS		86.2	50.0	150.0
M3PFHxS		95.2	50.0	150.0
M4PFHpA		102.2	50.0	150.0
M5PFHxA		105.2	50.0	150.0
M5PFPeA		103.3	50.0	150.0
M6PFDA		109.5	50.0	150.0
M7PFUnDA		90.7	50.0	150.0
M8FOSA		107.9	50.0	150.0
M8PFOA		94.5	50.0	150.0
M8PFOS		102.8	50.0	150.0
M9-PFNA		122.3	50.0	150.0
MPFBA		126.4	50.0	150.0
MPFDoDA		92.1	50.0	150.0
d3N-MeFOSAA		149.4	50.0	150.0
d5EtFOSAA		139.2	50.0	150.0
MHFPO-DA		99.9	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37064.04

Sample Tag: OBG-MW-12S

Collected Date/Time: 06/12/2022 13:12

Matrix: Groundwater

COC Reference: 148226

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 06/30/2022 21:43, Matrix: WW, Dilution: 2.08

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		83.7	50.0	150.0
M2-6:2FTSA		109.3	50.0	150.0
M2-8:2FTSA	*	155.6	50.0	150.0
M2PFTeDA		125.4	12.0	218.0
M3PFBS		76.0	50.0	150.0
M3PFHxS		89.1	50.0	150.0
M4PFHpA		103.0	50.0	150.0
M5PFHxA		101.0	50.0	150.0
M5PFPeA		97.1	50.0	150.0
M6PFDA		105.6	50.0	150.0
M7PFUnDA		101.7	50.0	150.0
M8FOSA		104.2	50.0	150.0
M8PFOA		96.9	50.0	150.0
M8PFOS		90.7	50.0	150.0
M9-PFNA		103.9	50.0	150.0
MPFBA		119.1	50.0	150.0
MPFDoDA		104.9	50.0	150.0
d3N-MeFOSAA		142.8	50.0	150.0
d5EtFOSAA		141.2	50.0	150.0
MHFPO-DA		93.0	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37064.05

Sample Tag: OBG-MW-28

Collected Date/Time: 06/13/2022 14:28

Matrix: Groundwater

COC Reference: 148226

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 06/30/2022 22:02, Matrix: WW, Dilution: 2.05

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		82.6	50.0	150.0
M2-6:2FTSA		108.9	50.0	150.0
M2-8:2FTSA	*	153.5	50.0	150.0
M2PFTeDA		105.3	12.0	218.0
M3PFBS		81.2	50.0	150.0
M3PFHxS		90.6	50.0	150.0
M4PFHpA		96.9	50.0	150.0
M5PFHxA		103.3	50.0	150.0
M5PFPeA		95.4	50.0	150.0
M6PFDA		112.2	50.0	150.0
M7PFUnDA		97.3	50.0	150.0
M8FOSA		108.4	50.0	150.0
M8PFOA		103.7	50.0	150.0
M8PFOS		98.8	50.0	150.0
M9-PFNA		99.6	50.0	150.0
MPFBA		120.0	50.0	150.0
MPFDoDA		103.5	50.0	150.0
d3N-MeFOSAA		141.8	50.0	150.0
d5EtFOSAA		132.8	50.0	150.0
MHFPO-DA		100.4	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37064.06

Sample Tag: OBG-MW-9

Collected Date/Time: 06/13/2022 14:55

Matrix: Groundwater

COC Reference: 148226

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 06/30/2022 22:22, Matrix: WW, Dilution: 2.07

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		79.9	50.0	150.0
M2-6:2FTSA		105.1	50.0	150.0
M2-8:2FTSA		141.2	50.0	150.0
M2PFTeDA		115.4	12.0	218.0
M3PFBS		80.7	50.0	150.0
M3PFHxS		97.5	50.0	150.0
M4PFHpA		100.7	50.0	150.0
M5PFHxA		99.2	50.0	150.0
M5PFPeA		100.0	50.0	150.0
M6PFDA		110.4	50.0	150.0
M7PFUnDA		91.7	50.0	150.0
M8FOSA		111.3	50.0	150.0
M8PFOA		100.8	50.0	150.0
M8PFOS		98.2	50.0	150.0
M9-PFNA		107.0	50.0	150.0
MPFBA		120.6	50.0	150.0
MPFDoDA		108.5	50.0	150.0
d3N-MeFOSAA	*	168.3	50.0	150.0
d5EtFOSAA		139.5	50.0	150.0
MHFPO-DA		89.3	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: **S37064.07**

Sample Tag: OBG-MW-23

Collected Date/Time: 06/13/2022 15:58

Matrix: Groundwater

COC Reference: 148226

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 06/30/2022 22:41, Matrix: WW, Dilution: 2.05

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		75.0	50.0	150.0
M2-6:2FTSA		102.6	50.0	150.0
M2-8:2FTSA		142.9	50.0	150.0
M2PFTeDA		109.9	12.0	218.0
M3PFBS		85.1	50.0	150.0
M3PFHxS		86.1	50.0	150.0
M4PFHpA		109.3	50.0	150.0
M5PFHxA		99.3	50.0	150.0
M5PFPeA		95.2	50.0	150.0
M6PFDA		109.0	50.0	150.0
M7PFUnDA		105.9	50.0	150.0
M8FOSA		108.8	50.0	150.0
M8PFOA		98.1	50.0	150.0
M8PFOS		95.0	50.0	150.0
M9-PFNA		103.2	50.0	150.0
MPFBA		120.8	50.0	150.0
MPFDoDA		115.8	50.0	150.0
d3N-MeFOSAA		138.0	50.0	150.0
d5EtFOSAA		138.1	50.0	150.0
MHFPO-DA		89.1	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37064.08

Sample Tag: OBG-MW-29

Collected Date/Time: 06/13/2022 16:58

Matrix: Groundwater

COC Reference: 148226

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 06/30/2022 23:01, Matrix: WW, Dilution: 1.91

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		78.4	50.0	150.0
M2-6:2FTSA		95.6	50.0	150.0
M2-8:2FTSA		138.7	50.0	150.0
M2PFTeDA		79.0	12.0	218.0
M3PFBS		85.3	50.0	150.0
M3PFHxS		98.0	50.0	150.0
M4PFHpA		101.1	50.0	150.0
M5PFHxA		101.6	50.0	150.0
M5PFPeA		94.7	50.0	150.0
M6PFDA		98.3	50.0	150.0
M7PFUnDA		92.7	50.0	150.0
M8FOSA		105.0	50.0	150.0
M8PFOA		103.1	50.0	150.0
M8PFOS		92.8	50.0	150.0
M9-PFNA		101.9	50.0	150.0
MPFBA		118.6	50.0	150.0
MPFDoDA		94.1	50.0	150.0
d3N-MeFOSAA	*	163.1	50.0	150.0
d5EtFOSAA		127.7	50.0	150.0
MHFPO-DA		89.0	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: **S37064.09**

Sample Tag: OBG-MW-17S

Collected Date/Time: 06/13/2022 16:40

Matrix: Groundwater

COC Reference: 148226

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 06/30/2022 23:20, Matrix: WW, Dilution: 1.94

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		77.1	50.0	150.0
M2-6:2FTSA		91.5	50.0	150.0
M2-8:2FTSA		139.1	50.0	150.0
M2PFTeDA		62.3	12.0	218.0
M3PFBS		85.3	50.0	150.0
M3PFHxS		83.1	50.0	150.0
M4PFHpA		101.2	50.0	150.0
M5PFHxA		100.6	50.0	150.0
M5PFPeA		95.6	50.0	150.0
M6PFDA		101.5	50.0	150.0
M7PFUnDA		98.8	50.0	150.0
M8FOSA		103.8	50.0	150.0
M8PFOA		86.2	50.0	150.0
M8PFOS		94.8	50.0	150.0
M9-PFNA		99.0	50.0	150.0
MPFBA		119.2	50.0	150.0
MPFDoDA		90.2	50.0	150.0
d3N-MeFOSAA		129.4	50.0	150.0
d5EtFOSAA		122.0	50.0	150.0
MHFPO-DA		93.1	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37064.10

Sample Tag: MW-DUP-061322

Collected Date/Time: 06/13/2022 00:01

Matrix: Groundwater

COC Reference: 148226

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 06/30/2022 23:40, Matrix: WW, Dilution: 1.96

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		80.2	50.0	150.0
M2-6:2FTSA		101.3	50.0	150.0
M2-8:2FTSA		138.3	50.0	150.0
M2PFTeDA		103.6	12.0	218.0
M3PFBS		79.6	50.0	150.0
M3PFHxS		88.5	50.0	150.0
M4PFHpA		93.5	50.0	150.0
M5PFHxA		97.1	50.0	150.0
M5PFPeA		97.8	50.0	150.0
M6PFDA		107.4	50.0	150.0
M7PFUnDA		93.0	50.0	150.0
M8FOSA		106.8	50.0	150.0
M8PFOA		95.9	50.0	150.0
M8PFOS		98.4	50.0	150.0
M9-PFNA		108.2	50.0	150.0
MPFBA		120.6	50.0	150.0
MPFDoDA		101.6	50.0	150.0
d3N-MeFOSAA		143.5	50.0	150.0
d5EtFOSAA		130.5	50.0	150.0
MHFPO-DA		88.9	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37064.11

Sample Tag: OBG-MW-11

Collected Date/Time: 06/14/2022 10:08

Matrix: Groundwater

COC Reference: 148226

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 06/30/2022 23:59, Matrix: WW, Dilution: 2.01

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		86.6	50.0	150.0
M2-6:2FTSA		107.2	50.0	150.0
M2-8:2FTSA	*	151.6	50.0	150.0
M2PFTeDA		103.8	12.0	218.0
M3PFBS		81.3	50.0	150.0
M3PFHxS		91.6	50.0	150.0
M4PFHpA		99.5	50.0	150.0
M5PFHxA		101.8	50.0	150.0
M5PFPeA		101.0	50.0	150.0
M6PFDA		120.8	50.0	150.0
M7PFUnDA		105.5	50.0	150.0
M8FOSA		109.2	50.0	150.0
M8PFOA		93.7	50.0	150.0
M8PFOS		100.4	50.0	150.0
M9-PFNA		103.5	50.0	150.0
MPFBA		113.6	50.0	150.0
MPFDoDA		102.2	50.0	150.0
d3N-MeFOSAA	*	151.8	50.0	150.0
d5EtFOSAA		121.6	50.0	150.0
MHFPO-DA		86.4	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37064.12

Sample Tag: OBG-MW-14

Collected Date/Time: 06/14/2022 10:52

Matrix: Groundwater

COC Reference: 144811

Organics - Volatiles, Analysis: 28 PFAs TOP ASSAY

Run in Batch: DQ220627TOP, Run Date: 06/27/2022 15:42, Matrix: WW, Dilution: 6

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		101.5	50.0	150.0
M2-6:2FTSA		138.0	50.0	150.0
M2-8:2FTSA	*	413.3	50.0	150.0
M2PFTeDA		139.0	12.0	218.0
M3PFBS		122.9	50.0	150.0
M3PFHxS		110.4	50.0	150.0
M4PFHpA		115.6	50.0	150.0
M5PFHxA		117.6	50.0	150.0
M5PFPeA		60.5	50.0	150.0
M6PFDA		135.2	50.0	150.0
M7PFUnDA		135.6	50.0	150.0
M8FOSA		121.5	50.0	150.0
M8PFOA		121.5	50.0	150.0
M8PFOS		107.1	50.0	150.0
M9-PFNA		125.0	50.0	150.0
MPFBA		124.7	50.0	150.0
MPFDoDA		119.5	50.0	150.0
d3N-MeFOSAA		133.0	50.0	150.0
d5EtFOSAA		123.9	50.0	150.0
MHFPO-DA		104.3	50.0	150.0

QC Report - Internal Standards per Lab Sample

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 07/01/2022 00:19, Matrix: WW, Dilution: 2.09

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		80.5	50.0	150.0
M2-6:2FTSA		103.1	50.0	150.0
M2-8:2FTSA	*	150.2	50.0	150.0
M2PFTeDA		97.5	12.0	218.0
M3PFBS		81.8	50.0	150.0
M3PFHxS		89.9	50.0	150.0
M4PFHpA		104.6	50.0	150.0
M5PFHxA		97.4	50.0	150.0
M5PFPeA		103.9	50.0	150.0
M6PFDA		110.6	50.0	150.0
M7PFUnDA		101.1	50.0	150.0
M8FOSA		109.8	50.0	150.0
M8PFOA		92.5	50.0	150.0
M8PFOS		104.8	50.0	150.0
M9-PFNA		125.5	50.0	150.0
MPFBA		122.4	50.0	150.0
MPFDoDA		100.7	50.0	150.0
d3N-MeFOSAA	*	151.6	50.0	150.0
d5EtFOSAA		129.3	50.0	150.0
MHFPO-DA		93.4	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37064.13

Sample Tag: OBG-MW-22

Collected Date/Time: 06/14/2022 11:52

Matrix: Groundwater

COC Reference: 144811

Organics - Volatiles, Analysis: 28 PFAs TOP ASSAY

Run in Batch: DQ220627TOP, Run Date: 06/27/2022 16:02, Matrix: WW, Dilution: 6

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		86.6	50.0	150.0
M2-6:2FTSA		149.2	50.0	150.0
M2-8:2FTSA	*	397.5	50.0	150.0
M2PFTeDA		139.6	12.0	218.0
M3PFBS		116.7	50.0	150.0
M3PFHxS		111.7	50.0	150.0
M4PFHpA		106.5	50.0	150.0
M5PFHxA		106.5	50.0	150.0
M5PFPeA	*	41.4	50.0	150.0
M6PFDA		124.8	50.0	150.0
M7PFUnDA		127.3	50.0	150.0
M8FOSA		123.9	50.0	150.0
M8PFOA		124.4	50.0	150.0
M8PFOS		112.3	50.0	150.0
M9-PFNA		119.2	50.0	150.0
MPFBA		123.0	50.0	150.0
MPFDoDA		129.9	50.0	150.0
d3N-MeFOSAA		133.4	50.0	150.0
d5EtFOSAA		131.0	50.0	150.0
MHFPO-DA		106.9	50.0	150.0

QC Report - Internal Standards per Lab Sample

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 07/01/2022 00:38, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		83.4	50.0	150.0
M2-6:2FTSA		119.9	50.0	150.0
M2-8:2FTSA		135.5	50.0	150.0
M2PFTeDA		112.9	12.0	218.0
M3PFBS		83.9	50.0	150.0
M3PFHxS		105.2	50.0	150.0
M4PFHpA		98.6	50.0	150.0
M5PFHxA		103.9	50.0	150.0
M5PFPeA		98.2	50.0	150.0
M6PFDA		102.4	50.0	150.0
M7PFUnDA		101.1	50.0	150.0
M8FOSA		109.3	50.0	150.0
M8PFOA		101.0	50.0	150.0
M8PFOS		96.1	50.0	150.0
M9-PFNA		110.5	50.0	150.0
MPFBA		122.8	50.0	150.0
MPFDoDA		104.8	50.0	150.0
d3N-MeFOSAA		147.9	50.0	150.0
d5EtFOSAA		138.2	50.0	150.0
MHFPO-DA		97.6	50.0	150.0

QC Report - Internal Standards per Lab Sample

Organics - Volatiles, Analysis: 28 PFAs (Replicate 01)

Run in Batch: AK220705, Run Date: 07/05/2022 21:39, Matrix: WW, Dilution: 20

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		57.8	50.0	150.0
M2-6:2FTSA		69.6	50.0	150.0
M2-8:2FTSA		66.7	50.0	150.0
M2PFTeDA		123.1	12.0	218.0
M3PFBS		103.3	50.0	150.0
M3PFHxS		109.5	50.0	150.0
M4PFHpA		111.1	50.0	150.0
M5PFHxA		103.4	50.0	150.0
M5PFPeA		116.8	50.0	150.0
M6PFDA		101.1	50.0	150.0
M7PFUnDA		95.9	50.0	150.0
M8FOSA		129.5	50.0	150.0
M8PFOA		111.3	50.0	150.0
M8PFOS		108.7	50.0	150.0
M9-PFNA		117.9	50.0	150.0
MPFBA		141.4	50.0	150.0
MPFDoDA		114.3	50.0	150.0
d3N-MeFOSAA		80.5	50.0	150.0
d5EtFOSAA		86.8	50.0	150.0
MHFPO-DA		116.9	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37064.14

Sample Tag: OBG-MW-26

Collected Date/Time: 06/14/2022 14:20

Matrix: Groundwater

COC Reference: 144811

Organics - Volatiles, Analysis: 28 PFAs TOP ASSAY

Run in Batch: DQ220627TOP, Run Date: 06/27/2022 16:21, Matrix: WW, Dilution: 6

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA	*	295.8	50.0	150.0
M2-6:2FTSA	*	276.3	50.0	150.0
M2-8:2FTSA	*	325.5	50.0	150.0
M2PFTeDA		179.2	12.0	218.0
M3PFBS		103.1	50.0	150.0
M3PFHxS		102.5	50.0	150.0
M4PFHpA		64.2	50.0	150.0
M5PFHxA		54.6	50.0	150.0
M5PFPeA	*	29.1	50.0	150.0
M6PFDA		78.5	50.0	150.0
M7PFUnDA		102.2	50.0	150.0
M8FOSA	*	160.6	50.0	150.0
M8PFOA		77.8	50.0	150.0
M8PFOS		100.2	50.0	150.0
M9-PFNA		62.0	50.0	150.0
MPFBA		59.8	50.0	150.0
MPFDoDA		132.1	50.0	150.0
d3N-MeFOSAA	*	157.8	50.0	150.0
d5EtFOSAA	*	154.3	50.0	150.0
MHFPO-DA		61.3	50.0	150.0

QC Report - Internal Standards per Lab Sample

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 07/01/2022 00:58, Matrix: WW, Dilution: 2.06

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		72.2	50.0	150.0
M2-6:2FTSA		86.0	50.0	150.0
M2-8:2FTSA		139.3	50.0	150.0
M2PFTeDA		100.8	12.0	218.0
M3PFBS		87.7	50.0	150.0
M3PFHxS		97.4	50.0	150.0
M4PFHpA		99.4	50.0	150.0
M5PFHxA		104.8	50.0	150.0
M5PFPeA		100.7	50.0	150.0
M6PFDA		117.0	50.0	150.0
M7PFUnDA		95.9	50.0	150.0
M8FOSA		107.3	50.0	150.0
M8PFOA		85.9	50.0	150.0
M8PFOS		95.5	50.0	150.0
M9-PFNA		106.9	50.0	150.0
MPFBA		122.6	50.0	150.0
MPFDoDA		104.5	50.0	150.0
d3N-MeFOSAA		150.0	50.0	150.0
d5EtFOSAA		144.4	50.0	150.0
MHFPO-DA		103.1	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37064.15

Sample Tag: OBG-MW-27

Collected Date/Time: 06/14/2022 12:50

Matrix: Groundwater

COC Reference: 144811

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 07/01/2022 01:17, Matrix: WW, Dilution: 1.95

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		77.6	50.0	150.0
M2-6:2FTSA		110.8	50.0	150.0
M2-8:2FTSA		145.4	50.0	150.0
M2PFTeDA		89.3	12.0	218.0
M3PFBS		83.3	50.0	150.0
M3PFHxS		95.7	50.0	150.0
M4PFHpA		99.0	50.0	150.0
M5PFHxA		100.2	50.0	150.0
M5PFPeA		99.7	50.0	150.0
M6PFDA		110.9	50.0	150.0
M7PFUnDA		96.4	50.0	150.0
M8FOSA		109.0	50.0	150.0
M8PFOA		99.8	50.0	150.0
M8PFOS		95.6	50.0	150.0
M9-PFNA		102.0	50.0	150.0
MPFBA		121.0	50.0	150.0
MPFDoDA		92.9	50.0	150.0
d3N-MeFOSAA		143.8	50.0	150.0
d5EtFOSAA		129.3	50.0	150.0
MHFPO-DA		104.4	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37064.16

Sample Tag: MW-DUP-061422

Collected Date/Time: 06/14/2022 00:01

Matrix: Groundwater

COC Reference: 144811

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 07/01/2022 01:37, Matrix: WW, Dilution: 2.07

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		79.5	50.0	150.0
M2-6:2FTSA		103.1	50.0	150.0
M2-8:2FTSA		138.6	50.0	150.0
M2PFTeDA		123.1	12.0	218.0
M3PFBS		81.8	50.0	150.0
M3PFHxS		91.5	50.0	150.0
M4PFHpA		98.6	50.0	150.0
M5PFHxA		101.6	50.0	150.0
M5PFPeA		97.2	50.0	150.0
M6PFDA		112.2	50.0	150.0
M7PFUnDA		101.0	50.0	150.0
M8FOSA		112.3	50.0	150.0
M8PFOA		89.5	50.0	150.0
M8PFOS		93.9	50.0	150.0
M9-PFNA		125.5	50.0	150.0
MPFBA		118.3	50.0	150.0
MPFDoDA		106.8	50.0	150.0
d3N-MeFOSAA		134.9	50.0	150.0
d5EtFOSAA		132.6	50.0	150.0
MHFPO-DA		83.6	50.0	150.0

QC Report - Internal Standards per Lab Sample

Organics - Volatiles, Analysis: 28 PFAs (Replicate 01)

Run in Batch: AK220705, Run Date: 07/05/2022 21:59, Matrix: WW, Dilution: 20.7

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		60.0	50.0	150.0
M2-6:2FTSA		70.6	50.0	150.0
M2-8:2FTSA		64.9	50.0	150.0
M2PFTeDA		78.9	12.0	218.0
M3PFBS		109.6	50.0	150.0
M3PFHxS		116.1	50.0	150.0
M4PFHpA		101.1	50.0	150.0
M5PFHxA		101.4	50.0	150.0
M5PFPeA		113.6	50.0	150.0
M6PFDA		108.2	50.0	150.0
M7PFUnDA		98.1	50.0	150.0
M8FOSA		132.4	50.0	150.0
M8PFOA		95.8	50.0	150.0
M8PFOS		111.5	50.0	150.0
M9-PFNA		107.3	50.0	150.0
MPFBA		137.9	50.0	150.0
MPFDoDA		103.6	50.0	150.0
d3N-MeFOSAA		88.4	50.0	150.0
d5EtFOSAA		84.4	50.0	150.0
MHFPO-DA		116.5	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S37064.17

Sample Tag: Field Blank-061422

Collected Date/Time: 06/14/2022 11:54

Matrix: Liquid

COC Reference: 144811

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK220630, Run Date: 07/01/2022 01:56, Matrix: WW, Dilution: 1.89

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		81.6	50.0	150.0
M2-6:2FTSA		113.4	50.0	150.0
M2-8:2FTSA	*	154.0	50.0	150.0
M2PFTeDA		74.3	12.0	218.0
M3PFBS		85.1	50.0	150.0
M3PFHxS		93.4	50.0	150.0
M4PFHpA		98.0	50.0	150.0
M5PFHxA		99.7	50.0	150.0
M5PFPeA		102.7	50.0	150.0
M6PFDA		108.8	50.0	150.0
M7PFUnDA		102.6	50.0	150.0
M8FOSA		107.9	50.0	150.0
M8PFOA		99.7	50.0	150.0
M8PFOS		94.3	50.0	150.0
M9-PFNA		106.9	50.0	150.0
MPFBA		121.1	50.0	150.0
MPFDoDA		98.9	50.0	150.0
d3N-MeFOSAA	*	154.2	50.0	150.0
d5EtFOSAA		124.6	50.0	150.0
MHFPO-DA		92.6	50.0	150.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: PF220630W1

QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: AK220630.BLK220630A

Run in Batch: AK220630, Run Date: 06/30/2022 18:08, Prep Date: 06/30/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		94.9	50.0	150.0
M2-6:2FTSA		112.0	50.0	150.0
M2-8:2FTSA	*	174.6	50.0	150.0
M2PFTeDA		84.6	12.0	218.0
M3PFBS		82.0	50.0	150.0
M3PFHxS		93.9	50.0	150.0
M4PFHpA		109.1	50.0	150.0
M5PFHxA		107.0	50.0	150.0
M5PFPeA		96.1	50.0	150.0
M6PFDA		111.0	50.0	150.0
M7PFUnDA		102.7	50.0	150.0
M8FOSA		106.6	50.0	150.0
M8PFOA		100.8	50.0	150.0
M8PFOS		95.0	50.0	150.0
M9-PFNA		101.4	50.0	150.0
MPFBA		105.4	50.0	150.0
MPFDoDA		97.9	50.0	150.0
d3N-MeFOSAA	*	166.3	50.0	150.0
d5EtFOSAA		142.4	50.0	150.0
MHFPO-DA		103.2	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample (LCS)

Lab Sample ID: AK220630.LCS220630A

Run in Batch: AK220630, Run Date: 06/30/2022 17:29, Prep Date: 06/30/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		98.4	50.0	150.0
M2-6:2FTSA		121.8	50.0	150.0
M2-8:2FTSA	*	176.9	50.0	150.0
M2PFTeDA		111.9	12.0	218.0
M3PFBS		93.0	50.0	150.0
M3PFHxS		99.2	50.0	150.0
M4PFHpA		96.6	50.0	150.0
M5PFHxA		104.0	50.0	150.0
M5PFPeA		95.7	50.0	150.0
M6PFDA		111.0	50.0	150.0
M7PFUnDA		105.7	50.0	150.0
M8FOSA		102.5	50.0	150.0
M8PFOA		108.5	50.0	150.0
M8PFOS		103.3	50.0	150.0
M9-PFNA		102.6	50.0	150.0
MPFBA		106.2	50.0	150.0
MPFDoDA		106.3	50.0	150.0
d3N-MeFOSAA		148.3	50.0	150.0
d5EtFOSAA		145.8	50.0	150.0
MHFPO-DA		105.7	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK220630.LCSD220630A, Parent Sample ID: AK220630.LCS220630A

Run in Batch: AK220630, Run Date: 06/30/2022 17:48, Prep Date: 06/30/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		101.1	50.0	150.0
M2-6:2FTSA		129.3	50.0	150.0
M2-8:2FTSA	*	175.1	50.0	150.0
M2PFTeDA		111.6	12.0	218.0
M3PFBS		87.1	50.0	150.0
M3PFHxS		102.2	50.0	150.0
M4PFHpA		100.0	50.0	150.0
M5PFHxA		104.2	50.0	150.0
M5PFPeA		96.5	50.0	150.0
M6PFDA		113.3	50.0	150.0
M7PFUnDA		99.6	50.0	150.0
M8FOSA		102.0	50.0	150.0
M8PFOA		93.5	50.0	150.0
M8PFOS		97.4	50.0	150.0
M9-PFNA		102.6	50.0	150.0
MPFBA		105.2	50.0	150.0
MPFDoDA		107.1	50.0	150.0
d3N-MeFOSAA	*	159.7	50.0	150.0
d5EtFOSAA		123.3	50.0	150.0
MHFPO-DA		95.6	50.0	150.0

QC Report - Internal Standards per QC Sample

Matrix Spike (MS)

Lab Sample ID: AK220630.3706202M, Parent Sample ID: S37062.02

Run in Batch: AK220630, Run Date: 06/30/2022 19:46, Prep Date: 06/30/2022, Matrix: WW, Dilution: 1.96

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		78.1	50.0	150.0
M2-6:2FTSA		110.1	50.0	150.0
M2-8:2FTSA		142.6	50.0	150.0
M2PFTeDA		107.9	12.0	218.0
M3PFBS		79.8	50.0	150.0
M3PFHxS		84.5	50.0	150.0
M4PFHpA		95.3	50.0	150.0
M5PFHxA		93.6	50.0	150.0
M5PFPeA		91.3	50.0	150.0
M6PFDA		98.5	50.0	150.0
M7PFUnDA		95.0	50.0	150.0
M8FOSA		97.3	50.0	150.0
M8PFOA		86.6	50.0	150.0
M8PFOS		83.6	50.0	150.0
M9-PFNA		95.7	50.0	150.0
MPFBA		109.8	50.0	150.0
MPFDoDA		95.6	50.0	150.0
d3N-MeFOSAA		135.3	50.0	150.0
d5EtFOSAA		128.5	50.0	150.0
MHFPO-DA		93.4	50.0	150.0

QC Report - Internal Standards per QC Sample

Duplicate (DUP)

Lab Sample ID: AK220630.3706201D, Parent Sample ID: S37062.01

Run in Batch: AK220630, Run Date: 06/30/2022 19:07, Prep Date: 06/30/2022, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		73.7	50.0	150.0
M2-6:2FTSA		101.4	50.0	150.0
M2-8:2FTSA		135.2	50.0	150.0
M2PFTeDA		98.8	12.0	218.0
M3PFBS		76.8	50.0	150.0
M3PFHxS		84.4	50.0	150.0
M4PFHpA		79.4	50.0	150.0
M5PFHxA		100.0	50.0	150.0
M5PFPeA		92.2	50.0	150.0
M6PFDA		95.4	50.0	150.0
M7PFUnDA		91.0	50.0	150.0
M8FOSA		94.8	50.0	150.0
M8PFOA		84.8	50.0	150.0
M8PFOS		89.6	50.0	150.0
M9-PFNA		102.5	50.0	150.0
MPFBA		100.6	50.0	150.0
MPFDoDA		94.2	50.0	150.0
d3N-MeFOSAA		135.7	50.0	150.0
d5EtFOSAA		120.6	50.0	150.0
MHFPO-DA		84.6	50.0	150.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: PT220627W1

QC Types: BLK

Blank (BLK)

Lab Sample ID: DQ220627TOP.BLK220627PT

Run in Batch: DQ220627TOP, Run Date: 06/27/2022 15:23, Prep Date: 06/27/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		104.9	50.0	150.0
M2-6:2FTSA		121.2	50.0	150.0
M2-8:2FTSA	*	485.5	50.0	150.0
M2PFTeDA		136.2	12.0	218.0
M3PFBS		126.0	50.0	150.0
M3PFHxS		124.7	50.0	150.0
M4PFHpA		119.5	50.0	150.0
M5PFHxA		122.3	50.0	150.0
M5PFPeA		113.5	50.0	150.0
M6PFDA		128.0	50.0	150.0
M7PFUnDA		126.4	50.0	150.0
M8FOSA		118.2	50.0	150.0
M8PFOA		126.6	50.0	150.0
M8PFOS		113.6	50.0	150.0
M9-PFNA		113.6	50.0	150.0
MPFBA		127.3	50.0	150.0
MPFDoDA		120.2	50.0	150.0
d3N-MeFOSAA		126.8	50.0	150.0
d5EtFOSAA		113.3	50.0	150.0
MHFPO-DA		125.6	50.0	150.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF220630W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: AK220630.BLK220630A

Run in Batch: AK220630, Run Date: 06/30/2022 18:08, Prep Date: 06/30/2022, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	5	ng/l
PFPeA		ND	2	ng/l
4:2 FTSA		ND	1	ng/l
PFHxA		ND	1	ng/l
PFBS		ND	1	ng/l
PFHpA		ND	1	ng/l
PFPeS		ND	1	ng/l
6:2 FTSA		ND	1	ng/l
PFOA		ND	1	ng/l
PFHxS		ND	1	ng/l
PFHxS-LN		ND	1	ng/l
PFHxS-BR		ND	1	ng/l
PFNA		ND	1	ng/l
8:2 FTSA		ND	1	ng/l
PFHpS		ND	1	ng/l
PFDA		ND	1	ng/l
N-MeFOSAA		ND	1	ng/l
EtFOSAA		ND	2	ng/l
PFOS		ND	1	ng/l
PFOS-LN		ND	1	ng/l
PFOS-BR		ND	1	ng/l
PFUnDA		ND	1	ng/l
PFNS		ND	1	ng/l
PFDoDA		ND	1	ng/l
PFDS		ND	1	ng/l
PFTTrDA		ND	1	ng/l
FOSA		ND	1	ng/l
PFTeDA		ND	2	ng/l
11CL-PF3OUdS		ND	1	ng/l
9CL-PF3ONS		ND	1	ng/l
ADONA		ND	1	ng/l
HFPO-DA		ND	5	ng/l

Laboratory Control Sample (LCS)

Lab Sample ID: AK220630.LCS220630A

Run in Batch: AK220630, Run Date: 06/30/2022 17:29, Prep Date: 06/30/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		92.4	70.0	130.0
PFPeA		101.8	70.0	130.0
4:2 FTSA		117.8	70.0	130.0
PFBS		107.2	70.0	130.0
PFHxA		109.0	70.0	130.0
HFPO-DA		84.6	70.0	130.0
PFHpA		107.2	70.0	130.0
PFPeS		111.8	70.0	130.0
ADONA		96.2	70.0	130.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF220630W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: AK220630.LCS220630A

Run in Batch: AK220630, Run Date: 06/30/2022 17:29, Prep Date: 06/30/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
6:2 FTSA		117.0	70.0	130.0
PFOA		96.2	70.0	130.0
PFHxS		103.6	70.0	130.0
PFNA		118.4	70.0	130.0
PFHpS		82.6	70.0	130.0
8:2 FTSA		105.0	70.0	130.0
PFOS		106.6	70.0	130.0
PFDA		104.4	70.0	130.0
N-MeFOSAA		111.6	70.0	130.0
EtFOSAA		110.8	70.0	130.0
PFUnDA		101.0	70.0	130.0
9CL-PF3ONS		96.2	70.0	130.0
PFNS		87.0	70.0	130.0
PFDoDA		110.0	70.0	130.0
PFDS		107.4	70.0	130.0
PFTTrDA		122.0	70.0	130.0
11CL-PF3OUdS		102.4	70.0	130.0
PFTeDA		110.0	70.0	130.0
FOSA		105.6	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK220630.LCSD220630A, Parent Sample ID: AK220630.LCS220630A

Run in Batch: AK220630, Run Date: 06/30/2022 17:48, Prep Date: 06/30/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		103.4	70.0	130.0	11.2	30.0
PFPeA		100.6	70.0	130.0	1.2	30.0
4:2 FTSA		101.0	70.0	130.0	15.4	30.0
PFBS		107.2	70.0	130.0	0.0	30.0
PFHxA		105.0	70.0	130.0	3.7	30.0
HFPO-DA		104.0	70.0	130.0	20.6	30.0
PFHpA		98.0	70.0	130.0	9.0	30.0
PFPeS		111.4	70.0	130.0	0.4	30.0
ADONA		111.4	70.0	130.0	14.6	30.0
6:2 FTSA		112.0	70.0	130.0	4.4	30.0
PFOA		122.0	70.0	130.0	23.6	30.0
PFHxS		108.6	70.0	130.0	4.7	30.0
PFNA		118.2	70.0	130.0	0.2	30.0
PFHpS		77.0	70.0	130.0	7.0	30.0
8:2 FTSA		101.6	70.0	130.0	3.3	30.0
PFOS		112.0	70.0	130.0	4.9	30.0
PFDA		90.8	70.0	130.0	13.9	30.0
N-MeFOSAA		95.4	70.0	130.0	15.7	30.0
EtFOSAA		127.2	70.0	130.0	13.8	30.0
PFUnDA		89.2	70.0	130.0	12.4	30.0
9CL-PF3ONS		104.4	70.0	130.0	8.2	30.0
PFNS		90.2	70.0	130.0	3.6	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF220630W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK220630.LCSD220630A, Parent Sample ID: AK220630.LCS220630A

Run in Batch: AK220630, Run Date: 06/30/2022 17:48, Prep Date: 06/30/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFDoDA		96.4	70.0	130.0	13.2	30.0
PFDS		122.4	70.0	130.0	13.1	30.0
PFTTrDA		104.8	70.0	130.0	15.2	30.0
11CL-PF3OUdS		108.8	70.0	130.0	6.1	30.0
PFTeDA		98.4	70.0	130.0	11.1	30.0
FOSA		94.6	70.0	130.0	11.0	30.0

Matrix Spike (MS)

Lab Sample ID: AK220630.3706202M, Parent Sample ID: S37062.02

Run in Batch: AK220630, Run Date: 06/30/2022 19:46, Prep Date: 06/30/2022, Matrix: WW, Dilution: 1.96

Analyte	Flags	% Rec	LCL	UCL
PFBA		122.4	70.0	130.0
PFPeA		112.2	70.0	130.0
4:2 FTSA		112.2	70.0	130.0
PFHxA		122.4	70.0	130.0
PFBS		122.4	70.0	130.0
PFHpA		112.2	70.0	130.0
PFPeS		122.4	70.0	130.0
6:2 FTSA		122.4	70.0	130.0
PFOA		122.4	70.0	130.0
PFHxS		112.2	70.0	130.0
PFNA	*	142.9	70.0	130.0
8:2 FTSA		102.0	70.0	130.0
PFHpS		112.2	70.0	130.0
PFDA		112.2	70.0	130.0
N-MeFOSAA		122.4	70.0	130.0
EtFOSAA	*	132.7	70.0	130.0
PFOS	*	142.9	70.0	130.0
PFUnDA		112.2	70.0	130.0
PFNS		112.2	70.0	130.0
PFDoDA		122.4	70.0	130.0
PFDS	*	142.9	70.0	130.0
PFTTrDA	*	142.9	70.0	130.0
FOSA		112.2	70.0	130.0
PFTeDA		112.2	70.0	130.0
11CL-PF3OUdS	*	142.9	70.0	130.0
9CL-PF3ONS		122.4	70.0	130.0
ADONA		122.4	70.0	130.0
HFPO-DA		98.0	70.0	130.0

Duplicate (DUP)

Lab Sample ID: AK220630.3706201D, Parent Sample ID: S37062.01

Run in Batch: AK220630, Run Date: 06/30/2022 19:07, Prep Date: 06/30/2022, Matrix: WW, Dilution: 1.97

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
PFPeA		NC	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF220630W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Duplicate (DUP) (continued)

Lab Sample ID: AK220630.3706201D, Parent Sample ID: S37062.01

Run in Batch: AK220630, Run Date: 06/30/2022 19:07, Prep Date: 06/30/2022, Matrix: WW, Dilution: 1.97

Analyte	Flags	RPD	RPD CL
4:2 FTSA		NC	30.0
PFHxA		NC	30.0
PFBS		NC	30.0
PFHpA		NC	30.0
PFPeS		NC	30.0
6:2 FTSA		NC	30.0
PFOA		NC	30.0
PFHxS		NC	30.0
PFHxS-LN		NC	30.0
PFHxS-BR		NC	30.0
PFNA		NC	30.0
8:2 FTSA		NC	30.0
PFHpS		NC	30.0
PFDA		NC	30.0
N-MeFOSAA		NC	30.0
EtFOSAA		NC	30.0
PFOS		NC	30.0
PFOS-LN		NC	30.0
PFOS-BR		NC	30.0
PFUnDA		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS	J*	40.0	30.0
PFTTrDA		NC	30.0
FOSA		NC	30.0
PFTeDA		NC	30.0
11CL-PF3OUdS		NC	30.0
9CL-PF3ONS		NC	30.0
ADONA		NC	30.0
HFPO-DA		NC	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PT220627W1

Surrogates: Yes, QC Types: BLK

Blank (BLK)

Lab Sample ID: DQ220627TOP.BLK220627PT

Run in Batch: DQ220627TOP, Run Date: 06/27/2022 15:23, Prep Date: 06/27/2022, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFMPA		ND	1	ng/l
FPrPA (3:3 FTCA)		ND	1	ng/l
PFPPrS		ND	1	ng/l
PFMBA		ND	1	ng/l
NFDHA		ND	1	ng/l
FPePA (5:3 FTCA)		ND	1	ng/l
PFEESA		ND	1	ng/l
PFBSA		ND	1	ng/l
FHpPA (7:3 FTCA)		ND	1	ng/l
PFECHS		ND	1	ng/l
PFHxSA		ND	1	ng/l
PFBA		ND	5	ng/l
PFPeA	*	6.10	2	ng/l
4:2 FTSA		ND	1	ng/l
PFHxA	*	5.26	1	ng/l
PFBS		ND	1	ng/l
PFHpA		ND	1	ng/l
PFPeS		ND	1	ng/l
6:2 FTSA		ND	1	ng/l
PFOA		ND	1	ng/l
PFHxS		ND	1	ng/l
PFHxS-LN		ND	1	ng/l
PFHxS-BR		ND	1	ng/l
PFNA		ND	1	ng/l
8:2 FTSA		ND	1	ng/l
PFHpS		ND	1	ng/l
PFDA		ND	1	ng/l
N-MeFOSAA		ND	1	ng/l
EtFOSAA		ND	2	ng/l
PFOS		ND	1	ng/l
PFOS-LN		ND	1	ng/l
PFOS-BR		ND	1	ng/l
PFUnDA		ND	1	ng/l
PFNS		ND	1	ng/l
PFDODA		ND	1	ng/l
PFDS		ND	1	ng/l
PFTTrDA		ND	1	ng/l
FOSA		ND	1	ng/l
PFTeDA		ND	2	ng/l
11CL-PF3OUdS		ND	1	ng/l
9CL-PF3ONS		ND	1	ng/l
ADONA		ND	1	ng/l
HFPO-DA		ND	1	ng/l



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C.O.C. PAGE # 1 OF 2 148226

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Clifford Yantz / Kevin Schneider
 COMPANY Ramboll
 ADDRESS 2090 Commonwealth Blvd
 CITY Ann Arbor STATE MI ZIP CODE 48105
 PHONE NO. _____ CELL NO. 313-333-0211 P.O. NO. 1940004462 TRSK 37
 E-MAIL ADDRESS Kevin.Schneider@Ramboll.com Clifford.Yantz@Ramboll.com QUOTE NO. _____

CONTACT NAME SAME
 COMPANY _____
 ADDRESS _____
 CITY _____ STATE _____ ZIP CODE _____
 PHONE NO. _____ E-MAIL ADDRESS _____

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME RACER Coldwater Road SAMPLER(S) - PLEASE PRINT/SIGN NAME Kevin Schneider
 TURNAROUND TIME REQUIRED 1 DAY 2 DAYS 3 DAYS STANDARD OTHER _____
 DELIVERABLES REQUIRED STD LEVEL II LEVEL III LEVEL IV EDD OTHER _____

MATRIX W=WATER GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
 CODE: SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR WS=WASTE

Containers & Preservatives

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	COLLECTION		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	PFAS (7779)	Certifications	
	DATE	TIME												<input type="checkbox"/> OHIO VAP	<input type="checkbox"/> Drinking Water
37064.01	6/10/22	1530	OBG MW-24	GW	3	3							X	<input type="checkbox"/> DoD	<input type="checkbox"/> NPDES
.02	6/10/22	1538	OBG MW-13	GW	3	3							X	<input type="checkbox"/> Detroit	<input type="checkbox"/> New York
.03	6/10/22	1212	OBG MW-21	GW	3	3							X	<input type="checkbox"/> Other _____	Special Instructions
.04	6/12/22	1312	OBG MW-125	GW	3	3							X	Low Level Reporting with estimated values	
.05	6/13/22	1428	OBG MW-28	GW	3	3							X		
.06	6/13/22	1455	OBG MW-9	GW	3	3							X		
.07	6/13/22	1558	OBG MW-23	GW	3	3							X		
.08	6/13/22	1658	OBG MW-29	GW	3	3							X		
.09	6/13/22	1640	OBG MW-175	GW	3	3							X		
.10	6/13/22	—	MW-DUP-061322	GW	3	3							X		
.11	6/14/22	1008	OBG MW-11	GW	3	3							X		

RELINQUISHED BY: Kevin Schneider Sampler DATE 6/14/22 TIME 10:45
 RECEIVED BY: [Signature] DATE 6/14/22 TIME 14:10
 RELINQUISHED BY: [Signature] DATE 6/14/22 TIME 15:20
 RECEIVED BY: Johann Murray DATE 6/14/22 TIME 15:20

RELINQUISHED BY: _____ DATE _____ TIME _____
 RECEIVED BY: _____ DATE _____ TIME _____
 SEAL NO. _____ SEAL INTACT YES NO INITIALS _____
 SEAL NO. _____ SEAL INTACT YES NO INITIALS _____
 NOTES: TEMP. ON ARRIVAL 2.0

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



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C.O.C. PAGE # 2 OF 2

144811

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME *Clifford Yantz / Kevin Schneider*

COMPANY *Ramboll*

ADDRESS *2090 Commonwealth Blvd*

CITY *Ann Arbor* STATE *Mi* ZIP CODE *48105*

PHONE NO. *313-333-0211* FAX NO. _____ P.O. NO. *1940041002 Task 37*

E-MAIL ADDRESS *Kevin.Schneider@Ramboll.com* *Clifford.Yantz@Ramboll.com* QUOTE NO. _____

CONTACT NAME SAME

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____

PHONE NO. _____ E-MAIL ADDRESS _____

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME *RACER Coldwater Road* SAMPLER(S) - PLEASE PRINT/SIGN NAME *Kevin Schneider* *[Signature]*

TURNAROUND TIME REQUIRED 1 DAY 2 DAYS 3 DAYS STANDARD OTHER _____

DELIVERABLES REQUIRED STD LEVEL II LEVEL III LEVEL IV EDD OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIFE A=AIR W=WASTE

Containers & Preservatives _____

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	PFAS (797a)	PFAS TOP Analysis							Certifications		Project Locations		Special Instructions
	DATE	TIME																			<input type="checkbox"/> OHIO VAP	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> DoD	<input type="checkbox"/> NPDES	
<i>37064.13</i>	<i>6/14/22</i>	<i>1052</i>	<i>OBG MW-14</i>	<i>GW</i>	<i>12</i>	<i>12</i>							<i>X</i>	<i>X</i>											<i>Low level Reporting with estimated values</i>
<i>14.13</i>	<i>6/14/22</i>	<i>1152</i>	<i>OBG MW-22</i>	<i>GW</i>	<i>12</i>	<i>12</i>							<i>X</i>	<i>X</i>											
<i>15.14</i>	<i>6/14/22</i>	<i>1420</i>	<i>OBG MW-26</i>	<i>GW</i>	<i>12</i>	<i>12</i>							<i>X</i>	<i>X</i>											
<i>16.15</i>	<i>6/14/22</i>	<i>1250</i>	<i>OBG MW-27</i>	<i>GW</i>	<i>3</i>	<i>3</i>							<i>X</i>												
<i>17.16</i>	<i>6/14/22</i>	<i>—</i>	<i>MW-DUP-061422</i>	<i>GW</i>	<i>3</i>	<i>3</i>							<i>X</i>												
<i>18.17</i>	<i>6/14/22</i>	<i>1154</i>	<i>Field Blank-061422</i>	<i>L</i>	<i>1</i>	<i>1</i>							<i>X</i>												

RELINQUISHED BY: *[Signature]* DATE *6/14/22* TIME *1430*

RECEIVED BY: *[Signature]* DATE *6/14/22* TIME *1430*

RELINQUISHED BY: *[Signature]* DATE *6/14/22* TIME *1530*

RECEIVED BY: *[Signature]* DATE *6/14/22* TIME *1530*

RELINQUISHED BY: _____ DATE _____ TIME _____

RECEIVED BY: _____ DATE _____ TIME _____

SEAL NO. _____ SEAL INTACT YES NO INITIALS _____

SEAL NO. _____ SEAL INTACT YES NO INITIALS _____

NOTES: TEMP. ON ARRIVAL *2.0*

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE