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2023 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 2023 annual per- and polyfluoroalkyl substances (PFAS) groundwater sampling event conducted in June 2023 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 repellant 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 repellant 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 2023 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 5, 2023, and June 12, 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 EGLE approved 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 collected with a separate 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 laboratory supplied containers, 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). For the first time a total of 34 PFAS were included on the analyte list. The following QC samples were collected: a field duplicates, field (ambient) blanks and an equipment blank.

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-3, OBG MW-4, OBG MW-5, OBG MW-6, 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-25R, OBG MW-26, OBG MW-28, MW-19-13, MW-20-13, and PZ-3R. Monitoring wells OBG MW-2 and OBG MW-7 were not gauged due to bee's nests within the protective stickup casing. The nests will be removed during the winter of 2024.

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.

As discussed in the February 9, 2023, Technical Memorandum to EGLE, Piezometer PZ-1 was abandoned on December 21, 2022, due to being in standing water after the completion of the storm water modifications. During the same event, monitoring well OBG MW-25 and piezometer PZ-3 were replaced to provide water quality data, as needed and appropriate, and more importantly water level data just outside of the Middle Pond.

The replacement well for OBG MW-25, OBG MW-25R (2022), was placed approximately 20 feet south and a few feet west of the original well location based on the GPS coordinates for the original well location. The replacement well for PZ-3, PZ-3R (2022), was installed about 70 feet west-southwest of its original GPS coordinates.

A groundwater elevation contour map was prepared for the perched zone (**Figure 2**) and a potentiometric surface contour map was prepared for the deeper drift unit (**Figure 3**). Additional site monitoring wells (not part of the landfill monitoring program) were used to aid in the creation of the contour maps. When reviewing the groundwater elevation contour map for the perched zone please keep in mind that groundwater in the perched zone includes discontinuous perched saturated zones within an otherwise clayey matrix.

Based on these contours, the groundwater flow direction in the perched zone appears to be predominantly toward the northwest but turning toward the west in the westward extension of the Site. The perched zone static water elevations were generally higher compared to the previous gauging event (October 2022), yet consistent with historical data. It is noted that the late summer and fall of 2022 were unusually dry.

The drift unit static water elevations were consistent with historical data and the previous gauging event (October 2022). Groundwater in the drift unit flows in a southerly direction.

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 to 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-14 and MW-DUP-061423 (OBG MW-14) were within acceptable limits; except for constituent perfluoropentanoic acid (PFPeA) which was detected at 8.5 ng/l in the original sample and was detected at 6.1 ng/l in the duplicate, perfluorohexanoic acid (PFHxA) which was detected at 6.0 ng/l in the original sample and was detected at 4.5 ng/l in the duplicate, and perfluorooctanoic acid (PFOA) which was detected at 28 ng/l in the original sample and was detected at 22 ng/l in the duplicate. Therefore, the sample result for PFPeA, PFHxA, and PFOA in OBG MW-14 and MW-DUP-061423 should be considered as estimated (J).

The RPD for the duplicate sample results for OBG MW-17S and MW-DUP-061323 (OBG MW-17S) were within acceptable limits; except for constituent PFOA which was detected at 2.9 ng/l in the original sample and was detected at 2.2 ng/l in the duplicate and perfluoroheptane sulfonic acid (PFHpS) which was detected at 4.2 ng/l in the original sample and was detected at 2.9 ng/l in the duplicate. Therefore, the sample result for PFOA and PFHpS in OBG MW-17S and MW-DUP-061323 should be considered as estimated (J).

The RPD for the duplicate sample results for Vault-C and Vault-DUP-060623 (Vault-C) were within acceptable limits; except for perfluorobutanoic acid (PFBA) which was detected at 12 ng/L in the original sample and was below the reporting limit of <9.9 ng/L and perfluorobutane sulfonic acid (PFBS) which was detected at 4.7 ng/l in the original sample and was detected at 5.9 ng/l in the duplicate. Therefore, the sample result for PFBA and PFBS in Vault-C and Vault-DUP-060623 should be considered as estimated (J).

No PFAS were detected in the field blanks or equipment blank 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).

PFAS detections above EGLE Screening Levels for the June 2023 event in the perched zone were limited to PFOA at three wells OBG MW-11 (27 ng/l), OBG MW-14 (28 ng/l) and MW-DUP-061423 (22 ng/l), and OBG MW-26 (21 ng/l); PFHxS at two wells OBG MW-11 (310 ng/l), OBG MW-14 (170 ng/l) and MW-DUP-061423 (150 ng/l); and PFOS at seven wells (B-7, OBG MW-11, OBG MW-12S, OBG MW-14, MW-

DUP-061423, OBG MW-17S, MW-DUP-061323, OBG MW-22, and OBG MW-26) with concentrations ranging up to 1,600 ng/l at OBG MW-14.

Drift Unit Analytical Results

As indicated in both **Table 3** and **Figure 5** PFAS results from B-27D, OBG MW-23 and OBG MW-29 in the drift unit were not detected above the reporting limit and are considered stable. At OBG MW-27 PFAS concentrations decreased compared to last event. The analytical results at OBG MW-27 detected PFOA at a concentration of 11 ng/L and PFOS was detected at a concentration of 450 ng/l. OBG MW-27 is delineated to the south by non-detect or below criteria PFAS concentrations at OBG MW-29. The results from OBG MW-29 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 2023 event were limited to PFOA at Vault-C (8.3 ng/L) and Vault-E (14 ng/l) and PFOS at Vault-A (370 ng/l), Vault-C (360 ng/l), Vault-DUP-060623 (330 ng/L), and Vault-E (520 ng/l).

It is noted that one of the new PFAS analytes, Perfluoro-4-ethylcyclohexanesulfonate (PFECBS), was detected in several samples at concentrations similar to or greater than reported PFOS concentrations. There currently is no criterion for PFECBS to compare to.

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 2023 semiannual groundwater sampling event associated with landfill monitoring. This additional sampling will provide data to aid in evaluating the variability of the PFOS concentration at this location. The PFOS concentration increased (480 ng/l for PFOS) during the annual sampling event in June 2022, then was sampled again in November 2022 during the semiannual groundwater sampling event and had a concentration (68 ng/l for PFOS) which was similar to previous results, and then increased (450 ng/l for PFOS) during the most recent June 2023 annual sampling event.

The next annual PFAS sampling event is currently scheduled for June 2024. 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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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, 2023

Well ID	Top of Casing Elevation (ft)*	Depth to Water (ft)	Static Water Elevation (ft)
<i>Landfill Monitoring Wells</i>			
B-7	813.63	18.08	795.55
B-9	807.45	6.90	800.55
B-18A	810.85	23.55	787.30
B-19A	812.66	9.04	803.62
B-19AR	811.80	39.64	772.16
B-20D	815.14	70.12	745.02
B-21D	821.07	80.83	740.24
B-22D	822.15	84.40	737.75
B-23DR	812.12	80.87	731.25
B-24R	816.04	14.35	801.69
B-27D	812.70	75.65	737.05
B-28	816.46	6.61	809.85
OBG MW-16D	807.43	58.04	749.39
<i>former WWTP Monitoring Wells</i>			
OBG MW-1	811.56	6.10	805.46
OBG MW-2	813.77	--	
OBG MW-3	810.09	5.86	804.23
OBG MW-4	812.66	6.05	806.61
OBG MW-5	816.04	7.95	808.09
OBG MW-6	815.75	12.01	803.74
OBG MW-7	813.47	--	
OBG MW-8	817.50	10.04	807.46
OBG MW-9	809.97	4.48	805.49
OBG MW-10	811.54	7.08	804.46
<i>Additional Site Monitoring Wells</i>			
OBG MW-11	801.94	6.95	794.99
OBG MW-12D	797.13	47.68	749.45
OBG MW-12S	796.88	8.14	788.74
OBG MW-13	801.81	7.18	794.63
OBG MW-14	810.98	5.54	805.44
OBG MW-15D	810.68	79.48	731.20
OBG MW-17D	800.09	50.74	749.35
OBG MW-17S	800.51	11.03	789.48
OBG MW-18D	800.17	50.62	749.55
OBG MW-18S	799.32	14.27	785.05
OBG MW-19D	795.37	48.02	747.35
OBG MW-20	783.93	27.23	DRY
OBG MW-21	797.49	6.84	790.65
OBG MW-22	794.11	5.79	788.32
OBG MW-23 (D)	776.76	28.59	748.17
OBG MW-24	781.50	3.90	777.60
OBG MW-25R	783.12	6.66	776.46
OBG MW-26	772.34	6.33	766.01
OBG MW-27 (D)	771.94	23.65	748.29
OBG MW-28	800.35	12.61	787.74
OBG MW-29 (D)	773.28	25.44	747.84
<i>Piezometers</i>			
PZ-3R	785.36	7.26	778.10
<i>Peregrine Site Wells</i>			
MW-19-13	807.85	2.70	805.15
MW-20-13	810.81	4.24	806.57
MW-15-10	808.15	76.65	731.50
MW-16-10	798.64	66.93	731.71
PFW-1	809.51	77.62	731.89

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, except for OBG MW-25R and PZ-3R that were surveyed in April 2023.

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. PZ-1 was abandoned on December 21, 2022 due to being flooded during high Middle Pond levels. Monitoring wells OBG MW-25R and PZ-3R were replaced on December 21, 2022.

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	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	6/9/2023
Perfluorobutanoic Acid (PFBA)	--	--	--	9.2 J	7.1 J	8.2 B	<20	10	<9.9	<10	<9.9
Perfluoropentanoic Acid (PFPeA)	--	--	--	2.6	1.7 J	4.2	<9.8	1.2 J	2.2 J	2.3 J	1.6 J
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	--	--	<9.8	<2.0	<2.0	<2.1	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	3.9	3.1	3.3	<9.8	2.0 J	3.1	3.2	2.1
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	5.7	5.8	4.1	<9.8	4.8	5.4	4.4	3.5
Perfluoroheptanoic Acid (PFHpA)	--	--	--	2.4	1.6 J	2.3	<9.8	<2	<2.0	1.4 J	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	--	--	--	<9.8	5.1	5.4	4.8	5.2
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<3.8	<3.7	--	<20	<2.0	8.6	<2.1	9.6
Perfluorooctanoic Acid (PFOA)	8	170	--	9.2 JN	7.6 JN	9.2	<9.8	5.6	5.3	5.1	4.9
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	23	22 JN	18 B	<19	17	15	16	12
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	--	--	<14	13	12	13	9.9
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	--	--	<9.8	3.3	2.7	2.6	2.1
Perfluorononanoic Acid (PFNA)	6	--	--	0.87 J	0.79 J	0.82 J	<9.8	<2.0	<2.0	<2.1	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	--	--	<9.8	<2.0	<2.0	<2.1	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	3.8	3.9	3.0	<9.8	2.4	2.0	2.4	<2.0
Perfluorodecanoic Acid (PFDA)	--	--	--	<2.0	<2.0	<2.0	<9.8	<2.0	<2.0	<2.1	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	--	--	<9.8	<2.0	<2.0	<2.1	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	--	--	<9.8	<4.1	<3.9	<4.1	<4.0
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	220	230	130	140	140	90	87	89
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	--	--	--	72	84	46	48	50
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	--	--	--	20	57	42	38	35
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<2.0	<2.0	<2.0	<9.8	<2.0	<2.0	<2.1	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	--	--	<9.8	<2.0	<2.0	<2.1	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<2.0	<2.0	<2.0	<9.8	<2.0	<2.0	<2.1	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<2.0	<2.0	<2.0	<9.8	<2.0	<2.0	<2.1	<2.0
Perfluorotridecanoic Acid (PFTriDA)	--	--	--	<2.0	<2.0	<2.0	<9.8	<2.0	<2.0	<2.1	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<0.64 UJ	<0.62 UJ	<0.34	<9.8	<2.0	<2.0	<2.1	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<2.0 U	<2.0 U	<0.28	<9.8	<4.1	<3.9	<4.1	<4.0
11-chlorooctadecafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	--	--	--	--	<2.0	<2.0	<2.1	<2.0
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	--	--	--	<2.0	<2.0	<2.1	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	--	<2.0	<2.0	<2.1	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	--	<2.0	<9.9	<10	<4.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--	--	<4.0
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--	--	<4.0
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--	--	<4.0
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--	--	<2.0
Perfluoro-4-ethylcyclohexanesulfonate (PFECyHS)	--	--	--	--	--	--	--	--	--	--	240
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--	--	<2.0
Total Per-and Polyfluoroalkyl Substances	--	--	--	280.7	283.6	183.1	140.0	188.1	137.0		367.9

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		B-9	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	6/9/2023
Perfluorobutanoic Acid (PFBA)	--	--	--	--	14 B	9.5 B	<19	28	16	22	<10
Perfluoropentanoic Acid (PFPeA)	--	--	--	--	2.2	1.7 J	<9.4	1.0 J	3.2 J	3.6 J	<4.0
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	--	--	<9.4	<2.0	<1.9	<2.1	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	--	9.3	7.0	<9.4	4.3	9.5	14	3.9
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	--	2.3	2.1	<9.4	2.3	3.6	2.9	2.1
Perfluoroheptanoic Acid (PFHpA)	--	--	--	--	4.2	<0.24	<9.4	<2.0	1.8 J	2.6	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	--	--	--	<9.4	<2.0	1.8 J	<2.1	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	--	<3.7	--	<9.4	<2.0	2.9 J	<2.1	<2.0
Perfluorooctanoic Acid (PFOA)	8	170	--	--	15	12	<9.4	<2.0	8.2	8.3	5.0
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	--	6.9	3.7 B	<9.4	5.1	6.4	9.1	5.8
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	--	--	<9.4	4.2	5.5	7.7	4.5
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	--	--	<9.4	<2.0	<1.9	<2.1	<2.0
Perfluorononanoic Acid (PFNA)	6	--	--	--	<0.64	<0.26	<9.4	<2.0	<1.9	<2.1	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	--	--	<9.4	<2.0	<1.9	<2.1	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	--	0.70 J	0.33 J	<9.4	<2.0	<1.9	<2.1	<2.0
Perfluorodecanoic Acid (PFDA)	--	--	--	--	<0.43	<1.9	<9.4	<2.0	<1.9	<2.1	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	--	--	<9.4	<2.0	<1.9	<2.1	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	--	--	<9.4	<4.1	<3.9	<4.1	<4.0
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	--	13	9.3	16	16	21	21	13
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	--	--	--	<9.4	<2.0	<1.9	2.5	<2.0
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	--	--	--	13	13	18	18	11
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	--	<0.73	<1.9	<9.4	<2.0	<1.9	<2.1	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	--	--	<9.4	<2.0	<1.9	<2.1	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	--	--	<0.57	<1.9	<9.4	<2.0	<1.9	<2.1	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	--	<1.2	<1.9	<9.4	<2.0	<1.9	<2.1	<2.0
Perfluorotridecanoic Acid (PFTriDA)	--	--	--	--	<0.54	<1.9	<9.4	<2.0	<1.9	<2.1	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	--	--	3.3 J H	<0.33	<9.4	<2.0	<1.9	<2.1	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	--	1.2 J B	<0.27	<9.4	<4.1	<3.9	<4.1	<4.0
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UDS)	--	--	--	--	--	--	--	<2.0	<1.9	<2.1	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF30NS)	--	--	--	--	--	--	--	<2.0	<1.9	<2.1	<2.0
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	--	<2.0	<1.9	<2.1	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	--	<2.0	<9.7	<10	<4.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--	--	<4.0
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--	--	<4.0
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--	--	<4.0
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--	--	<2.0
Perfluoro-4-ethylcyclohexanesulfonate (PFECBS)	--	--	--	--	--	--	--	--	--	--	140
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--	--	<2.0
Total Per-and Polyfluoroalkyl Substances	--	--	--	--	72.1	45.6	16.0	56.7	74.4	83.5	169.8

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) 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		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 (PFDoDA)	--	--	--	<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 (PFTriDA)	--	--	--	<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-chloroeicosafluoro-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-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	--	<2.0	<1.9
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	--	<2.0	<1.9
3-Perfluorohexyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECyHS)	--	--	--	--	--	--	--	--	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--
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) 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	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	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	<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	<0.18	<8.5	<2.0
Perfluorodecanoic Acid (PFDA)	--	--	<2.0	<1.9	<9.9	<1.9	<0.41	<0.41	<0.41	<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	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	<1.9	<8.5	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	<9.9	<1.9	--	--	--	<8.5	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	<2.0	<1.9	<9.9	<1.9	<0.55	<1.9	<1.9	<8.5	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<2.0	<1.9	<9.9	<1.9	<1.1	<1.9	<1.9	<8.5	<2.0
Perfluorotridecanoic Acid (PFTriDA)	--	--	<2.0	<1.9	<9.9	<1.9	<0.52	<1.9	<1.9	<8.5	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	<0.63 UJ	<0.33	<9.9	<1.9	0.66 J	<0.32	<0.32	<8.5	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<2.0 U	<0.27	<9.9	<3.8	<0.19	<0.27	<0.27	<8.5	<3.9
11-chlorooicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	--	--	--	<1.9	--	--	--	--	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-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
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--	--	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--	--	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--	--	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--	--	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECyHS)	--	--	--	--	--	--	--	--	--	--	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--	--	--
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.
- 3) < = Not detected at specified reporting limit.
- 4) -- = Not analyzed/No criteria.
- 5) * = Monitoring well has been abandoned.
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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	<0.72	<10	
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	<0.84	0.27 J/B	<8.9	<2.0	<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	<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	<0.69	<10	
Perfluorodecanoic Acid (PFDA)	--	--	<0.43	<1.9	<8.9	<2.0	<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	<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	<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	<0.57	<10	
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<1.2	<1.9	<8.9	<2.0	<10	<1.2	<10	
Perfluorotridecanoic Acid (PFTriDA)	--	--	<0.53	<1.9	<8.9	<2.0	<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	1.0 J B	<10	
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UDS)	--	--	--	--	--	<2.0	--	--	--	
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF30NS)	--	--	--	--	--	<2.0	--	--	--	
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	<2.0	--	--	--	
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	<2.0	--	--	--	
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--	
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--	
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--	
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--	
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	--	--	
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--	
Total Per- and Polyfluoroalkyl Substances	--	--	7.5	3.1	0.0	0.0	30.0	10.0	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.
- 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-8	OBG-MW-9	OBG MW-9	OBG MW-9 REPLICATE 01	OBG MW-9	OBG MW-9	OBG MW-9	OBG MW-9
	Sample Date:	Drinking Water	GSI	9/20/2018	6/20/2017	9/20/2018	9/20/2018	6/19/2020	6/15/2021	6/13/2022	6/12/2023
Perfluorobutanoic Acid (PFBA)	--	--	--	<20	1.4 J B	<20	<20	24	<9.8	<10	<9.8
Perfluoropentanoic Acid (PFPeA)	--	--	--	<10	<0.94	<10	<10	<3.8	<3.9	<4.1	<3.9
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<10	--	<10	<10	<1.9	<2.0	<2.1	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	<10	<0.75	<10	<10	<1.9	<2.0	<2.1	<2.0
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	<10	2.0	<10	<10	1.7 J	2.1	1.8 J	<2.0
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<10	<0.76	<10	<10	<1.9	<2.0	<2.1	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	<10	--	<10	<10	<1.9	<2.0	<2.1	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<10	<3.6	<10	<10	6.4	<3.9	<2.1	<2.0
Perfluorooctanoic Acid (PFOA)	8	170	20	1.1 J	<10	<10	<10	<1.9	<2.0	<2.1	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	70	5.0	<10	<10	<10	3.2	2.4	3.4 1	2.5
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	60	--	<10	<10	<10	2.5	1.7 J	2.5 1	1.7 J
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	<10	--	<10	<10	<10	<1.9	<2.0	<2.1	<2.0
Perfluorononanoic Acid (PFNA)	6	--	<10	<0.62	<10	<10	<10	<1.9	<2.0	<2.1	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	<10	--	<10	<10	<10	<1.9	<2.0	<2.1	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	30	<0.68	<10	<10	<10	<1.9	<2.0	<2.1	<2.0
Perfluorodecanoic Acid (PFDA)	--	--	<10	<0.42	<10	<10	<10	<1.9	<2.0	<2.1	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	<10	--	<10	<10	<10	<1.9	<2.0	<2.1 I	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	<10	--	<10	<10	<10	<3.8	<3.9	3.3 J	<3.9
Perfluorooctane Sulfonic Acid (PFOS)	16	12	2710	2.9	<10	<10	<10	11	3.1	4.0	3.5
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	1570	--	<10	<10	<10	6.4	<2.0	<2.1	<2.0
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	1270	--	<10	<10	<10	3.7	<2.0	2.1	<2.0
Perfluoroundecanoic Acid (PFUnDA)	--	--	<10	<0.71	<10	<10	<10	<1.9	<2.0	<2.1	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	<10	--	<10	<10	<10	<1.9	<2.0	<2.1	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	<10	<0.55	<10	<10	<10	<1.9	<2.0	<2.1	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<10	<1.1	<10	<10	<10	<1.9	<2.0	4.9	<2.0
Perfluorotridecanoic Acid (PFTriDA)	--	--	<10	<0.52	<10	<10	<10	<1.9	<2.0	<2.1	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	<10	<0.61	<10	<10	<10	<1.9	<2.0	<2.1	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<10	<0.19	<10	<10	<10	<3.8	<3.9	<4.1	<3.9
11-chlorooctadecafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF30UDS)	--	--	--	--	--	--	--	<1.9	<2.0	<2.1	<2.0
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF30NS)	--	--	--	--	--	--	--	<1.9	<2.0	<2.1	<2.0
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	--	<1.9	<2.0	<2.1	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	--	<1.9	<9.8	<10	<2.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--	--	<3.9
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--	--	<3.9
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--	--	<3.9
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--	--	<2.0
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	--	--	--	32
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--	--	<2.0
Total Per-and Polyfluoroalkyl Substances	--	--	2830.0	12.4	0.0	0.0	46.3	7.6	17.4	38.0	

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-11	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	6/14/2023
Perfluorobutanoic Acid (PFBA)	--	--	--	29 B	<19	34	24	49	25
Perfluoropentanoic Acid (PFPeA)	--	--	--	5.7	<9.7	6.6	6.8	4.9	8.8
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	<9.7	<2.0	<2.1	<2.0	<1.9
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	29	17	19	16	17	15
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	79	350	190	52	74	74
Perfluoroheptanoic Acid (PFHpA)	--	--	--	14	<9.7	8.8	7.3	7.4	5.5
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	160	94	98	94	120	94
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	5.4 JB	<9.7	<2.0	<4.2	<2.0	<1.9
Perfluorooctanoic Acid (PFOA)	8	170	--	54	34	25	27	31	27
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	450 B	370	440	380	410 1	310
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	310	370	310	350 1	260
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	58	71	61	67	55
Perfluorononanoic Acid (PFNA)	6	--	--	<0.22	<9.7	<2.0	<2.1	<2.0	<1.9
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	<9.7	<2.0	<2.1	<2.0 I	<1.9
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	13	<12	13	9.9	10 1	8.0
Perfluorodecanoic Acid (PFDA)	--	--	--	<1.6	<9.7	<2.0	<2.1	<2.0	<1.9
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	<9.7	<2.0	<2.1	<2.0 I	<1.9
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	<9.7	<3.9	<4.2	<4.0	<3.9
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	110	130	160	110	120	100
Perfluorooctane Sulfonic Acid (PFOS -LN)	--	--	--	--	19	26	18	17	16
Perfluorooctane Sulfonic Acid (PFOS -BR)	--	--	--	--	110	130	85	100	82
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<1.6	<9.7	<2.0	<2.1	<2.0	<1.9
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	<9.7	<2.0	<2.1	<2.0	<1.9
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<1.6	<9.7	<2.0	<2.1	<2.0	<1.9
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<1.6	<9.7	<2.0	<2.1	<2.0	<1.9
Perfluorotridecanoic Acid (PFTrDA)	--	--	--	<1.6	<9.7	<2.0	<2.1	<2.0	<1.9
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<0.28	<9.7	<2.0	<2.1	<2.0	<1.9
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<0.24	<9.7	<3.9	<4.2	<4.0	<3.9
11-chloroicosafauro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	--	--	--	<2.0	<2.1	<2.0	<1.9
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)	--	--	--	--	--	<2.0	<2.1	<2.0	<1.9
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	<2.0	<2.1	<2.0	<1.9
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	<2.0	<10	<10	<1.9
3-Perfluorohexyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	<3.9
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	<3.9
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	<3.9
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	<1.9
Perfluoro-4-ethylcyclohexanesulfonate (PFECBS)	--	--	--	--	--	--	--	--	2400
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	<1.9
Total Per-and Polyfluoroalkyl Substances	--	--	--	949.1	995.0	994.4	727.0	843.3	3067.3

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-12S	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	6/22/2020	6/15/2021	6/12/2022	6/13/2023
Perfluorobutanoic Acid (PFBA)	--	--	--	<20	<19	19	<10	<10	<10
Perfluoropentanoic Acid (PFPeA)	--	--	--	<10	<9.5	<3.9	<4.1	<4.1	<4.0
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.0
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	<10	<9.5	3.7	4.1	3.9 1	3.4
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	<10	<9.5	5.1	4.6	5.5	4.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<10	<9.5	5.6	2.1 J	<2.1	<2.0
Perfluorooctanoic Acid (PFOA)	8	170	--	<10	<9.5	<2.0	<2.0	<2.1	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	20	15	17	14	19 1	14
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	10	12	15	11	16 1	11
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	<10	<9.5	2.4	2.3	2.8 1	2.3
Perfluorononanoic Acid (PFNA)	6	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	<10	<9.5	<2.0	<2.0	<2.1 I	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	<10	<9.5	4.9	5.0	5.9	4.8
Perfluorodecanoic Acid (PFDA)	--	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	<10	<9.5	<3.9	<4.1	<4.2	<4.0
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	300	150	220	180	210	170
Perfluorooctane Sulfonic Acid (PFOS -LN)	--	--	--	50	23	42	32	39	36
Perfluorooctane Sulfonic Acid (PFOS -BR)	--	--	--	250	130	180	140	170	130
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.0
Perfluorotridecanoic Acid (PFTriDA)	--	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<10	<9.5	<2.0	<2.0	<2.1	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<10	<9.5	<3.9	<4.1	<4.2	<4.0
11-chlorooicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF30UdS)	--	--	--	--	--	<2.0	<2.0	<2.1	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF30NS)	--	--	--	--	--	<2.0	<2.0	<2.1	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	<2.0	<2.0	<2.1	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	<2.0	<10	<10	<2.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	<4.0
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	<4.0
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	<4.0
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	<2.0
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	--	1000
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	<2.0
Total Per-and Polyfluoroalkyl Substances	--	--	--	320.0	165.0	275.3	209.8	244.3	1196.2

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-13	OBG MW-13	OBG MW-13	OBG MW-13	OBG MW-13	OBG MW-13
	Sample Date:	Drinking Water	GSI	10/19/2018	6/6/2019	6/19/2020	6/14/2021	6/10/2022	6/12/2023
Perfluorobutanoic Acid (PFBA)	--	--	<20	<19	13	<10	<10	<10	<9.8
Perfluoropentanoic Acid (PFPeA)	--	--	<10	<9.7	<3.8	<4.1	<4.1	<4.1	<3.9
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluoroheptanoic Acid (PFHpA)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	<10	<9.7	2.3	5.1	<2.1	<2.1	<2.0
Perfluorooctanoic Acid (PFOA)	8	170	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorononanoic Acid (PFNA)	6	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorodecanoic Acid (PFDA)	--	--	<20	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	<10	<9.7	<3.8	<4.1	<4.1	<4.1	<3.9
Perfluorooctane Sulfonic Acid (PFOS)	16	12	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluoroundecanoic Acid (PFUnDA)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorotridecanoic Acid (PFTrDA)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	<10	<9.7	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<10	<9.7	<3.8	<4.1	<4.1	<4.1	<3.9
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	--	--	<1.9	<2.1	<2.1	<2.1	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)	--	--	--	--	<1.9	<2.1	<2.1	<2.1	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	<1.9	<2.1	<2.1	<2.1	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	<1.9	<10	<10	<10	<2.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	<3.9
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	<3.9
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	<3.9
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	<2.0
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	--	<2.0
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	<2.0
Total Per-and Polyfluoroalkyl Substances	--	--	0.0	0.0	15.3	5.1	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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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	OBG MW-14	MW-DUP-061423 (OBG MW-14)
	Sample Date:	Drinking Water	GS1	10/19/2018	6/6/2019	6/25/2020	6/15/2021	6/14/2022	6/14/2022	6/14/2023	6/14/2023
Perfluorobutanoic Acid (PFBA)	--	--	--	<20	<20	36	23	21	51	21	18
Perfluoropentanoic Acid (PFPeA)	--	--	--	<10	<10	5.5	6.7	7.1	51	8.5	6.1
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<10	<10	<2.0	<2.0	<2.1	<6.0	<2.0	<2.1
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	<10	<10	4.9	5.6	8.3 1	44	6.0	4.5
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	10	18	23	21	27	19	22	20	20
Perfluoroheptanoic Acid (PFHpA)	--	--	<10	<10	3.1	3.9	3.8	6.5	3.3	3.5	3.5
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	20	32	45	42	53 1	37	49	45	45
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	<10	<10	6.5	<4.0	<2.1	<6.0	12	10	10
Perfluorooctanoic Acid (PFOA)	8	170	20	18	26	24	35	29	28	22	22
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	100	120	130	180	240 1	180	170	150	150
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	100	100	110	160	210 1	150	150	130	130
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	10	18	20	29	37 1	28	26	24	24
Perfluorononanoic Acid (PFNA)	6	--	<10	<10	<2.0	<2.0	<2.1	<6.0	<2.0	<2.1	<2.1
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	<10	<10	<2.0	<2.0	<2.1 I	<6.0 I	<2.0	<2.1	<2.1
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	20	32	28	44	44 1	42	38	36	36
Perfluorodecanoic Acid (PFDA)	--	--	<20	<10	<2.0	<2.0	<2.1	<6.0	<2.0	<2.1	<2.1
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	<10	<10	<2.0	<2.0	<2.1 I	<6.0	<2.0	<2.1	<2.1
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	<10	<10	<4.1	<4.0	<4.2	<12	<4.0	<4.1	<4.1
Perfluorooctane Sulfonic Acid (PFOS)	16	12	540	1100	1300	1500	1800	1300	1600	1500	1500
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	230	450	580	670	840	540	760	680	680
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	300	700	730	830	1000	680	860	770	770
Perfluoroundecanoic Acid (PFUnDA)	--	--	<10	<10	<2.0	<2.0	<2.1	<6.0	<2.0	<2.1	<2.1
Perfluorononane Sulfonic Acid (PFNS)	--	--	<10	<10	<2.0	<2.0	<2.1	<6.0	<2.0	<2.1	<2.1
Perfluorododecanoic Acid (PFDoDA)	--	--	<10	<10	<2.0	<2.0	<2.1	<6.0	<2.0	<2.1	<2.1
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<10	<10	<2.0	<2.0	<2.1	<6.0	<2.0	<2.1	<2.1
Perfluorotridecanoic Acid (PFTriDA)	--	--	<10	<10	<2.0	<2.0	<2.1	<6.0	<2.0	<2.1	<2.1
Perfluorooctane Sulfonamide (FOSA)	--	--	<10	<10	<2.0	<2.0	<2.1	<6.0	<2.0	<2.1	<2.1
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<10	<10	<4.1	<4.0	<4.2	<12	<4.0	<4.1	<4.1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	--	--	<2.0	<2.0	<2.1	<6.0	<2.0	<2.1	<2.1
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)	--	--	--	--	<2.0	<2.0	<2.1	<6.0	<2.0	<2.1	<2.1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	<2.0	<2.0	<2.1	<6.0	<2.0	<2.1	<2.1
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	<2.0	<10	<10	<6.0	<2.0	<2.1	<2.1
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	<4.0	<4.1	<4.1
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	<4.0	<4.1	<4.1
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	<4.0	<4.1	<4.1
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	<2.0	<2.1	<2.1
Perfluoro-4-ethylcyclohexanesulfonate (PFECBS)	--	--	--	--	--	--	--	--	5700	5500	5500
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	<2.0	<2.1	<2.1
Total Per-and Polyfluoroalkyl Substances	--	--	710.0	1320.0	1608.0	1850.2	2239.2	1759.5	7657.8	7315.1	7315.1

Notes

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- 6) Dup = Duplicate sample.
- 7) Concentration above the drinking water and/or groundwater surface water interface (GS1) criteria are highlighted in yellow.
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- 9) Light gray header is most recent sampling event result.
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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-17S	OBG MW-17S	OBG MW-17S (GW-DUP-2)	OBG MW-17S	OBG MW-17S (DUP-2)	OBG MW-17S	OBG MW-17S	OBG MW-17S	OBG MW-17S	MW-DUP-061323 (OBG MW-17S)
	Sample Date:	Drinking Water	GSI									
					1/2/2019	6/6/2019	6/6/2019	6/22/2020	6/22/2020	6/15/2021	6/13/2022	6/13/2023
Perfluorobutanoic Acid (PFBA)	--	--	--	<20	<20	<20	26	27	11	11	<9.9	<10
Perfluoropentanoic Acid (PFPeA)	--	--	--	<10	<9.8	<10	<3.9	<3.9	2.0 J	<3.9	<3.9	<4.0
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	<10	<9.8	<10	<1.9	<1.9	1.9 J	<1.9	<2.0	<2.0
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	<10	<9.8	<10	2.0	1.9 J	2.6	2.7	2.1	2.3
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	<10	<9.8	<10	1.7 J	1.8 J	3.0	2.8	2.6	2.6
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<10	<9.8	<10	<1.9	<1.9	<4.0	<1.9	<2.0	<2.0
Perfluorooctanoic Acid (PFOA)	8	170	--	<10	<9.8	<10	1.6 J	<1.9	2.0	2.2	2.9	2.2
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	<10	11	15	9.7	8.7	9.7	13 1	9.6	8.7
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	<10	9.9	13	8.5	7.1	7.8	11 1	7.8	7.3
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	<10	<9.8	<10	<1.9	1.8 J	1.7 J	1.7 J1	<2.0	<2.0
Perfluorononanoic Acid (PFNA)	6	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	<10	<9.8	<10	5.2	4.7	3.7	5.0 1	4.2	2.9
Perfluorodecanoic Acid (PFDA)	--	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	<10	<9.8	<10	<3.9	<3.9	<4.0	<3.9	<3.9	<4.0
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	460	430	470	580	590	460	540	380	400
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	210	210	240	310	330	260	300	220	230
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	250	220	240	290	280	200	240	160	170
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorotridecanoic Acid (PFTTrDA)	--	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<10	<9.8	<10	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<10	<9.8	<10	<3.9	<3.9	<4.0	<3.9	<3.9	<4.0
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	--	--	--	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	--	--	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	<1.9	<1.9	<9.9	<9.7	<2.0	<2.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--	--	<3.9	<4.0
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--	--	<3.9	<4.0
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--	--	<3.9	<4.0
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--	--	<2.0	<2.0
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	--	--	--	580	580
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--	--	<2.0	<2.0
Total Per- and Polyfluoroalkyl Substances	--	--	--	460.0	441.0	485.0	626.2	634.1	495.9	576.7	981.4	998.7

Notes

- 1) Detections in **bold**.
- 2) Concentrations in na/L.
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- 6) Dup = Duplicate sample.
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- 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	OBG MW-18S	OBG MW-18S	OBG MW-18S	OBG MW-18S	OBG MW-18S
	Sample Date:		Drinking Water GSI	1/3/2019	6/4/2019	6/19/2020	6/10/2021	6/10/2022	6/13/2023
Perfluorobutanoic Acid (PFBA)	--	--	--	<20	<19	16	<10	<10	<9.9
Perfluoropentanoic Acid (PFPeA)	--	--	--	<10	<9.5	<4.1	<4.1	<4.2	<3.9
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<10	<9.5	<2.1	12	<2.1	<2.0
Perfluorooctanoic Acid (PFOA)	8	170	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	<10	<9.5	1.9 J	2.0 J	2.3	2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluorononanoic Acid (PFNA)	6	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluorodecanoic Acid (PFDA)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	<10	<9.5	<4.1	<4.1	<4.2	<3.9
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluorooctane Sulfonic Acid (PFOS -LN)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluorooctane Sulfonic Acid (PFOS -BR)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluorotridecanoic Acid (PFTriDA)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<10	<9.5	<2.1	<2.0	<2.1	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<10	<9.5	<4.1	<4.1	<4.2	<3.9
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	--	--	--	--	--	<2.1	<2.0	<2.1	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF30NS)	--	--	--	--	--	<2.1	<2.0	<2.1	<2.0
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	<2.1	<2.0	<2.1	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	<2.1	<10	<10	<2.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	<3.9
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	<3.9
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	<3.9
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	<2.0
Perfluoro-4-ethylcyclohexanesulfonate (PFECBS)	--	--	--	--	--	--	--	--	9.1
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	<2.0
Total Per-and Polyfluoroalkyl Substances	--	--	--	0.0	0.0	17.9	14.0	2.3	11.1

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	OBG MW-21	OBG MW-21	OBG MW-21	OBG MW-21	OBG MW-21	
	Sample Date:	Drinking Water								GSI
			1/2/2019	6/4/2019	6/18/2020	6/14/2021	6/12/2022	6/14/2023		
Perfluorobutanoic Acid (PFBA)	--	--	<20	<20	24	<10	<9.5	<10.0		
Perfluoropentanoic Acid (PFPeA)	--	--	<10	<9.8	<4.1	<4.1	<3.8	<4.0		
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	<2.0		
Perfluorohexanoic Acid (PFHxA)	400,000	--	<10	<9.8	<2.1	1.8 J	<1.9	1.4 J		
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	<10	<9.8	8.9	2.6	3.2 1	2.2		
Perfluoroheptanoic Acid (PFHpA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	<2.0		
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	<10	<9.8	2.2	3.3	4.3 1	2.6		
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	<10	<9.8	<2.1	5.7	<1.9	<2.0		
Perfluorooctanoic Acid (PFOA)	8	170	<10	<9.8	<2.1	<2.1	<1.9	<2.0		
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	<10	<9.8	3.2	4.3	6.2 1	3.5		
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	<10	<9.8	1.6 J	2.5	3.4 1	2.0		
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	<10	<9.8	1.8 J	1.7 J	2.8 1	<2.0		
Perfluorononanoic Acid (PFNA)	6	--	<10	<9.8	<2.1	<2.1	<1.9	<2.0		
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	<2.0		
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	<10	<9.8	<2.1	<2.1	<1.9	<2.0		
Perfluorodecanoic Acid (PFDA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	<2.0		
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	<2.0		
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	<10	<9.8	<4.1	<4.1	<1.9	<4.0		
Perfluorooctane Sulfonic Acid (PFOS)	16	12	<10	<9.8	<2.1	<2.1	2.1 1	<3 X		
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	<10	<9.8	<2.1	<2.1	<1.9	<3 X		
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	<10	<9.8	<2.1	<2.1	<1.9	<3 X		
Perfluoroundecanoic Acid (PFUnDA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	<2.0		
Perfluorononane Sulfonic Acid (PFNS)	--	--	<10	<9.8	<2.1	<2.1	<1.9	<2.0		
Perfluorododecanoic Acid (PFDoDA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	<2.0		
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<10	<9.8	<2.1	<2.1	<1.9	<2.0		
Perfluorotridecanoic Acid (PFTrDA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	<2.0		
Perfluorooctane Sulfonamide (FOSA)	--	--	<10	<9.8	<2.1	<2.1	<1.9	<2.0		
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<10	<9.8	<4.1	<4.1	<3.8	<4.0		
11-chloroicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	--	--	<2.1	<2.1	<1.9	<2.0		
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)	--	--	--	--	<2.1	<2.1	<1.9	<2.0		
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	--	<2.1	<2.1	<1.9	<2.0		
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	<2.1	<10	<9.5	<2.0		
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	<4.0		
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	<4.0		
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	<4.0		
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	<2.0		
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	400		
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	<2.0		
Total Per-and Polyfluoroalkyl Substances	--	--	0.0	0.0	38.3	17.7	15.8	409.7		

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.
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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-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
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 (PFTTrDA)	--	--	<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-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	--	--	--	<2.0	<2.1	<2.0		
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	--	--	<2.0	<2.1	<2.0		
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	<2.0	<2.1	<2.0		
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	<2.0	<10	<10		
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--		
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--		
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--		
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--		
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	--	--		
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--		
Total Per-and Polyfluoroalkyl Substances	--	--	1700.0	1900.0	1884.0	1878.6	2387.2	1968.7	1970.6		

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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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	MW-DUP-061422 (OBG MW-22)	OBG MW-22 Replicate	MW-DUP-061422 (OBG MW-22) Replicate	OBG MW-22 TOPs Analysis	OBG MW-22
		Drinking Water	GSI						
	Sample Date:			6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2023
Perfluorobutanoic Acid (PFBA)	--	--	--	<10	13	<100 Y	<100 Y	35	<10
Perfluoropentanoic Acid (PFPeA)	--	--	--	<4.0	<4.1	<40 Y	<41 Y	46 I	<4.0
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	<2.0	<2.1	<20 Y	<21 Y	38	<2.0
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	5.3	5.6	<20 Y	<21 Y	5.0 J	6.2
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	6.9	8.1 1	<20 Y	<21 Y	6.2	7.9
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
Perfluorooctanoic Acid (PFOA)	8	170	--	6.0	7.4	<20 Y	18 JY	6.5	3.6
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	32 1	37 1	34 Y	33 Y	27	33
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	27 1	32 1	27 Y	26 Y	23	29
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	5.1	5.4	<20 Y	<21 Y	<6.0	3.7
Perfluorononanoic Acid (PFNA)	6	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0 I	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	20	21	30 Y	<21 Y	18	17
Perfluorodecanoic Acid (PFDA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	<4.0	<4.1	<20 Y	<41 Y	<12	<4.0
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	2300 E	2400 E	2300 Y	2300 Y	1500	1500
Perfluorooctane Sulfonic Acid (PFOS -LN)	--	--	--	1300	1400	1300 Y	1300 Y	830	880
Perfluorooctane Sulfonic Acid (PFOS -BR)	--	--	--	1000	1000	1000 Y	970 Y	670	630
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
Perfluorotridecanoic Acid (PFTriDA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<4.0	<4.1	<40 Y	<41 Y	<12	<4.0
11-chlorooicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	<2.0	<2.1	<20 Y	<21 Y	<6.0	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	<10	<10	<100 Y	<100 Y	<6.0	<2.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	<4.0
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	<4.0
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	<4.0
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	<2.0
Perfluoro-4-ethylcyclohexanesulfonate (PFECBS)	--	--	--	--	--	--	--	--	1800
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	<2.0
Total Per-and Polyfluoroalkyl Substances	--	--	--	2370.2	2492.1	2364.0	2351.0	1681.7	3367.7

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-24	OBG MW-24	OBG MW-24	OBG MW-24	OBG MW-24	OBG MW-24	OBG MW-25*	OBG MW-25*
	Sample Date:	Drinking Water	GSI								
					1/3/2019	6/6/2019	6/23/2020	6/10/2021	6/10/2022	6/12/2023	6/5/2019
Perfluorobutanoic Acid (PFBA)	--	--		<20	<20	<10	<9.8	<10.0	<10	<20	17 U
Perfluoropentanoic Acid (PFPeA)	--	--		<10	<10	<4.0	<3.9	<4.0	<4.0	<10	<3.9
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorohexanoic Acid (PFHxA)	400,000	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluoroheptanoic Acid (PFHpA)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluoropentane Sulfonic Acid (PFPeS)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--		<10	<10	<2.0	11	<2.0	<2.0	<10	<1.9
Perfluorooctanoic Acid (PFOA)	8	170		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorohexane Sulfonic Acid (PFHxS)	51	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorononanoic Acid (PFNA)	6	--		<10	<10	<2.0	<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	<2.0	<10	<1.9
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorodecanoic Acid (PFDA)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--		<10	<10	<4.0	<3.9	<4.0	<4.0	<10	<3.9
Perfluorooctane Sulfonic Acid (PFOS)	16	12		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluoroundecanoic Acid (PFUnDA)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorononane Sulfonic Acid (PFNS)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorododecanoic Acid (PFDoDA)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorodecane Sulfonic Acid (PFDS)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorotridecanoic Acid (PFTrDA)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorooctane Sulfonamide (FOSA)	--	--		<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<1.9
Perfluorotetradecanoic Acid (PFTeDA)	--	--		<10	<10	<4.0	<3.9	<4.0	<4.0	<10	<3.9
11-chloroicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--		--	--	<2.0	<2.0	<2.0	<2.0	--	<1.9
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)	--	--		--	--	<2.0	<2.0	<2.0	<2.0	--	<1.9
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--		--	--	<2.0	<2.0	<2.0	<2.0	--	<1.9
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--		--	--	<2.0	<9.8	<10	<2.0	--	<1.9
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--		--	--	--	--	--	<4.0	--	--
3-Perfluoropentyl propanoic acid (FPpPA (5:3 FTCA))	--	--		--	--	--	--	--	<4.0	--	--
3-Perfluoropropyl propanoic acid (FPpPA (3:3 FTCA))	--	--		--	--	--	--	--	<4.0	--	--
Perfluorobutanesulfonamide (PFBSA)	--	--		--	--	--	--	--	<2.0	--	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--		--	--	--	--	--	1.3 J	--	--
Perfluorohexanesulfonamide (PFHxSA)	--	--		--	--	--	--	--	<2.0	--	--
Total Per- and Polyfluoroalkyl Substances	--	--		0.0	0.0	0.0	11.0	0.0	1.3	0.0	17.0

Notes

- 1) Detections in **bold**.
- 2) Concentrations in ng/L.
- 3) < = Not detected at specified reporting limit.
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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 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	OBG MW-26	OBG MW-26	OBG MW-26	OBG MW-26 TOPs Analysis	OBG MW-26
	Sample Date:	Drinking Water	GSI	6/6/2019	6/24/2020	6/15/2021	6/14/2022	6/14/2022	6/13/2023
Perfluorobutanoic Acid (PFBA)	--	--		25	48	13	27	<30	15
Perfluoropentanoic Acid (PFPeA)	--	--		79	53	26	43	120 I	23
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--		<9.9	<1.9	<2.0	<2.1	<6.0 I	<1.9
Perfluorohexanoic Acid (PFHxA)	400,000	--		64	43	25	34	92	23
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000		<9.9	5.4	4.7	4.7 1	<6.0	4.5
Perfluoroheptanoic Acid (PFHpA)	--	--		11	7.5	4.7	6.1	9.7	3.4
Perfluoropentane Sulfonic Acid (PFPeS)	--	--		<9.9	8.5	6.3	9.9	7.1	7.7
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--		<9.9	<1.9	<4.0	<2.1	<6.0 I	<1.9
Perfluorooctanoic Acid (PFOA)	8	170		41	32	31	37	23	21
Perfluorohexane Sulfonic Acid (PFHxS)	51	--		40	34	33	41 1	39	41
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--		36	31	29	36 1	33	36
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--		<9.9	3.1	3.7	4.4	<6.0	4.3
Perfluorononanoic Acid (PFNA)	6	--		<9.9	<1.9	<2.0	<2.1	<6.0	<1.9
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--		<9.9	<1.9	<2.0	<2.1	<6.0 I	<1.9
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--		18	12	11	13	12	13
Perfluorodecanoic Acid (PFDA)	--	--		<9.9	<1.9	<2.0	<2.1	<6.0	<1.9
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--		<9.9	<1.9	<2.0	<2.1	<6.0 I	<1.9
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--		<9.9	<3.8	<4.0	<4.1	<12 I	<3.9
Perfluorooctane Sulfonic Acid (PFOS)	16	12		490	530	490	560	380	440
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--		170	190	190	200	150	150
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--		320	330	300	360	220	280
Perfluoroundecanoic Acid (PFUnDA)	--	--		<9.9	<1.9	<2.0	<2.1	<6.0	<1.9
Perfluorononane Sulfonic Acid (PFNS)	--	--		<9.9	<1.9	<2.0	<2.1	<6.0	<1.9
Perfluorododecanoic Acid (PFDoDA)	--	--		<9.9	<1.9	<2.0	<2.1	<6.0	<1.9
Perfluorodecane Sulfonic Acid (PFDS)	--	--		<9.9	<1.9	<2.0	2.6	<6.0	<1.9
Perfluorotridecanoic Acid (PFTrDA)	--	--		<9.9	<1.9	<2.0	<2.1	<6.0	<1.9
Perfluorooctane Sulfonamide (FOSA)	--	--		<9.9	<1.9	<2.0	<2.1	<6.0 I	<1.9
Perfluorotetradecanoic Acid (PFTeDA)	--	--		<9.9	<3.8	<4.0	<4.1	<12	<3.9
11-chloroicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--		--	<1.9	<2.0	<2.1	<6.0	<1.9
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)	--	--		--	<1.9	<2.0	<2.1	<6.0	<1.9
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--		--	<1.9	<2.0	<2.1	<6.0	<1.9
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--		--	<1.9	<10	<10	<6.0	<1.9
3-Perfluorohexyl propanoic acid (FHpPA (7:3 FTCA))	--	--		--	--	--	--	--	<3.9
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--		--	--	--	--	--	<3.9
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--		--	--	--	--	--	<3.9
Perfluorobutanesulfonamide (PFBSA)	--	--		--	--	--	--	--	<1.9
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--		--	--	--	--	--	1200
Perfluorohexanesulfonamide (PFHxSA)	--	--		--	--	--	--	--	<1.9
Total Per- and Polyfluoroalkyl Substances	--	--		768.0	773.4	644.7	778.3	682.8	1791.6

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.
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- 11) B - Compound also found in associated method blank.
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- 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.
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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	OBG MW-28 (DUP-3)	OBG MW-28	OBG MW-28	OBG MW-28
	Sample Date:	Drinking Water	GSI	6/24/2020	6/24/2020	6/14/2021	6/13/2022	6/12/2023
Perfluorobutanoic Acid (PFBA)	--	--	--	14	12	<10	<10	<9.9
Perfluoropentanoic Acid (PFPeA)	--	--	--	<3.8	<3.8	<4.2	<4.1	<3.9
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<1.9	<1.9	<2.1	<2.1	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	<1.9	<1.9	<2.1	<2.1	<2.0
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	1.9 J	2.4	2.4	<2.1	2.4	2.3
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<1.9	<1.9	<2.1	1.5 J	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	<1.9	<1.9	<2.1	<2.1	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<1.9	<1.9	<4.2	<2.1	<2.0
Perfluorooctanoic Acid (PFOA)	8	170	7.2	6.1	<2.1	<2.1	8.9	3.1
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	2.3	2.1	<2.1	<2.1	1.8 J	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	1.9	1.8 J	<2.1	<2.1	<2.1	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorononanoic Acid (PFNA)	6	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1 I	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorodecanoic Acid (PFDA)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	<3.8	<3.8	<4.2	<4.1	<4.1	<3.9
Perfluorooctane Sulfonic Acid (PFOS)	16	12	<1.9	<1.9	<2.1	<2.1	2.8	<2.0
Perfluorooctane Sulfonic Acid (PFOS -LN)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorooctane Sulfonic Acid (PFOS -BR)	--	--	<1.9	<1.9	<2.1	<2.1	2.7	<2.0
Perfluoroundecanoic Acid (PFUnDA)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorotridecanoic Acid (PFTrDA)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	<3.8	<3.8	<4.2	<4.1	<4.1	<3.9
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	<1.9	<1.9	<2.1	<2.1	<2.1	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	<1.9	<1.9	<10	<10	<10	<2.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	<3.9
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	<3.9
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	<3.9
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	<2.0
Perfluoro-4-ethylcyclohexanesulfonate (PFECBS)	--	--	--	--	--	--	--	4.6
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	<2.0
Total Per-and Polyfluoroalkyl Substances	--	--	25.4	22.6	0.0	17.4	10.0	

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 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
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 (PFTrDA)	--	--	<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-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	--	--	<1.9	--	--	<1.9		
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-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		
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--		
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--		
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--		
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--		
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	--		
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--		
Total Per-and Polyfluoroalkyl Substances	--	--	0.0	0.0	19.6	380.0	705.0	986.9		

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.
- 9) Light gray header is most recent sampling event result.
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- 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	11/30/2016	11/29/2016	11/30/2016	6/12/2018
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 (PFTriDA)	--	--	--	<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-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF30UdS)	--	--	--	--	--	--	--
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF30NS)	--	--	--	--	--	--	--
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	--
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	--
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--
Total Per-and Polyfluoroalkyl Substances	--	--	--	9.8	44.4	179.8	65.1

Notes

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- 6) Dup = Duplicate sample.
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- 9) Light gray header is most recent sampling event result.
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- 12) E - Concentration exceeds calibration range.
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- 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)
	Sample Date:	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-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	--	--	--	--	--	--	--	--	--
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF30NS)	--	--	--	--	--	--	--	--	--
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	--	--	--
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	--	--	--
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECBS)	--	--	--	--	--	--	--	--	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--
Total Per-and Polyfluoroalkyl Substances	--	--	--	0.0	0.0	0.7	0.9	0.0	0.0

Notes

- 1) Detections in **bold**.
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- 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/OC 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-27D	B-27D	B-27D	B-27D	MW-DUP-061121 (B-27D)	B-27D	B-27D
		Drinking Water	GSI	6/20/2017	6/12/2018	6/17/2020	6/11/2021	6/11/2021	6/9/2022	6/8/2023
Perfluorobutanoic Acid (PFBA)	--	--	--	2.0 B	0.47 J/B	12	<10	<10	<10	<10
Perfluoropentanoic Acid (PFPeA)	--	--	--	<0.95	0.26 J	<3.9	<4.1	<4.1	<4.0	<4.1
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	--	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	<0.75	<0.53	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	<0.88	<0.18	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<0.77	<0.23	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	--	--	<2.0	<2.1	<2.1	<2.0	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	--	--	<2.0	<4.1	<4.1	<2.0	<2.0
Perfluorooctanoic Acid (PFOA)	8	170	--	<0.72	<0.78	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	<0.83	0.23 J/B	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	--	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	--	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorononanoic Acid (PFNA)	6	--	--	<0.63	<1.8	<2.0	<2.1	<2.1	<2.0	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	--	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	<0.68	<0.17	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorodecanoic Acid (PFDA)	--	--	--	<0.42	<1.8	<2.0	<2.1	<2.1	<2.0	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	--	<2.0	<2.1	<2.1	<2.0	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	--	<3.9	<4.1	<4.1	<4.0	<4.1
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	<1.2	<0.49	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorooctane Sulfonic Acid (PFOS -LN)	--	--	--	--	--	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorooctane Sulfonic Acid (PFOS -BR)	--	--	--	--	--	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	1.4 J	<1.0	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	--	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<0.56	<1.8	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<1.2	<1.8	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorotridecanoic Acid (PFTrDA)	--	--	--	<0.53	<1.8	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	--	--	--	<2.0	<2.1	<2.1	<2.0	<2.0
Perfluorotetradecanoic Acid (PFTEdA)	--	--	--	<0.19	<1.8	<3.9	<4.1	<4.1	<4.0	<4.1
11-chlorooicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	--	--	--	--	--	<2.0	<2.1	<2.1	<2.0	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF30NS)	--	--	--	--	--	<2.0	<2.1	<2.1	<2.0	<2.0
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	<2.0	<2.1	<2.1	<2.0	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	<2.0	<10	<10	<10	<4.1
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--	<4.1
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--	<4.1
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--	<4.1
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--	<2.0
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	--	--	<2.0
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--	<2.0
Total Per-and Polyfluoroalkyl Substances	--	--	--	3.4	1.0	12.0	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.
- 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) OA/OC 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	6/19/2020
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 (PFTTrDA)	--	--	--	<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-chlorooctadecafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	--	--	--	<1.9	--	--	--	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)	--	--	--	--	--	<1.9	--	--	--	<2.0
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	<1.9	--	--	--	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	<1.9	--	--	--	<2.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	--	--	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--	--
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) 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) OA/OC 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-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	--	--	--	--	--	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	--	--	--	--	<2.0
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	--	--	--	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	--	--	--	<2.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	--	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--
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) 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) OA/OC 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
		Drinking Water	GSI	10/22/2018	6/5/2019	6/22/2020	10/19/2018	6/6/2019	6/23/2020
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	<20	<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 (11CI-PF3OUdS)	--	--	--	--	--	<1.9	--	--	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-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
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECBS)	--	--	--	--	--	--	--	--	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--
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	6/19/2020
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-chloroeicosafluoro-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-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	<1.9	--	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	<1.9	--	<2.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECBS)	--	--	--	--	--	--	--	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--
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.
- 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		PFW-1	PFW-1	MW-16-10	MW-16-10 (Duplicate)	MW-16-10	MW-16-10
	Sample Date:	Drinking Water	GSI	9/21/2018	6/23/2020	11/29/2016	11/29/2016	6/13/2018	6/19/2020
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-chloroicosafafluoro-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
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECBS)	--	--	--	--	--	--	--	--	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--
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.
- 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-23	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	6/13/2022	6/13/2023
Perfluorobutanoic Acid (PFBA)	--	--	--	<20	<19	22 U	<11	<10	<10
Perfluoropentanoic Acid (PFPeA)	--	--	--	<10	<9.7	<4.1	<4.2	<4.1	<4.0
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<10	<9.7	<2.1	<4.2	<2.1	<2.0
Perfluorooctanoic Acid (PFOA)	8	170	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorononanoic Acid (PFNA)	6	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorodecanoic Acid (PFDA)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	<10	<9.7	<4.1	<4.2	<4.1	<4.0
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorooctane Sulfonic Acid (PFOS -LN)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorooctane Sulfonic Acid (PFOS -BR)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorotridecanoic Acid (PFTrDA)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<10	<9.7	<2.1	<2.1	<2.1	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<10	<9.7	<4.1	<4.2	<4.1	<4.0
11-chloroicosafafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	--	--	--	<2.1	<2.1	<2.1	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)	--	--	--	--	--	<2.1	<2.1	<2.1	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	<2.1	<2.1	<2.1	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	<2.1	<11	<10	<4.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	<4.0
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	<4.0
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	<4.0
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	<2.0
Perfluoro-4-ethylcyclohexanesulfonate (PFECBS)	--	--	--	--	--	--	--	--	<2.0
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	<2.0
Total Per-and Polyfluoroalkyl Substances	--	--	--	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.
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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	OBG MW-27	OBG MW-27
	Sample Date:	Drinking Water	GSI	11/21/2019	1/16/2020	6/24/2020	6/15/2021	6/14/2022	11/1/2022	6/13/2023
Perfluorobutanoic Acid (PFBA)	--	--	--	<20	<20	33 U	<10	35	<10	16
Perfluoropentanoic Acid (PFPeA)	--	--	--	19	<10	3.3 J	5.6	46	<4.0	21
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<9.9	<10	<1.9	<2.0	<2.0	<2.0	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	18	<10	3.5	5.6	35	2.1	19
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	12	12	18	15	5.0	10	5.9
Perfluorohexanoic Acid (PFHpA)	--	--	--	<9.9	<10	<1.9	<2.0	4.4 1	<2.0	3.3
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	17	18	21	16	9.2	17	8.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<9.9	<10	<1.9	4.4	<2.0	<2.0	<2.0
Perfluorooctanoic Acid (PFOA)	8	170	--	12	<10	5.6	4.7	15	3.4	11
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	41	40	40	38	42 1	38	36
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	31	30	28	28	38 1	29	32
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	10	<10	9.7	9.4	3.3	8.5	3.6
Perfluorononanoic Acid (PFNA)	6	--	--	<9.9	<10	<1.9	<2.0	<2.0	<2.0	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	<9.9	<10	<1.9	<2.0	<2.0	<2.0	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	<9.9	<10	1.9	2.6	15	2.7	12
Perfluorodecanoic Acid (PFDA)	--	--	--	<9.9	<10	<1.9	<2.0	<2.0	<2.0	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	<9.9	<10	<1.9	<2.0	<2.0	<2.0	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	<9.9	<10	<3.9	<4.0	<3.9	<4.0	<3.9
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	25	18	28	84	480	68	450
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	<9.9	<10	3.5	17	130	22	250
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	20	18	24	66	350	46	200
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<9.9	<10	<1.9	<2.0	<2.0	<2.0	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	<9.9	<10	<1.9	<2.0	<2.0	<2.0	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<9.9	<10	<1.9	<2.0	<2.0	<2.0	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<9.9	<10	<1.9	<2.0	<2.0	<2.0	<2.0
Perfluorotridecanoic Acid (PFTTrDA)	--	--	--	<9.9	<10	<1.9	<2.0	<2.0	<2.0	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<9.9	<10	<1.9	<2.0	<2.0	<2.0	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<9.9	<10	<3.9	<4.0	<3.9	<4.0	<3.9
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	<9.9	<10	<1.9	<2.0	<2.0	<2.0	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	<9.9	<10	<1.9	<2.0	<2.0	<2.0	<2.0
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	<9.9	<10	<1.9	<2.0	<2.0	<2.0	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	<9.9	<10	<1.9	<10	<9.8	<10	<2.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--	<3.9
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--	<3.9
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--	<3.9
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--	<2.0
Perfluoro-4-ethylcyclohexanesulfonate (PFECBS)	--	--	--	--	--	--	--	--	--	1100
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--	<2.0
Total Per- and Polyfluoroalkyl Substances	--	--	--	144.0	88.0	121.3	175.9	651.6	141.2	566.2

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) OA/OC 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-29	OBG MW-29	OBG MW-29	MW-DUP-061322 (OBG MW-29)	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	6/12/2023	1/3/2019	6/4/2019	6/23/2020
Perfluorobutanoic Acid (PFBA)	--	--	--	<10	<11	<14 X	<9.8	<10.0	<20	<19	<10
Perfluoropentanoic Acid (PFPeA)	--	--	--	<4.0	<4.3	<3.8	<3.9	1.4 J	<10	<9.6	<4.1
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	<10	<9.6	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	2.2	2.4	<1.9	4.6	2.0	<10	<9.6	<2.0
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	17	8.7	15	17	12	<10	<9.6	<4.1 X
Perfluoroheptanoic Acid (PFHpA)	--	--	--	<2.0	<2.1	<1.9	1.5 J	<2.0	<10	<9.6	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	18	12	21	24 1	19	<10	<9.6	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<2.0	3.3 J	<1.9	<2.0	<2.0	<10	<9.6	<2.0
Perfluorooctanoic Acid (PFOA)	8	170	--	<2.0	2.8	<1.9	<2.0	2.9	<10	<9.6	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	27	22	37 1	38 1	29	<10	<9.6	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	20	16	25 1	26 1	20	<10	<9.6	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	6.7	5.9	12	12	7.9	<10	<9.6	<2.0
Perfluorononanoic Acid (PFNA)	6	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	<10	<9.6	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	<10	<9.6	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	<10	<9.6	<2.0
Perfluorodecanoic Acid (PFDA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	<10	<9.6	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	<2.0	<2.1	<1.9 I	<2.0	<2.0	<10	<9.6	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	<4.0	<4.3	<3.8	<3.9	<4.0	<10	<9.6	<4.1
Perfluorooctane Sulfonic Acid (PFOS)	16	12	<4.0 X	<2.0	<2.1	3.0 1	3.7 1	<2.0	<10	<9.6	<2.0
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	<10	<9.6	<2.0
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	<4.0 X	<2.0	<2.1	2.6 1	3.4 1	<2.0	<10	<9.6	<2.0
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	<10	<9.6	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	<10	<9.6	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	<10	<9.6	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	<10	<9.6	<2.0
Perfluorotridecanoic Acid (PFTrDA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	<10	<9.6	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	<10	<9.6	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<2.0	<4.3	<3.8	<3.9	<4.0	<10	<9.6	<4.1
11-chlorooicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	--	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	--	--	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9CI-PF3ONS)	--	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	--	--	<2.0
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	--	--	--	<2.0	<2.1	<1.9	<2.0	<2.0	--	--	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	<2.0	<11	<9.6	<9.8	<2.0	--	--	<2.0
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	<4.0	--	--	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	<4.0	--	--	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	<4.0	--	--	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	<2.0	--	--	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	940	--	--	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	<2.0	--	--	--
Total Per- and Polyfluoroalkyl Substances	--	--	--	64.2	51.2	76.0	88.8	66.3	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.
- 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) OA/OC 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	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	--	--	--	--	--	--	--	--
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	--	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--
Total Per-and Polyfluoroalkyl Substances	--	--	--	14526.4	12035.1	16128.1	7327.1	4083.4	6875.8

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) 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) OA/OC 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 A	Vault B
	Sample Date:	Drinking Water	GSI	6/19/2017	6/12/2018	6/25/2020	6/16/2021	6/6/2022	6/6/2023	6/19/2017
Perfluorobutanoic Acid (PFBA)	--	--	--	18 B	13 B	30	<10	12	<9.8	4.6 B
Perfluoropentanoic Acid (PFPeA)	--	--	--	1.9	3.1	<4.0	1.7 J	<3.9	1.7 J	<0.98
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	--
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	4.9	4.7	2.4	2.7	2.2	3.1	0.79 J
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	9.3	8.5	5.4	5.2	4.9	5.7	4.1
Perfluoroheptanoic Acid (PFHpA)	--	--	--	4.4	3.4	1.7 J	<2.0	2.3	1.5 J	<0.79
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	--	--	6.8	6.9	9.5	6.9	--
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	--	--	<2.0	<4.0	<2.0	<2.0	--
Perfluorooctanoic Acid (PFOA)	8	170	--	16	15	9.7	7.4	4.8	6.3	4.1
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	32	27 B	21	18	19	21	12
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	--	17	15	15	18	--
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	--	3.1	3.0	3.2	3.5	--
Perfluorononanoic Acid (PFNA)	6	--	--	<0.64	<0.24	<2.0	<2.0	<2.0	<2.0	<0.65
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	--
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	7.2	6.5	6.2	4.1	5.5	5.1	2.4
Perfluorodecanoic Acid (PFDA)	--	--	--	<0.43	<0.28	<2.0	<2.0	<2.0	2.3	<0.44
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	--
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	--	<4.0	<4.0	<3.9	<3.9	--
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	450	460	430	410	360	370	150
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	--	--	220	200	180	200	--
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	--	--	220	200	180	170	--
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<0.73	<0.98	<2.0	<2.0	<2.0	<2.0	<0.74
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	--
Perfluorododecanoic Acid (PFDDoDA)	--	--	--	<0.57	<1.8	<2.0	<2.0	<2.0	<2.0	<0.58
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<1.2	<0.29	<2.0	<2.0	<2.0	<2.0	<1.2
Perfluorotridecanoic Acid (PFTTrDA)	--	--	--	<0.54	<1.8	<2.0	<2.0	<2.0	<2.0	<0.55
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<0.62	<0.31	<2.0	<2.0	<2.0	<2.0	<0.63
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<0.19	0.45 J	<4.0	<4.0	<3.9	<3.9	<0.20
11-chlorooicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	--
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	--
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	--
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	--	<2.0	<10	<9.9	<3.9	--
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	<3.9	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	<3.9	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	<3.9	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	<2.0	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	--	1100	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	<2.0	--
Total Per-and Polyfluoroalkyl Substances	--	--	--	543.7	541.7	513.2	456.0	420.2		178.0

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) 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) OA/OC 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)
	Sample Date:	Drinking Water	GSI	6/19/2017	6/12/2018	6/12/2018	6/25/2020	6/16/2021	6/16/2021
Perfluorobutanoic Acid (PFBA)	--	--	--	19 B	13 B	13 B	34	13	14
Perfluoropentanoic Acid (PFPeA)	--	--	--	<0.94	1.7 J	2.4	<4.0	<4.0	<4.1
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	--	--	<2.0	<2.0	<2.0
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	6.0	2.4	2.4	1.9 J	2.8	2.3
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	<0.88	7.4	4.7	5.5	6.1	5.6
Perfluoroheptanoic Acid (PFHpA)	--	--	--	3.3	2.7	2.2	1.5 J	<2.0	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	--	--	--	6.1	5.6	6.3
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	--	--	--	<2.0	<4.0	<4.1
Perfluorooctanoic Acid (PFOA)	8	170	--	12	12	12	9.0	7.7	8.6
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	<0.83	19 B	19 B	17	18	19
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	--	--	13	14	15
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	--	--	3.5	2.9	3.9
Perfluorononanoic Acid (PFNA)	6	--	--	<0.62	<0.26	<0.26	<2.0	<2.0	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	--	--	<2.0	<2.0	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	<0.68	6.0	5.6	4.0	5.1	5.3
Perfluorodecanoic Acid (PFDA)	--	--	--	<0.42	<0.30	<0.30	<2.0	<2.0	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	--	--	<2.0	<2.0	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	--	--	<4.0	<4.0	<4.1
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	440	380	400	430	400	390
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	--	--	--	240	220	220
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	--	--	--	180	170	170
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<0.71	<1.1	<1.1	<2.0	<2.0	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	--	--	<2.0	<2.0	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<0.56	<1.9	<1.9	<2.0	<2.0	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<1.2	<0.31	<0.31	<2.0	<2.0	<2.0
Perfluorotridecanoic Acid (PFTeDA)	--	--	--	<0.53	<1.9	<1.9	<2.0	<2.0	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<0.61	0.65 J	0.71 J	<2.0	<2.0	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	0.21 J B	<0.28	<0.28	<4.0	<4.0	<4.1
11-chloroicosafuoro-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	<10
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECBS)	--	--	--	--	--	--	--	--	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--
Total Per-and Polyfluoroalkyl Substances	--	--	--	480.5	444.9	462.0	509.0	458.3	451.1

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) OA/OC 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-DUP-060722 (Vault-C)	Vault C	Vault-DUP-060623 (Vault-C)	Vault D	Vault E	Vault E (DUP-1)
	Sample Date:	Drinking Water	GSI	6/7/2022	6/7/2022	6/6/2023	6/6/2023	6/19/2017	6/19/2017	6/19/2017
Perfluorobutanoic Acid (PFBA)	--	--	--	13	15	12	<9.9	5.3 B	8.6 B	8 B
Perfluoropentanoic Acid (PFPeA)	--	--	--	<4.2	<4.2	1.3 J	1.3 J	6.5	<0.96	4.7
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	<2.1	<2.1	<2.0	<2.0	--	--	--
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	3.2	3.2	1.6 J	1.9 J	<0.80	6.5	6.3
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	5.8	5.1	4.7	5.9	11	13	12
Perfluoroheptanoic Acid (PFHpA)	--	--	--	1.7 J	2.2	<2.0	<2.0	0.96 J	5.5	5.3
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	7.5	6.4	5.4	5.9	--	--	--
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	<2.1	<2.1	<2.0	<2.0	--	--	--
Perfluorooctanoic Acid (PFOA)	8	170	--	7.9	5.6	8.3	7.6	9.9	24	25
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	23	17	16	17	33	65	63
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	18	13	13	14	--	--	--
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	3.8	3.9	2.9	3.2	--	--	--
Perfluorononanoic Acid (PFNA)	6	--	--	<2.1	<2.1	<2.0	<2.0	<0.67	<0.63	0.64 J
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	<2.1	<2.1	<2.0	<2.0	--	--	--
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	5.1	4.4	5.2	4.5	8.4	15	15
Perfluorodecanoic Acid (PFDA)	--	--	--	<2.1	<2.1	<2.0	<2.0	<0.45	<0.43	<0.43
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	<2.1	<2.1	<2.0	<2.0	--	--	--
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	<4.2	<4.2	<4.1	<4.0	--	--	--
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	390	340	360	330	350	730	730
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	220	180	200	180	--	--	--
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	160	150	160	150	--	--	--
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<2.1	<2.1	<2.0	<2.0	<0.76	<0.72	<0.74
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	<2.1	<2.1	<2.0	<2.0	--	--	--
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<2.1	<2.1	<2.0	<2.0	<0.59	<0.56	<0.57
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<2.1	<2.1	<2.0	<2.0	<1.2	<1.2	<1.2
Perfluorotridecanoic Acid (PFTeDA)	--	--	--	<2.1	<2.1	<2.0	<2.0	<0.56	<0.53	<0.54
Perfluorooctane Sulfonamide (FOSA)	--	--	--	<2.1	<2.1	<2.0	<2.0	<0.65	3.5 J H	16 J B
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<4.2	<4.2	<4.1	<4.0	0.25 J B	<0.19	0.43 J B
11-chlorooicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	<2.1	<2.1	<2.0	<2.0	--	--	--
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	<2.1	<2.1	<2.0	<2.0	--	--	--
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	<2.1	<2.1	<2.0	<2.0	--	--	--
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	<10	<10	<4.1	<4.0	--	--	--
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	<4.1	<4.0	--	--	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	<4.1	<4.0	--	--	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	<4.1	<4.0	--	--	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	<2.0	<2.0	--	--	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECBS)	--	--	--	--	--	970	920	--	--	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	<2.0	<2.0	--	--	--
Total Per-and Polyfluoroalkyl Substances	--	--	--	457.2		414.5	374.1	425.3	871.1	886.4

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) OA/OC 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

	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria / Rule 57 Surface Water Quality Values	Vault E	Vault E	Vault E	Vault E	Vault E	Vault F	
Perfluorinated Compound	Sample Date:	Drinking Water	GSI	6/12/2018	6/25/2020	6/16/2021	6/7/2022	6/7/2023	6/19/2017
Perfluorobutanoic Acid (PFBA)	--	--	--	6.3 B	24	<10.0	<10.0	<10.0	6.8 B
Perfluoropentanoic Acid (PFPeA)	--	--	--	4.1	2.6 J	2.8 J	1.6 J	1.9 J	15
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	--	--	--	<2.0	<2.0	<2.0	<2.0	--
Perfluorohexanoic Acid (PFHxA)	400,000	--	--	4.5	2.5	2.4	2.0 J	2.9	13
Perfluorobutane Sulfonic Acid (PFBS)	420	670,000	--	11	7.6	9.0	7.4	9.5	12
Perfluoroheptanoic Acid (PFHpA)	--	--	--	4.1	2.6	1.7 J	2.2	2.9	12
Perfluoropentane Sulfonic Acid (PFPeS)	--	--	--	--	12	11	8.4	14	--
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	--	--	--	<2.0	<4.0	<2.0	<2.0	--
Perfluorooctanoic Acid (PFOA)	8	170	--	22	15	13	9.6	14	57
Perfluorohexane Sulfonic Acid (PFHxS)	51	--	--	53 B	33	33	29	46	35
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	--	--	--	28	28	23	37	--
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	--	--	--	5.8	5.2	5.7	8.1	--
Perfluorononanoic Acid (PFNA)	6	--	--	0.60 J	<2.0	<2.0	<2.0	<2.0	1.2 J
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	--	--	--	<2.0	<2.0	<2.0	<2.0	--
Perfluoroheptane Sulfonic Acid (PFHpS)	--	--	--	15	9.5	6.7	6.7	11	7.3
Perfluorodecanoic Acid (PFDA)	--	--	--	<0.28	<2.0	<2.0	<2.0	<2.0	<0.42
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	--	--	--	<2.0	<2.0	<2.0	<2.0	--
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	--	--	--	<3.9	<4.0	<4.1	<4.0	--
Perfluorooctane Sulfonic Acid (PFOS)	16	12	--	680	480	480	440	520	300
Perfluorooctane Sulfonic Acid (PFOS-LN)	--	--	--	--	240	270	230	270	--
Perfluorooctane Sulfonic Acid (PFOS-BR)	--	--	--	--	240	210	210	260	--
Perfluoroundecanoic Acid (PFUnDA)	--	--	--	<1.0	<2.0	<2.0	<2.0	<2.0	<0.71
Perfluorononane Sulfonic Acid (PFNS)	--	--	--	--	<2.0	<2.0	<2.0	<2.0	--
Perfluorododecanoic Acid (PFDoDA)	--	--	--	<1.8	<2.0	<2.0	<2.0	<2.0	<0.56
Perfluorodecane Sulfonic Acid (PFDS)	--	--	--	<0.29	<2.0	<2.0	<2.0	<2.0	<1.2
Perfluorotridecanoic Acid (PFTrDA)	--	--	--	<1.8	<2.0	<2.0	<2.0	<2.0	<0.53
Perfluorooctane Sulfonamide (FOSA)	--	--	--	1.2 J	<2.0	<2.0	<2.0	<2.0	22 J H
Perfluorotetradecanoic Acid (PFTeDA)	--	--	--	<0.27	<3.9	<4.0	<4.1	<4.0	<0.19
11-chlorooctadecafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	--	--	--	<2.0	<2.0	<2.0	<2.0	--
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	--	--	--	<2.0	<2.0	<2.0	<2.0	--
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	--	--	--	<2.0	<2.0	<2.0	<2.0	--
Hexafluoropropylene oxide dimer (HFPO-DA)	370	--	--	--	<2.0	<10.0	<10	<4.0	--
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	<4.0	--
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	<4.0	--
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	<4.0	--
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	1.6 J	--
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	1300	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	<2.0	--
Total Per- and Polyfluoroalkyl Substances	--	--	--	801.8	588.8	559.6	506.9	622.2	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) OA/OC 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

0 250 500
Feet

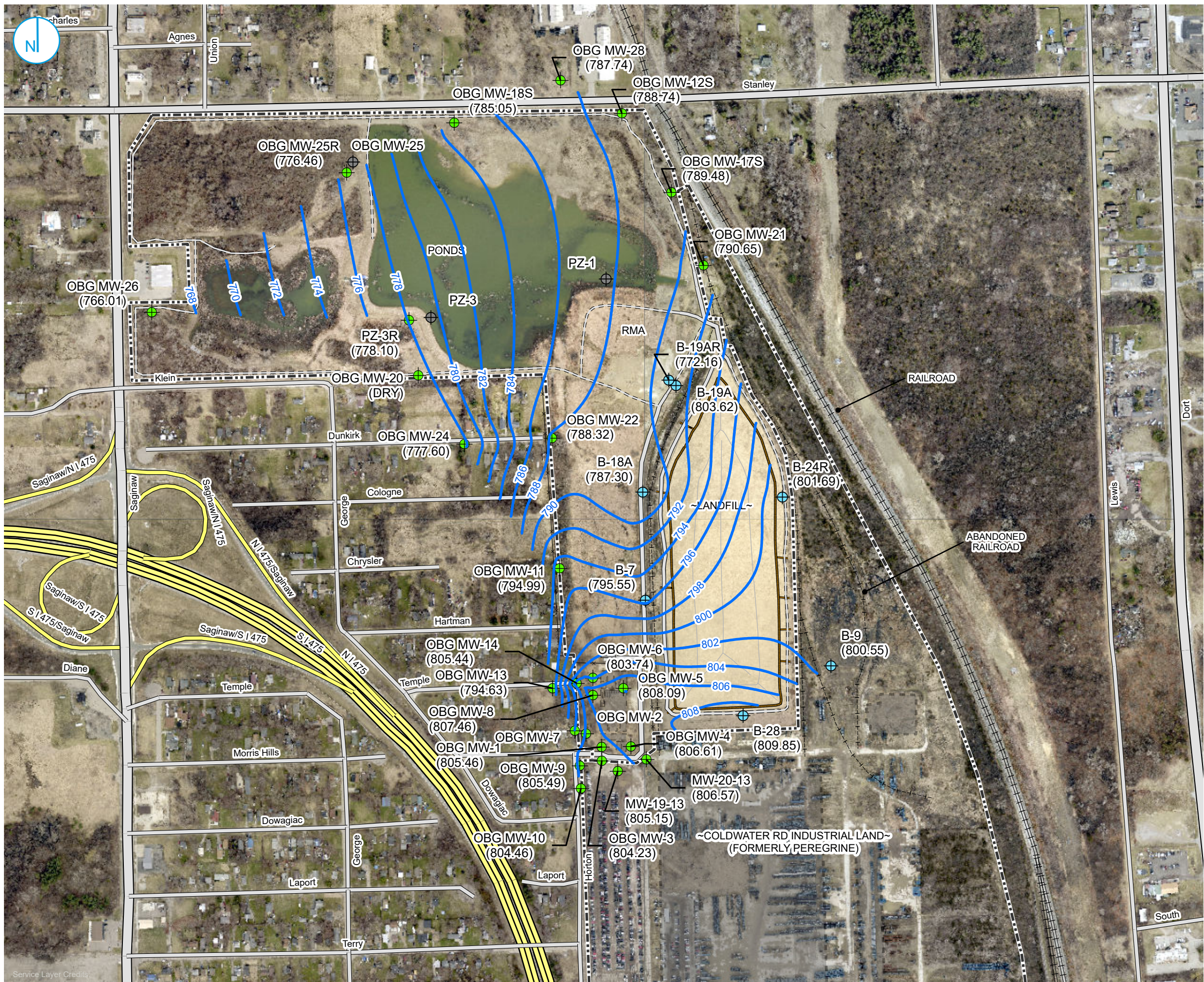
MONITORING WELL LOCATION MAP

FIGURE 1

RACER TRUST
COLDWATER ROAD
FLINT, MICHIGAN

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL



- LANDFILL MONITORING WELL / PIEZOMETER
- OTHER MONITORING WELL / PIEZOMETER
- ABANDONED WELL;
- GROUNDWATER CONTOUR (JUNE 6, 2023)
- PROPERTY BOUNDARY
- FORMER BUILDING
- (800.93) GROUNDWATER ELEVATION

NOTES
THE GROUNDWATER ELEVATION FOR MONITORING WELLS B-19A AND B-19AR 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.



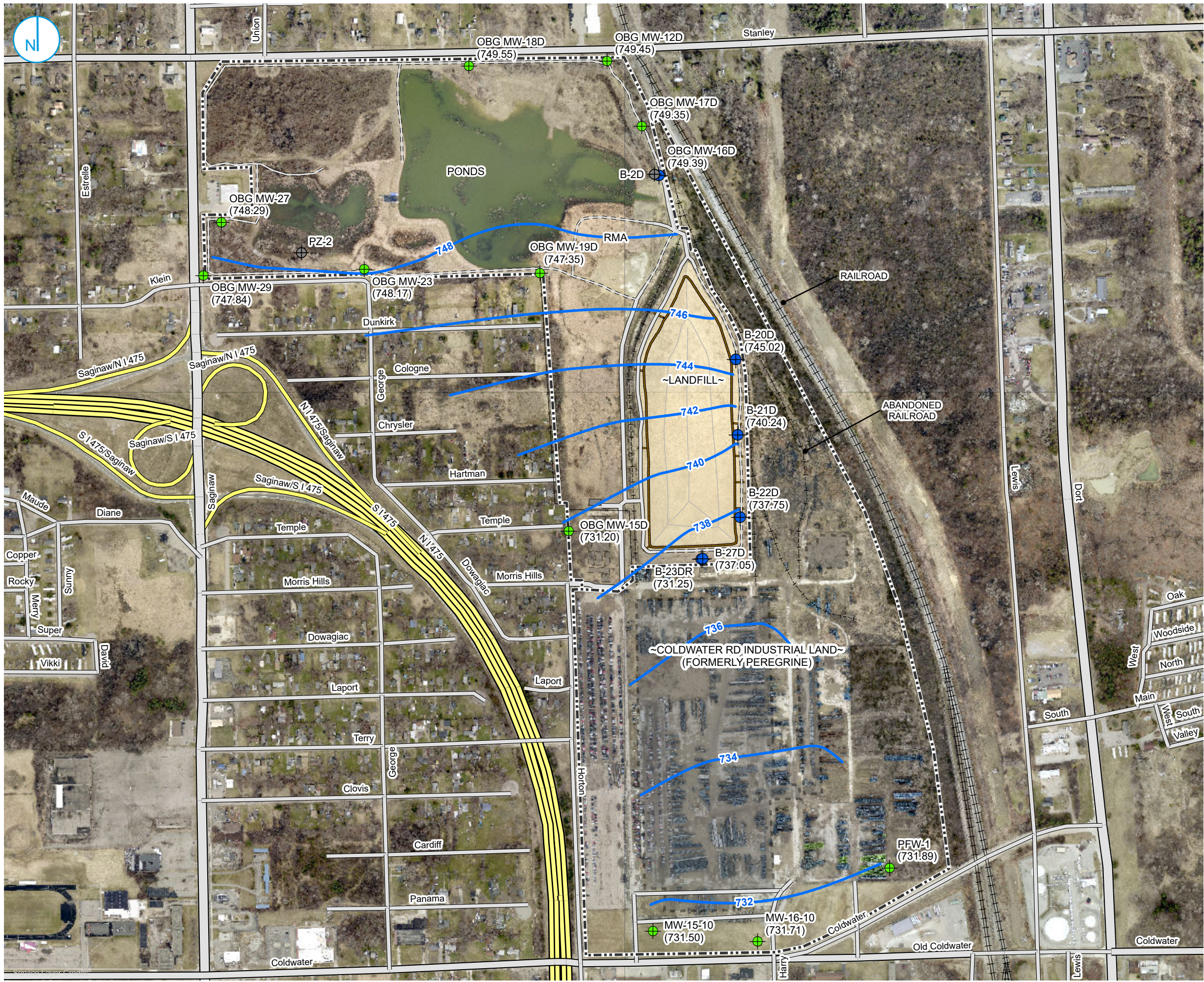
PERCHED ZONE GROUNDWATER ELEVATION MAP
JUNE 6, 2023

RACER TRUST
COLDWATER ROAD
FLINT, MICHIGAN

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY





- OTHER MONITORING WELL / PIEZOMETER
- ABANDONED WELL
- LANDFILL MONITORING WELL / PIEZOMETER
- GROUNDWATER CONTOUR (JUNE 6, 2023)
- 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.

0 275 550
Feet

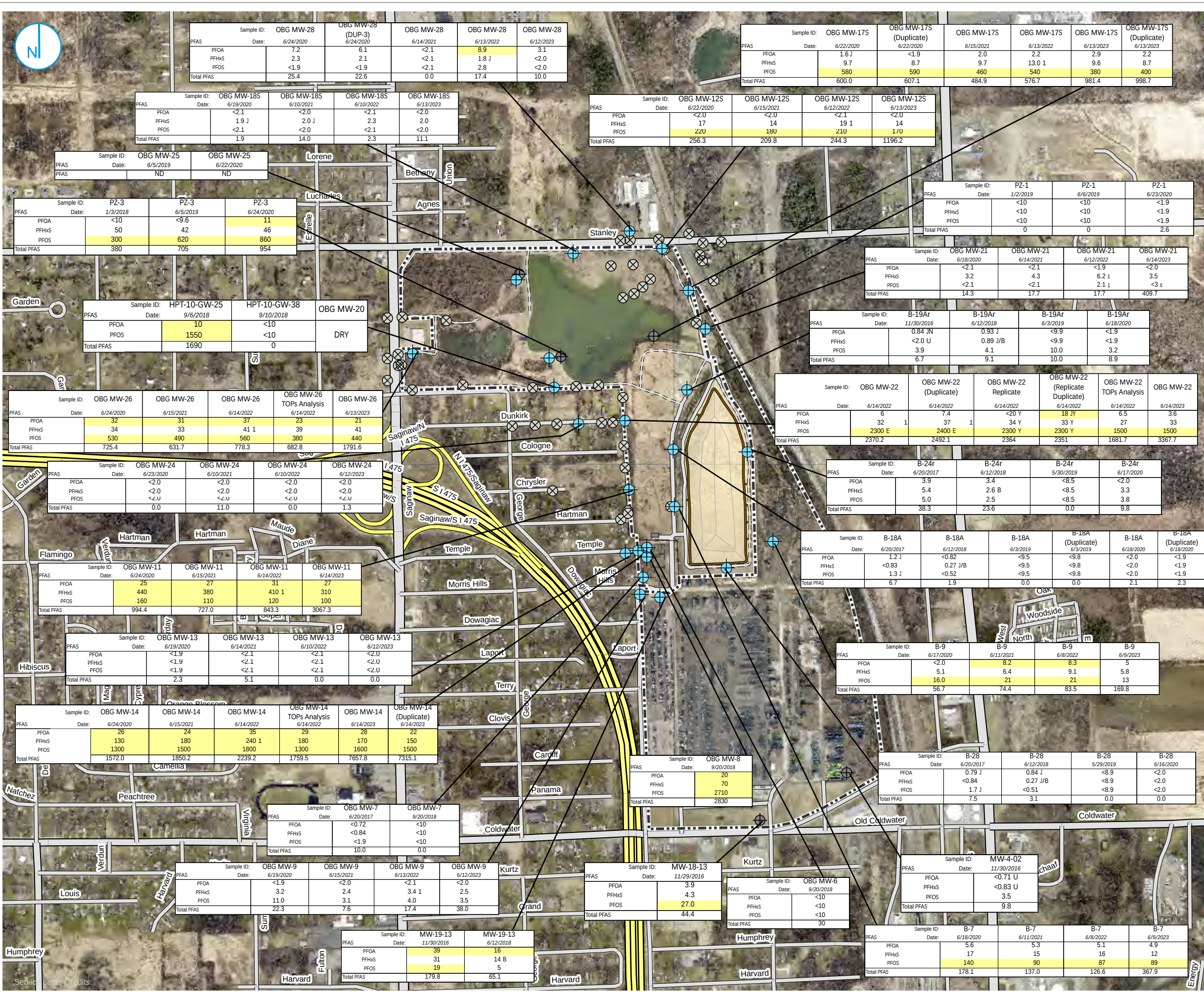
DRIFT UNIT GROUNDWATER ELEVATION MAP
JUNE 6, 2023

RACER TRUST
COLDWATER ROAD
FLINT, MICHIGAN

FIGURE 3

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY





- 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)	Sample Date:	8	12,000
Perfluorohexane Sulfonic Acid (PFHxS)		51	--
Perfluorooctane Sulfonic Acid (PFOS)		16	12
Total Per- and Polyfluoroalkyl Substances		--	--

- Notes
- 1) Last 4 results shown at certain wells to conserve space.
 - 2) Concentrations in ng/l.
 - 3) < = Not detected at specified reporting limit.
 - 4) -- = Not analyzed/No criteria.
 - 5) ND = Not detected.
 - 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) 1 - Qualifier ion out of range.
 - 10) B - Compound also found in associated method blank.
 - 11) E - Concentration exceeds calibration range.
 - 12) I - Matrix interference with internal standard.
 - 13) J - Estimated value less than reporting limit, but greater than MDL.
 - 14) X - Elevated reporting limit due to matrix interference.

0 425 850 Feet

PERCHED ZONE MONITORING
WELL PFAS SAMPLE RESULTS
(NOVEMBER 2016 - JUNE 2023)

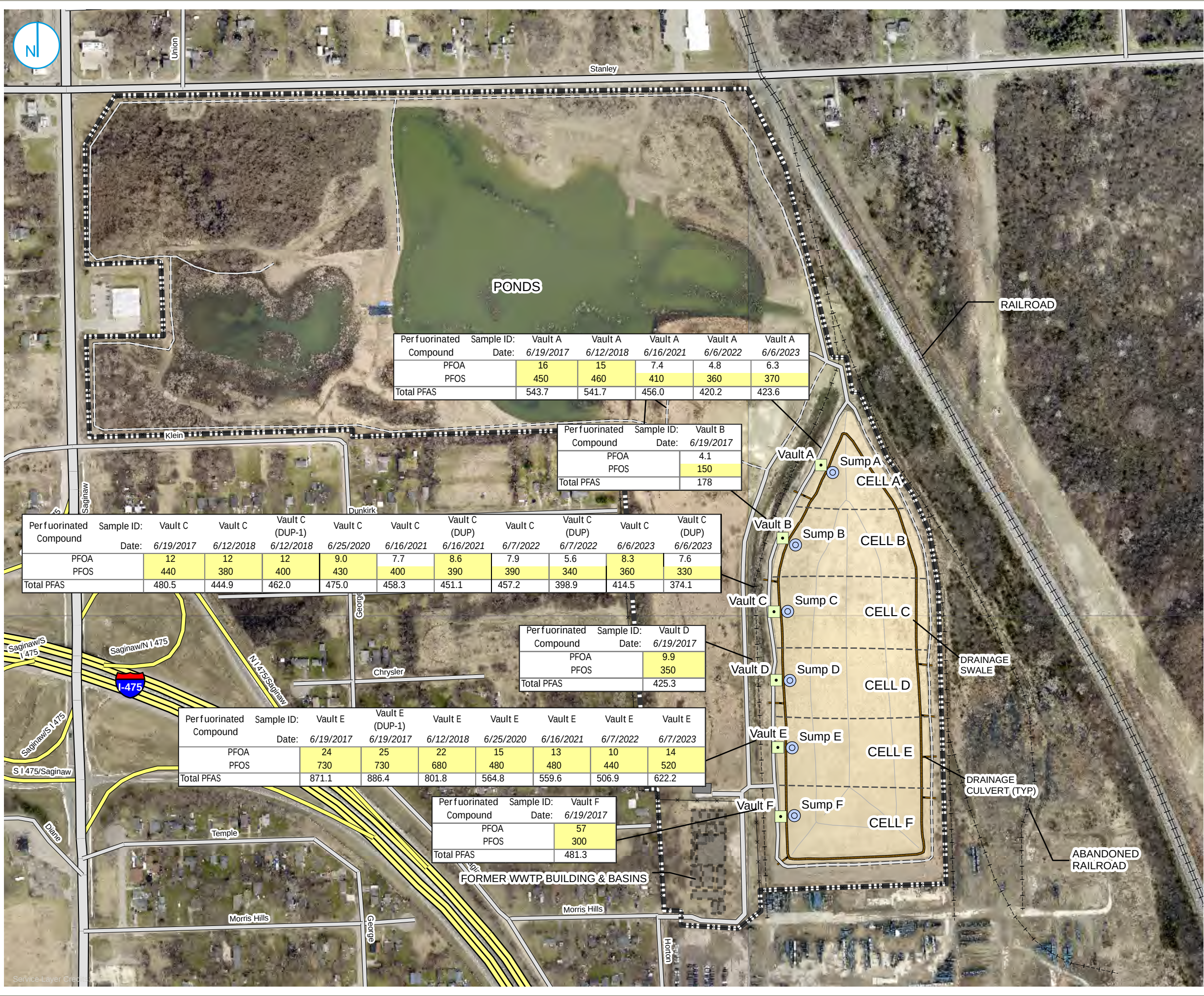
RACER TRUST
COLDWATER ROAD
FLINT, MICHIGAN

FIGURE 4

RAMBOLL AMERICAS ENGINEERING
SOLUTIONS, INC.
A RAMBOLL COMPANY







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.
4) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020 and Rule 57 Surface Water Quality Values.

0175350

Feet

LEAK DETECTION VAULTS PFAS
SAMPLE RESULTS
(JUNE 2017 - JUNE 2023)

RACER TRUST
COLDWATER ROAD
FLINT, MICHIGAN

FIGURE 6

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

APPENDIX A

GROUNDWATER SAMPLING LOGS

RAMBOLL		Standard Groundwater Sampling Log				
Date	6/6/2023 6/9/2023					
Site Name	RACER Coldwater Rd					
Location	Flint, MI					
Project No.	1940103462					
Personnel	JMK					
Weather	Sunny 60's °F					
Well #	B-7					
Evacuation Method	Whale Pump-Peristaltic					
Sampling Method	Purged Dry					
Well Information:						
Depth of Well *	28.86	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 *	18.05 20.22	ft.				
Length of Water Column	10.81	ft.				
Volume of Water in Well	1.76	gal.(s)				
3X Volume of Water in Well	5.29	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	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
0.3 feet or less	±3 percent	±3 percent	±10 percent	±0.1 pH units	±10 millivolts	±10 percent
initial 17.78	initial 16.87	initial 0.90	initial 3.07	initial 6.52	initial 76.3	initial 568
5 min Issue with sonde - stopped pumping						
10 min						
15 min Restart 10:27- low flow						
20 min 18.82	13.12	0.96	7.20	7.20	97.2	317
25 min 20.65	12.93	0.99	2.73	7.17	89.6	123
30 min 24.75	11.23	0.99	2.71	7.17	80.1	57.7
35 min Well Purged Dry- 2 gallons						
40 min 6/9/2023						
45 min 20.22	23.41	433.25	3.58	7.05	77.6	86.8
50 min 21.11	16.03	376.15	2.15	7.06	62.3	44.6
55 min 21.69	15.10	376.10	2.02	7.05	58.3	23.1
60 min 22.20	15.16	376.98	1.99	7.04	56.9	29.4
65 min						
70 min						
75 min						
80 min						
85 min						
90 min						
Water Sample:						
Time Collected 6/9/2023 - 12:45						
Physical Appearance at Start			Physical Appearance at Sampling			
Color		Color	Clear			
Odor	None	Odor	None			
Turbidity (> 100 NTU)	550	Turbidity (> 100 NTU)	30			
Sheen/Free Product	None	Sheen/Free Product	None			
Samples collected:						
Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered		
PFAS (7979)	3	15 ml plastic	None	No		
Notes:						
Sped up purging after 5 minutes.						

RAMBOLL		Standard Groundwater Sampling Log											
Date 6/8/2023		Weather Hazy 70's °F											
Site Name RACER Coldwater Rd		Well # B-9											
Location Flint, MI		Evacuation Method Whale Pump-Peristaltic											
Project No. 1940103462		Sampling Method Purged Dry											
Personnel KBS													
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 * 6.58 10.70 ft.													
Length of Water Column 18.67 ft.													
Volume of Water in Well 3.04 gal.(s)													
3X Volume of Water in Well 9.13 gal.(s)		Volume removed before sampling 6.0 gal.(s)											
		Did well go dry? yes											
* Measurements taken from Well Casing X 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 7.55		initial 22.95		initial 1.92		initial 1.02		initial 7.38		initial 113.7		initial +1000	
5 min 9.17		16.86		2.17		0.21		7.46		101.4		+1000	
10 min 13.40		13.72		2.22		0.14		7.29		94.1		803	
15 min 18.05		12.65		2.40		0.20		7.00		74.5		833	
20 min 19.30		12.40		2.30		0.62		6.89		64.0		1010	
25 min 20.35		12.25		2.20		1.16		6.88		59.6		+1000	
30 min 22.45		12.03		1.89		4.20		6.99		56.0		+1000	
35 min		6 gallons- Dry											
40 min													
45 min 11.15		16.53		847.91		4.14		6.72		86.7		455	
50 min 12.27		13.03		914.46		3.56		6.72		73.3		109	
55 min 12.68		12.68		909.13		3.73		6.71		70.1		47.9	
60 min													
65 min													
70 min													
75 min													
80 min													
85 min													
90 min													
Water Sample:													
Time Collected 10:10													
Physical Appearance at Start		Physical Appearance at Sampling											
Color Grayish Brown		Color Clear											
Odor None		Odor None											
Turbidity (> 100 NTU) +1000		Turbidity (> 100 NTU) 40-50											
Sheen/Free Product None		Sheen/Free Product None											
Samples collected:													
Analyses		# Bottles		Bottle size/type		Preservative		Field Filtered					
PFAS (7979)		3		15 ml plastic		None		No					
Notes:													
Sped up purging after 5 minutes.													

Standard Groundwater Sampling Log

Date 6/8/2023
Site Name RACER Coldwater Rd
Location Flint, MI
Project No. 1940103462
Personnel KBS/ SEH

Weather Sunny, Hazy, 70s
Well # B-27D
Evacuation Method badder pump
Sampling Method low flow

Well Information:

Depth of Well * 89.93 ft.
Depth to Water * 75.39 ft.
Length of Water Column 14.54 ft.
Volume of Water in Well 2.37 gal.(s)
3X Volume of Water in Well 7.11 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 3.5 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 76.10	initial 17.10	initial 705.66	initial 0.25	initial 7.37	initial -105.7	initial +1000
5 min 76.14	14.10	730.66	0.08	7.37	-115.3	+1000
10 min 76.14	13.55	733.86	0.02	7.37	-114.7	+1000
15 min 76.16	13.34	735.36	0.00	7.36	-113.8	55.9
20 min 76.20	13.35	734.91	0.00	7.37	-113.7	58.9
25 min 76.18	13.11	738.51	0.00	7.37	-112.5	241
30 min 76.22	13.07	740.16	0.00	7.37	-112.0	465
35 min 76.24	13.12	742.73	0.00	7.36	-111.5	851
40 min 76.23	13.12	742.57	0.00	7.36	-111.2	846
45 min 76.22	13.22	742.96	0.00	7.36	-110.6	871
50 min 76.18	13.24	739.96	0.00	7.36	-109.9	839
55 min 76.20	13.29	739.52	0.00	7.36	-110.0	816
60 min 76.20	13.30	740.40	0.00	7.35	-109.6	457
65 min 76.17	13.29	741.47	0.00	7.36	-109.5	485
70 min 76.20	13.10	742.87	0.00	7.36	-109.1	857
75 min 76.18	12.91	744.55	0.00	7.36	-108.8	858
80 min 76.21	12.80	747.06	0.00	7.36	-108.4	660
85 min 76.20	13.37	744.17	0.00	7.36	-108.9	483
90 min 76.21	13.33	742.71	0.00	7.36	-109.1	644
95 min 76.27	13.29	744.38	0.00	7.36	-109.1	848
100 min 76.21	13.20	741.19	0.00	7.36	-108.7	759
105 min 76.22	12.90	739.27	0.00	7.36	-107.8	505
110 min 76.27	12.67	745.25	0.00	7.36	-107.1	458
115 min 76.28	12.75	745.17	0.00	7.36	-107.0	371
120 min 76.26	12.74	744.53	0.00	7.36	-107.0	302

Water Sample:

Time Collected 16:05

Physical Appearance at Start

Physical Appearance at Sampling

Color Cloudy Brown
Odor None
Turbidity (> 100 NTU) +1000
Sheen/Free Product None

Color Cloudy, light brown
Odor None
Turbidity (> 100 NTU) 302.0
Sheen/Free Product None

Samples collected:

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

Notes:

Pump flow- 200 ml/ minute
Flow check @ 15:05- still 200 ml/ minute
Flow check @ 15:45- still 200 ml/ minute

Standard Groundwater Sampling Log

Date 6/12/2023
Site Name RACER Coldwater Rd
Location Flint, MI
Project No. 1940103462
Personnel KBS

Weather Cloudy 60s °F
Well # OBG MW-9
Evacuation Method peristaltic
Sampling Method low flow

Well Information:

Depth of Well * 18.14 ft.
Depth to Water * 4.72 ft.
Length of Water Column 13.42 ft.
Volume of Water in Well 2.19 gal.(s)
3X Volume of Water in Well 6.56 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 0.5 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		Temperature Celsius		Conductivity mS/cm		Dissolved Oxygen mg/L		pH		ORP mV		Turbidity NTUs	
0.3 feet or less		±3 percent		±3 percent		±10 percent		±0.1 pH units		±10 millivolts		±10 percent	
initial	4.98	initial	18.65	initial	0.79	initial	2.99	initial	6.08	initial	75.9	initial	3.08
5 min	5.05		18.34		0.81		0.54		7.03		57.9		1.63
10 min	5.11		17.90		0.79		0.33		7.05		47.3		6.15
15 min	5.14		18.17		0.79		0.26		7.06		41.9		5.09
20 min	5.17		18.90		0.79		0.25		7.05		40.9		2.32
25 min	5.20		18.73		0.77		0.23		7.06		40.4		1.33
30 min	5.22		18.30		0.77		0.19		7.07		39.3		2.60
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 12:08

Physical Appearance at Start

Physical Appearance at Sampling

Color Clear
Odor None
Turbidity (> 100 NTU) 3.08
Sheen/Free Product None

Color Clear
Odor None
Turbidity (> 100 NTU) 2.60
Sheen/Free Product None

Samples collected:

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

Notes:

Pump flow- 50 ml/ minute

Standard Groundwater Sampling Log

Date 6/14/2023
Site Name RACER Coldwater Rd
Location Flint, MI
Project No. 1940103462
Personnel KBS / SEH

Weather Sunny/Cloudy, 60's °F
Well # OBG MW-11
Evacuation Method peristaltic
Sampling Method low flow

Well Information:

Depth of Well * 24.63 ft.
Depth to Water * 7.59 ft.
Length of Water Column 17.04 ft.
Volume of Water in Well 2.78 gal.(s)
3X Volume of Water in Well 8.33 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
Did well go dry?

1/2 gal.(s)
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		Temperature Celsius		Conductivity mS/cm		Dissolved Oxygen mg/L		pH		ORP mV		Turbidity NTUs	
0.3 feet or less		±3 percent		±3 percent		±10 percent		±0.1 pH units		±10 millivolts		±10 percent	
initial	7.59	initial	20.45	initial	517	initial	2.35	initial	6.96	initial	-142.4	initial	9.79
5 min	8.08		14.59		558.89		0.33		6.97		-149.3		2.24
10 min	8.10		14.35		562.26		0.27		6.98		-149.6		2.68
15 min	8.18		14.56		560.20		0.13		6.97		-147.0		2.88
20 min	8.16		14.50		560.29		0.13		6.98		-146.6		3.00
25 min	8.18		14.64		561.24		0.13		6.98		-146.9		3.38
30 min	8.20		14.42		562.75		0.13		6.98		-147.0		2.76
35 min	8.22		14.38		562.23		0.12		6.98		-146.8		0.02
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 14:40

Physical Appearance at Start

Physical Appearance at Sampling

Color Clear
Odor None
Turbidity (> 100 NTU) 9.79
Sheen/Free Product None

Color Clear
Odor None
Turbidity (> 100 NTU) 0.02
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 6/13/2023
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940103462
 Personnel KBS

Weather Cloudy 60s °F
 Well # OBG MW-12S
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 21.38 ft.
 Depth to Water * 8.88 ft.
 Length of Water Column 12.50 ft.
 Volume of Water in Well 2.04 gal.(s)
 3X Volume of Water in Well 6.11 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 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 mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	9.75	initial 18.01	initial 0.28	initial 0.46	initial 7.34	initial 37.2	initial 176
5 min	10.13	14.27	0.30	0.21	7.26	25.9	182
10 min	10.39	13.11	0.31	0.14	7.20	13.4	113
15 min	10.5	12.98	0.31	0.10	7.19	10.3	139
20 min	10.56	13.16	0.31	0.07	7.18	6.2	93.2
25 min	10.58	13.60	0.31	0.06	7.16	-0.4	67.6
30 min	10.60	13.14	0.31	0.05	7.16	-3.5	50.5
35 min	10.62	12.94	0.31	0.04	7.16	-6.6	43.0
40 min	10.65	13.13	0.31	0.05	7.15	-8.8	42.4
45 min		12.84	0.31	0.03	7.16	-8.2	36.8
50 min	10.66	12.96	0.31	0.04	7.15	-7.0	33.3
55 min	10.66	12.74	0.31	0.03	7.15	-5.6	22.0
60 min	10.66	12.93	0.31	0.03	7.14	-4.3	20.6
65 min	10.66	12.69	0.31	0.03	7.14	-3.6	19.9
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 15:08

Physical Appearance at Start

Physical Appearance at Sampling

Color Light Gray Color Clear
 Odor None Odor None
 Turbidity (> 100 NTU) 176 Turbidity (> 100 NTU) 19.9
 Sheen/Free Product None 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 6/12/2023
Site Name RACER Coldwater Rd
Location Flint, MI
Project No. 1940103462
Personnel KBS

Weather Cloudy 60s °F
Well # OBG MW-13
Evacuation Method peristaltic
Sampling Method low flow

Well Information:

Depth of Well * 23.69 ft.
Depth to Water * 7.22 ft.
Length of Water Column 16.47 ft.
Volume of Water in Well 2.68 gal.(s)
3X Volume of Water in Well 8.05 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 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		Temperature Celsius		Conductivity mS/cm		Dissolved Oxygen mg/L		pH		ORP mV		Turbidity NTUs	
0.3 feet or less		±3 percent		±3 percent		±10 percent		±0.1 pH units		±10 millivolts		±10 percent	
initial	<u>7.49</u>	initial	<u>18.79</u>	initial	<u>0.48</u>	initial	<u>2.21</u>	initial	<u>6.99</u>	initial	<u>58.0</u>	initial	<u>184</u>
5 min	<u>7.74</u>		<u>14.84</u>		<u>0.47</u>		<u>1.35</u>		<u>6.86</u>		<u>48.8</u>		<u>210</u>
10 min	<u>7.94</u>		<u>14.39</u>		<u>0.48</u>		<u>1.16</u>		<u>6.86</u>		<u>46.5</u>		<u>169</u>
15 min	<u>8.14</u>		<u>14.09</u>		<u>0.48</u>		<u>1.13</u>		<u>6.86</u>		<u>45.5</u>		
20 min	<u>8.38</u>		<u>14.43</u>		<u>0.48</u>		<u>1.13</u>		<u>6.86</u>		<u>44.9</u>		<u>115</u>
25 min	<u>8.62</u>		<u>14.02</u>		<u>0.48</u>		<u>1.04</u>		<u>6.86</u>		<u>44.7</u>		<u>73.3</u>
30 min	<u>8.85</u>		<u>13.90</u>		<u>0.48</u>		<u>1.00</u>		<u>6.86</u>		<u>44.9</u>		<u>41.9</u>
35 min	<u>9.09</u>		<u>14.33</u>		<u>0.48</u>		<u>0.97</u>		<u>6.85</u>		<u>45.2</u>		<u>32.5</u>
40 min	<u>9.30</u>		<u>14.13</u>		<u>0.47</u>		<u>0.96</u>		<u>6.85</u>		<u>45.2</u>		<u>30.8</u>
45 min	<u>9.49</u>		<u>14.14</u>		<u>0.48</u>		<u>0.93</u>		<u>6.85</u>		<u>44.7</u>		<u>28.7</u>
50 min													
55 min													
60 min													
65 min													
70 min													
75 min													
80 min													
85 min													
90 min													

Water Sample:

Time Collected 13:18

Physical Appearance at Start

Physical Appearance at Sampling

Color Cloudy
Odor None
Turbidity (> 100 NTU) 184
Sheen/Free Product None

Color Slightly Cloudy
Odor None
Turbidity (> 100 NTU) 28.7
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 6/14/2023
Site Name RACER Coldwater Rd
Location Flint, MI
Project No. 1940103462
Personnel KBS

Weather Cloudy 60s °F
Well # OBG MW-14
Evacuation Method bladder pump
Sampling Method low flow

Well Information:

Depth of Well * 17.76 ft.
Depth to Water * 8.53 ft.
Length of Water Column 9.23 ft.
Volume of Water in Well 1.50 gal.(s)
3X Volume of Water in Well 4.51 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 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		Temperature Celsius		Conductivity mS/cm		Dissolved Oxygen mg/L		pH		ORP mV		Turbidity NTUs	
0.3 feet or less		±3 percent		±3 percent		±10 percent		±0.1 pH units		±10 millivolts		±10 percent	
initial	8.78	initial	18.19	initial	0.42	initial	7.58	initial	6.97	initial	93.4	initial	242
5 min	9.31		14.56		0.45		2.56		7.07		81.1		200
10 min	9.91		13.02		0.46		2.46		7.11		70.7		233
15 min	10.25		12.63		0.46		2.61		7.12		68.5		176
20 min	10.51		14.38		0.47		2.68		7.11		68.6		166
25 min	11.35		12.51		0.46		2.82		7.14		68.1		106
30 min	11.91		12.01		0.46		3.14		7.15		68.1		47.6
35 min	12.67		11.83		0.46		3.38		7.17		67.7		32.2
40 min	12.99		11.80		0.46		3.53		7.19		67.5		26
45 min	12.18		11.92		0.46		3.71		7.20		67.1		27
50 min	13.31		12.32		0.46		3.66		7.17		66.7		24
55 min													
60 min													
65 min													
70 min													
75 min													
80 min													
85 min													
90 min													

Water Sample:

Time Collected 11:12

Physical Appearance at Start

Physical Appearance at Sampling

Color Light Gray
Odor None
Turbidity (> 100 NTU) 242
Sheen/Free Product None

Color Slightly Cloudy
Odor None
Turbidity (> 100 NTU) 24
Sheen/Free Product None

Samples collected:

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

Notes:

MW-DUP-061423 Collected

Standard Groundwater Sampling Log

Date 6/13/2023
Site Name RACER Coldwater Rd
Location Flint, MI
Project No. 1940103462
Personnel KBS

Weather Cloudy 70 °F
Well # OBG MW-17S
Evacuation Method peristaltic
Sampling Method low flow

Well Information:

Depth of Well * 22.22 ft.
Depth to Water * 11.32 ft.
Length of Water Column 10.90 ft.
Volume of Water in Well 1.78 gal.(s)
3X Volume of Water in Well 5.33 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 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		Temperature Celsius		Conductivity $\mu\text{S}/\text{cm}$		Dissolved Oxygen mg/L		pH		ORP mV		Turbidity NTUs	
0.3 feet or less		± 3 percent		± 3 percent		± 10 percent		± 0.1 pH units		± 10 millivolts		± 10 percent	
initial	<u>11.91</u>	initial	<u>13.61</u>	initial	<u>0.29</u>	initial	<u>0.23</u>	initial	<u>7.06</u>	initial	<u>-125.7</u>	initial	<u>249</u>
5 min	<u>11.98</u>		<u>12.47</u>		<u>0.30</u>		<u>0.11</u>		<u>7.05</u>		<u>-130.2</u>		<u>219</u>
10 min	<u>12.04</u>		<u>12.43</u>		<u>0.30</u>		<u>0.10</u>		<u>7.05</u>		<u>-131.1</u>		<u>162.0</u>
15 min	<u>12.08</u>		<u>12.39</u>		<u>0.30</u>		<u>0.07</u>		<u>7.05</u>		<u>-133.3</u>		<u>63.2</u>
20 min	<u>12.05</u>		<u>12.07</u>		<u>0.30</u>		<u>0.05</u>		<u>7.05</u>		<u>-132.0</u>		<u>29.1</u>
25 min	<u>12.05</u>		<u>12.56</u>		<u>0.30</u>		<u>0.04</u>		<u>7.04</u>		<u>-132.9</u>		<u>20.5</u>
30 min	<u>12.05</u>		<u>12.66</u>		<u>0.30</u>		<u>0.04</u>		<u>7.04</u>		<u>-133.1</u>		<u>17.3</u>
35 min	<u>12.05</u>		<u>12.38</u>		<u>0.30</u>		<u>0.03</u>		<u>7.05</u>		<u>-132.5</u>		<u>19.5</u>
40 min	<u>12.05</u>		<u>11.74</u>		<u>0.30</u>		<u>0.03</u>		<u>7.05</u>		<u>-131.4</u>		<u>19.9</u>
45 min	<u>12.05</u>		<u>11.41</u>		<u>0.30</u>		<u>0.03</u>		<u>7.05</u>		<u>-130.1</u>		<u>18.5</u>
50 min													
55 min													
60 min													
65 min													
70 min													
75 min													
80 min													
85 min													
90 min													

Water Sample:

Time Collected 16:42

Physical Appearance at Start

Physical Appearance at Sampling

Color Rust Color
Odor None
Turbidity (> 100 NTU) 249
Sheen/Free Product None

Color Clear
Odor None
Turbidity (> 100 NTU) 18.5
Sheen/Free Product None

Samples collected:

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

Notes:

MW-DUP-061323 Collected

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

Well Information:

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 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	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
	0.3 feet or less	±3 percent	±3 percent	±10 percent	±0.1 pH units	±10 millivolts	±10 percent
initial	14.52	initial 25.21	initial 0.34	initial 3.22	initial 7.12	initial 40.4	initial 37.0
5 min	14.48	16.54	0.34	0.90	7.05	3.6	40.8
10 min	14.48	16.64	0.35		7.06	-3.9	
15 min							
20 min	14.48	16.60	0.36	0.62	7.06	-10.6	25.6
25 min	14.48	15.84	0.38	0.71	7.06	-19.3	18.2
30 min	14.48	16.35	0.38	0.67	7.05	-21.1	14.4
35 min	14.48	16.38	0.39	0.46	7.05	-24.4	13.8
40 min	14.48	16.05	0.39	0.62	7.05	-26.8	12.9
45 min	14.50	16.23	0.40	0.60	7.05	-28.9	11.7
50 min	14.50	15.74	0.40	0.58	7.05	-30.1	10.8
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Physical Appearance at Sampling

Color	Clear
Odor	None
Turbidity (> 100 NTU)	10.8
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 6/14/2023
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940103462
 Personnel KBS / SEH

Weather Cloudy 60 °F
 Well # OBG MW-21
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 17.38 ft.
 Depth to Water * 8.30 ft.
 Length of Water Column 9.08 ft.
 Volume of Water in Well 1.48 gal.(s)
 3X Volume of Water in Well 4.44 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 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 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>8.30</u>	initial <u>23.18</u>	initial <u>0.00</u>	initial <u>8.01</u>	initial <u>8.12</u>	initial <u>50.6</u>	initial <u>33.6</u>
5 min <u>8.34</u>	<u>22.70</u>	<u>0.00</u>	<u>7.48</u>	<u>7.37</u>	<u>77.0</u>	<u>42.0</u>
10 min <u>8.39</u>	<u>21.61</u>	<u>0.00</u>	<u>7.26</u>	<u>7.30</u>	<u>89.9</u>	<u>47.1</u>
15 min <u>8.42</u>	<u>21.18</u>	<u>0.00</u>	<u>7.22</u>	<u>7.30</u>	<u>89.3</u>	<u>42.1</u>
20 min <u>8.40</u>	<u>21.34</u>	<u>0.00</u>	<u>7.18</u>	<u>7.41</u>	<u>78.8</u>	<u>42.9</u>
25 min <u>8.43</u>	<u>21.63</u>	<u>0.00</u>	<u>7.07</u>	<u>7.39</u>	<u>81.4</u>	<u>41.7</u>
30 min <u>8.43</u>	<u>21.88</u>	<u>0.00</u>	<u>6.39</u>	<u>7.41</u>	<u>71.8</u>	<u>38.3</u>
35 min <u>8.44</u>	<u>24.13</u>	<u>0.00</u>	<u>6.37</u>	<u>7.30</u>	<u>69.0</u>	<u>34.0</u>
40 min <u>8.46</u>	<u>24.35</u>	<u>0.00</u>	<u>6.21</u>	<u>7.27</u>	<u>69.4</u>	<u>26.6</u>
45 min <u>8.47</u>	<u>25.03</u>	<u>0.00</u>	<u>5.98</u>	<u>7.26</u>	<u>74.5</u>	<u>20.8</u>
50 min <u>8.50</u>	<u>24.86</u>	<u>0.00</u>	<u>5.80</u>	<u>7.24</u>	<u>76.3</u>	<u>15.2</u>
55 min <u>8.50</u>	<u>23.69</u>	<u>0.00</u>	<u>5.69</u>	<u>7.27</u>	<u>70.0</u>	<u>10.9</u>
60 min <u>8.51</u>	<u>22.94</u>	<u>0.00</u>	<u>5.64</u>	<u>7.29</u>	<u>68.3</u>	<u>12.7</u>
65 min <u>8.51</u>	<u>23.21</u>	<u>0.00</u>	<u>5.61</u>	<u>7.37</u>	<u>62.0</u>	<u>6.89</u>
70 min <u>8.51</u>	<u>23.52</u>	<u>0.00</u>	<u>5.39</u>	<u>7.33</u>	<u>58.6</u>	<u>8.84</u>
75 min <u>8.50</u>	<u>24.14</u>	<u>0.00</u>	<u>5.28</u>	<u>7.35</u>	<u>57.1</u>	<u>7.85</u>
80 min <u>8.51</u>	<u>25.44</u>	<u>0.00</u>	<u>5.11</u>	<u>7.31</u>	<u>58.9</u>	<u>8.16</u>
85 min <u>8.52</u>	<u>26.30</u>	<u>0.00</u>	<u>4.86</u>	<u>7.29</u>	<u>53.6</u>	<u>8.02</u>
90 min _____	_____	_____	_____	_____	_____	_____

Water Sample:

Time Collected 11:30

Physical Appearance at Start _____

Physical Appearance at Sampling _____

Color r with large orange brown f
 Odor None
 Turbidity (> 100 NTU) 33.6
 Sheen/Free Product None

Color Clear
 Odor None
 Turbidity (> 100 NTU) 8.0
 Sheen/Free Product None

Samples collected:

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

Notes:

Conductivity probe suspected to be malfunctioning

Standard Groundwater Sampling Log

Date 6/14/2023
Site Name RACER Coldwater Rd
Location Flint, MI
Project No. 1940103462
Personnel KBS / SEH

Weather Cloudy 60 °F
Well # OBG MW-22
Evacuation Method peristaltic
Sampling Method low flow

Well Information:

Depth of Well * 26.62 ft.
Depth to Water * 6.12 ft.
Length of Water Column 20.50 ft.
Volume of Water in Well 3.34 gal.(s)
3X Volume of Water in Well 10.02 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
Did well go dry?

1 gal.(s)
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>6.12</u>	initial	<u>25.43</u>	initial	<u>0.00</u>	initial	<u>6.73</u>	initial	<u>7.09</u>	initial	<u>81.7</u>	initial	<u>36.2</u>
5 min	<u>6.23</u>		<u>23.95</u>		<u>0.00</u>		<u>6.65</u>		<u>7.01</u>		<u>84.7</u>		<u>18.7</u>
10 min	<u>6.23</u>		<u>23.02</u>		<u>0.00</u>		<u>6.60</u>		<u>7.01</u>		<u>79.1</u>		<u>12.11</u>
15 min	<u>6.22</u>		<u>21.39</u>		<u>0.00</u>		<u>6.57</u>		<u>6.98</u>		<u>77.9</u>		<u>8.15</u>
20 min	<u>6.23</u>		<u>20.64</u>		<u>0.00</u>		<u>6.51</u>		<u>6.98</u>		<u>77.5</u>		<u>5.34</u>
25 min	<u>6.24</u>		<u>20.08</u>		<u>0.00</u>		<u>6.42</u>		<u>6.98</u>		<u>76.0</u>		<u>6.84</u>
30 min	<u>6.24</u>		<u>19.67</u>		<u>0.00</u>		<u>6.32</u>		<u>7.00</u>		<u>68.9</u>		<u>8.74</u>
35 min	<u>6.25</u>		<u>19.55</u>		<u>0.00</u>		<u>6.05</u>		<u>7.52</u>		<u>59.8</u>		<u>5.83</u>
40 min	<u>6.24</u>		<u>19.50</u>		<u>0.00</u>		<u>5.97</u>		<u>7.45</u>		<u>63.7</u>		<u>4.35</u>
45 min	<u>6.25</u>		<u>19.75</u>		<u>0.00</u>		<u>5.77</u>		<u>7.39</u>		<u>73.8</u>		<u>0.02</u>
50 min	<u>6.26</u>		<u>20.26</u>		<u>0.00</u>		<u>5.60</u>		<u>7.35</u>		<u>71.6</u>		<u>2.57</u>
55 min	<u>6.26</u>		<u>20.6</u>		<u>0.00</u>		<u>5.46</u>		<u>7.33</u>		<u>70.9</u>		<u>3.79</u>
60 min	<u>6.26</u>		<u>20.68</u>		<u>0.00</u>		<u>5.33</u>		<u>7.38</u>		<u>73.5</u>		<u>4.63</u>
65 min	<u>6.27</u>		<u>21.03</u>		<u>0.00</u>		<u>5.07</u>		<u>7.33</u>		<u>68.6</u>		<u>5.25</u>
70 min													
75 min													
80 min													
85 min													
90 min													

Water Sample:

Time Collected 13:25

Physical Appearance at Start

Physical Appearance at Sampling

Color Clear
Odor None
Turbidity (> 100 NTU) 36.2
Sheen/Free Product None

Color Clear
Odor None
Turbidity (> 100 NTU) 5.25
Sheen/Free Product None

Samples collected:

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

Notes:

Conductivity probe suspected to be malfunctioning

Standard Groundwater Sampling Log

Date 6/13/2023
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 1940103462
 Personnel KBS / SEH

Weather Cloudy 60 °F
 Well # OBG MW-23
 Evacuation Method peristaltic
 Sampling Method low flow

Well Information:

Depth of Well * 33.43 ft.
 Depth to Water * 28.43 ft.
 Length of Water Column 5.00 ft.
 Volume of Water in Well 0.82 gal.(s)
 3X Volume of Water in Well 2.45 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 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>28.43</u>	initial <u>30.16</u>	initial <u>0.27</u>	initial <u>4.57</u>	initial <u>7.02</u>	initial <u>56.0</u>	initial <u>16.9</u>
5 min <u>28.42</u>	<u>26.51</u>	<u>0.17</u>	<u>4.72</u>	<u>6.95</u>	<u>47.6</u>	<u>11.8</u>
10 min <u>28.42</u>	<u>25.44</u>	<u>0.14</u>	<u>4.75</u>	<u>7.06</u>	<u>60.3</u>	<u>12.1</u>
15 min <u>28.44</u>	<u>24.34</u>	<u>0.11</u>	<u>4.74</u>	<u>7.06</u>	<u>57.8</u>	<u>6.40</u>
20 min <u>28.43</u>	<u>24.66</u>	<u>0.08</u>	<u>4.61</u>	<u>7.00</u>	<u>54.1</u>	<u>8.43</u>
25 min <u>28.43</u>	<u>24.81</u>	<u>0.08</u>	<u>4.26</u>	<u>6.74</u>	<u>49.9</u>	<u>8.78</u>
30 min <u>28.42</u>	<u>24.89</u>	<u>0.04</u>	<u>4.31</u>	<u>6.76</u>	<u>45.5</u>	<u>5.66</u>
35 min <u>28.42</u>	<u>24.74</u>	<u>0.04</u>	<u>4.22</u>	<u>6.75</u>	<u>50.0</u>	<u>4.01</u>
40 min <u>28.40</u>	<u>24.46</u>	<u>0.04</u>	<u>4.14</u>	<u>6.77</u>	<u>50.9</u>	<u>4.33</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 15:58

Physical Appearance at Start

Physical Appearance at Sampling

Color Clear
 Odor None
 Turbidity (> 100 NTU) 16.9
 Sheen/Free Product None

Color Clear
 Odor None
 Turbidity (> 100 NTU) 4.33
 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 6/12/2023
Site Name RACER Coldwater Rd
Location Flint, MI
Project No. 1940103462
Personnel KBS

Weather Cloudy 60 °F
Well # OBG MW-24
Evacuation Method peristaltic
Sampling Method low flow

Well Information:

Depth of Well * 23.84 ft.
Depth to Water * 4.70 ft.
Length of Water Column 19.14 ft.
Volume of Water in Well 3.12 gal.(s)
3X Volume of Water in Well 9.36 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
Did well go dry?

3/4 gal.(s)
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>5.06</u>	initial	<u>19.29</u>	initial	<u>0.26</u>	initial	<u>5.43</u>	initial	<u>7.29</u>	initial	<u>57.1</u>	initial	<u>14.8</u>
5 min	<u>5.17</u>		<u>16.26</u>		<u>0.26</u>		<u>1.06</u>		<u>7.22</u>		<u>48.5</u>		<u>17.1</u>
10 min	<u>5.50</u>		<u>14.80</u>		<u>0.27</u>		<u>0.30</u>		<u>7.20</u>		<u>35.2</u>		<u>23.9</u>
15 min	<u>5.78</u>		<u>14.29</u>		<u>0.26</u>		<u>0.17</u>		<u>7.20</u>		<u>29.2</u>		<u>25.6</u>
20 min	<u>6.11</u>		<u>13.89</u>		<u>0.27</u>		<u>0.13</u>		<u>7.21</u>		<u>25.6</u>		<u>36.0</u>
25 min	<u>6.34</u>		<u>13.78</u>		<u>0.27</u>		<u>0.14</u>		<u>7.21</u>		<u>24.4</u>		<u>28.5</u>
30 min	<u>6.50</u>		<u>13.98</u>		<u>0.27</u>		<u>0.13</u>		<u>7.20</u>		<u>23.9</u>		<u>24.0</u>
35 min	<u>6.69</u>		<u>14.02</u>		<u>0.27</u>		<u>0.13</u>		<u>7.20</u>		<u>23.9</u>		<u>22.9</u>
40 min	<u>6.81</u>		<u>14.21</u>		<u>0.27</u>		<u>0.15</u>		<u>7.20</u>		<u>23.8</u>		<u>21.9</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 14:18

Physical Appearance at Start

Physical Appearance at Sampling

Color Slightly Cloudy
Odor None
Turbidity (> 100 NTU) 14.8
Sheen/Free Product None

Color Slightly Cloudy
Odor None
Turbidity (> 100 NTU) 21.9
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 6/13/2023
Site Name RACER Coldwater Rd Weather Cloudy 60 °F
Location Flint, MI Well # OBG MW-26
Project No. 1940103462 Evacuation Method peristaltic
Personnel KBS Sampling Method low flow

Well Information:

Depth of Well * 11.04 ft.
Depth to Water * 7.22 ft.
Length of Water Column 3.82 ft.
Volume of Water in Well 0.62 gal.(s)
3X Volume of Water in Well 1.87 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
Did well go dry?

1 1/4 gal.(s)
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		Temperature Celsius		Conductivity mS/cm		Dissolved Oxygen mg/L		pH		ORP mV		Turbidity NTUs	
0.3 feet or less		±3 percent		±3 percent		±10 percent		±0.1 pH units		±10 millivolts		±10 percent	
initial	<u>7.22</u>	initial	<u>23.92</u>	initial	<u>0.05</u>	initial	<u>6.10</u>	initial	<u>6.55</u>	initial	<u>50.7</u>	initial	<u>15.60</u>
5 min	<u>7.24</u>		<u>23.41</u>		<u>0.04</u>		<u>6.00</u>		<u>6.55</u>		<u>25.3</u>		<u>11.80</u>
10 min	<u>7.24</u>		<u>22.45</u>		<u>0.04</u>		<u>5.88</u>		<u>6.55</u>		<u>19.6</u>		<u>7.79</u>
15 min	<u>7.26</u>		<u>21.06</u>		<u>0.05</u>		<u>5.65</u>		<u>6.45</u>		<u>13.5</u>		<u>4.34</u>
20 min	<u>7.25</u>		<u>20.97</u>		<u>0.05</u>		<u>5.63</u>		<u>6.45</u>		<u>13.4</u>		<u>3.41</u>
25 min	<u>7.27</u>		<u>20.18</u>		<u>0.05</u>		<u>5.53</u>		<u>6.47</u>		<u>0.3</u>		<u>5.05</u>
30 min	<u>7.27</u>		<u>20.02</u>		<u>0.05</u>		<u>5.52</u>		<u>6.48</u>		<u>-1.9</u>		<u>5.26</u>
35 min	<u>7.28</u>		<u>19.39</u>		<u>0.05</u>		<u>5.45</u>		<u>6.49</u>		<u>-1.4</u>		<u>5.20</u>
40 min	<u>7.28</u>		<u>19.12</u>		<u>0.05</u>		<u>5.41</u>		<u>6.47</u>		<u>-1.6</u>		<u>3.56</u>
45 min	<u>7.26</u>		<u>18.89</u>		<u>0.05</u>		<u>5.32</u>		<u>6.50</u>		<u>-1.7</u>		<u>0.75</u>
50 min													
55 min													
60 min													
65 min													
70 min													
75 min													
80 min													
85 min													
90 min													
95 min													
100 min													

Water Sample:

Time Collected 15:45

Physical Appearance at Start

Physical Appearance at Sampling

Color Clear
Odor None
Turbidity (> 100 NTU) 16
Sheen/Free Product None

Color Clear
Odor None
Turbidity (> 100 NTU) 0.75
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 6/13/2023
Site Name RACER Coldwater Rd
Location Flint, MI
Project No. 1940103462
Personnel KBS

Weather Cloudy 60 °F
Well # OBG MW-27
Evacuation Method peristaltic
Sampling Method low flow

Well Information:

Depth of Well * 31.75 ft.
Depth to Water * 23.61 ft.
Length of Water Column 8.14 ft.
Volume of Water in Well 1.33 gal.(s)
3X Volume of Water in Well 3.98 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 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		Temperature Celsius		Conductivity mS/cm		Dissolved Oxygen mg/L		pH		ORP mV		Turbidity NTUs	
0.3 feet or less		±3 percent		±3 percent		±10 percent		±0.1 pH units		±10 millivolts		±10 percent	
initial	23.61	initial	20.89	initial	0.31	initial	4.85	initial	6.41	initial	45.1	initial	35.7
5 min	23.63		20.86		0.21		4.75		6.37		45.2		20.02
10 min	23.63		20.85		0.17		4.56		6.43		45.4		12.9
15 min	23.62		20.82		0.18		4.55		6.44		46.1		13.8
20 min	23.64		20.87		0.18		4.47		6.47		46.7		11.8
25 min	23.65		20.94		0.19		4.39		6.47		47.0		10.22
30 min	23.65		20.86		0.19		4.33		6.44		47.5		9.6
35 min	23.64		20.37		0.20		4.17		6.45		48.0		7.62
40 min	23.65		20.27		0.20		4.15		6.44		49.1		6.69
45 min	23.65		19.93		0.21		4.09		6.42		50.0		6.87
50 min													
55 min													
60 min													
65 min													
70 min													
75 min													
80 min													
85 min													
90 min													

Water Sample:

Time Collected 16:50

Physical Appearance at Start

Physical Appearance at Sampling

Color Clear with small black fleck
Odor None
Turbidity (> 100 NTU) 35.7
Sheen/Free Product None

Color Clear
Odor None
Turbidity (> 100 NTU) 6.87
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 6/12/2023
Site Name RACER Coldwater Rd
Location Flint, MI
Project No. 1940103462
Personnel KBS

Weather Cloudy 60 °F
Well # OBG MW-28
Evacuation Method peristaltic
Sampling Method low flow

Well Information:

Depth of Well * 17.25 ft.
Depth to Water * 12.83 ft.
Length of Water Column 4.42 ft.
Volume of Water in Well 0.72 gal.(s)
3X Volume of Water in Well 2.16 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 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		Temperature Celsius		Conductivity mS/cm		Dissolved Oxygen mg/L		pH		ORP mV		Turbidity NTUs	
0.3 feet or less		±3 percent		±3 percent		±10 percent		±0.1 pH units		±10 millivolts		±10 percent	
initial	12.85	initial	18.42	initial	0.17	initial	4.62	initial	7.37	initial	58.6	initial	25.3
5 min	12.85		14.29		0.17		3.38		7.14		56.0		13.4
10 min	12.85		13.98		0.17		3.27		7.12		55.2		14.3
15 min	12.85		13.77		0.18		3.32		7.11		54.6		8.65
20 min	12.85		13.52		0.20		3.21		7.10		53.9		6.90
25 min	12.85		13.48		0.20		3.33		7.09		54.0		7.62
30 min	12.85		13.65		0.21		3.27		7.09		54.1		5.20
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 15:15

Physical Appearance at Start

Physical Appearance at Sampling

Color Clear
Odor None
Turbidity (> 100 NTU) 25.3
Sheen/Free Product None

Color Clear
Odor None
Turbidity (> 100 NTU) 5.20
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. 1940103462
Personnel KBS

Weather Cloudy 60 °F
Well # OBG MW-29
Evacuation Method peristaltic
Sampling Method low flow

Well Information:

Depth of Well * 33.93 ft.
Depth to Water * 25.39 ft.
Length of Water Column 8.54 ft.
Volume of Water in Well 1.39 gal.(s)
3X Volume of Water in Well 4.18 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 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		Temperature Celsius		Conductivity mS/cm		Dissolved Oxygen mg/L		pH		ORP mV		Turbidity NTUs	
0.3 feet or less		±3 percent		±3 percent		±10 percent		±0.1 pH units		±10 millivolts		±10 percent	
initial	25.39	initial	19.11	initial	0.30	initial	4.01	initial	7.49	initial	37.2	initial	17.3
5 min	25.39		14.57		0.33		0.90		7.19		9.7		
10 min	25.39		13.57		0.33		0.73		7.13		-32.7		16.3
15 min	25.39		13.48		0.34		0.69		7.12		-42.1		13.1
20 min	25.39		13.52		0.34		0.63		7.11		-60.0		10.5
25 min	25.39		13.43		0.34		0.60		7.11		-68.5		13.6
30 min	25.39		13.25		0.34		0.58		7.11		-81.4		10.8
35 min	25.39		13.19		0.34		0.55		7.10		-87.4		9.72
40 min	25.39		13.15		0.34		0.48		7.10		-103.4		10.4
45 min	25.39		13.01		0.34		0.49		7.10		-96.8		11.4
50 min	25.39		13.02		0.34		0.51		7.11		-91.7		8.77
55 min	25.39		12.82		0.34		0.51		7.11		-93.7		8.17
60 min	25.39		12.84		0.34		0.50		7.10		-96.7		
65 min													
70 min													
75 min													
80 min													
85 min													
90 min													

Water Sample:

Time Collected 17:02

Physical Appearance at Start

Physical Appearance at Sampling

Color Slightly Cloudy
Odor None
Turbidity (> 100 NTU) 17.3
Sheen/Free Product None

Color Clear
Odor None
Turbidity (> 100 NTU) 8.17
Sheen/Free Product None

Samples collected:

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

Notes:

APPENDIX B

ANALYTICAL LABORATORY RESULTS



Analytical Laboratory Report

Report ID: S49603.01(01)
Generated on 06/30/2023

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): S49603.01-S49603.04
Project: RACER Coldwater Road
Collected Date(s): 06/08/2023 - 06/09/2023
Submitted Date/Time: 06/09/2023 15:40
Sampled by: Kevin Schneider
P.O. #: 1940006516 TASK 37

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- Method Summary (Page 4)
- Sample Summary (Page 5)


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

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-chloroeicosafluoro-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
FHpPA (7:3 FTCA)	3-Perfluoroheptyl propanoic acid	812-70-4
FPePA (5:3 FTCA)	3-Perfluoropentyl propanoic acid	914637-49-3
FPrPA (3:3 FTCA)	3-Perfluoropropyl propanoic acid	356-02-5
PFBSA	Perfluorobutanesulfonamide	30334-69-1
PFECHS	Perfluoro-4-ethylcyclohexanesulfonate	67584-42-3
PFHxSA	Perfluorohexanesulfonamide	41997-13-1



Analytical Laboratory Report

Sample Summary (4 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S49603.01	B-27D	Groundwater	06/08/23 16:05
S49603.02	B-9	Groundwater	06/09/23 10:10
S49603.03	B-7	Groundwater	06/09/23 12:45
S49603.04	FB-060923	Groundwater	06/09/23 00:01



Analytical Laboratory Report

Lab Sample ID: S49603.01

Sample Tag: B-27D

Collected Date/Time: 06/08/2023 16:05

Matrix: Groundwater

COC Reference: 153094

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	13.44/6.53/14	ASTMD7979-19M	06/21/23 11:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/22/23 19:46, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.03	375-22-4	
PFPeA*	Not detected	4.1	1.0	ng/L	2.03	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.03	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	2.03	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	2.03	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2.03	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	2.03	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2.03	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	2.03	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	2.03	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	2.03	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2.03	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.03	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.03	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	2.03	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.03	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.03	2355-31-9	
EtFOSAA*	Not detected	4.1	2.0	ng/L	2.03	2991-50-6	
PFOS*	Not detected	2.0	2.0	ng/L	2.03	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	2.03	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	2.0	ng/L	2.03	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.03	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.03	68259-12-1	
PFDODA*	Not detected	2.0	1.6	ng/L	2.03	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.03	335-77-3	
PFTTrDA*	Not detected	2.0	1.2	ng/L	2.03	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.03	754-91-6	
PFTeDA*	Not detected	4.1	1.8	ng/L	2.03	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.03	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.03	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.03	919005-14-4	
HFPO-DA*	Not detected	4.1	2.0	ng/L	2.03	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.1	3.0	ng/L	2.03	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.1	2.2	ng/L	2.03	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.1	1.2	ng/L	2.03	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	2.03	30334-69-1	
PFECHS*	Not detected	2.0	1.2	ng/L	2.03	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49603.01 (continued)

Sample Tag: B-27D

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/22/23 19:46, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0	1.0	ng/L	2.03	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49603.02

Sample Tag: B-9

Collected Date/Time: 06/09/2023 10:10

Matrix: Groundwater

COC Reference: 153094

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.03/6.52/11	ASTMD7979-19M	06/21/23 11:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/22/23 20:06, 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*	3.9	2.0	1.4	ng/L	2	307-24-4	
PFBS*	2.1	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*	5.0	2.0	1.6	ng/L	2	335-67-1	
PFHxS*	5.8	2.0	1.6	ng/L	2	355-46-4	
PFHxS-LN*	4.5	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*	13	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*	11	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	4.0	2.0	ng/L	2	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.0	3.0	ng/L	2	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.0	2.2	ng/L	2	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.0	1.2	ng/L	2	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	2	30334-69-1	
PFECHS*	140	2.0	1.2	ng/L	2	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49603.02 (continued)

Sample Tag: B-9

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/22/23 20:06, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0	1.0	ng/L	2	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49603.03

Sample Tag: B-7

Collected Date/Time: 06/09/2023 12:45

Matrix: Groundwater

COC Reference: 153094

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.59/6.55/10	ASTMD7979-19M	06/21/23 11:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/22/23 20:25, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.9	9.9	ng/L	1.98	375-22-4	
PFPeA*	1.6	4.0	0.99	ng/L	1.98	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.98	757124-72-4	
PFHxA*	2.1	2.0	1.4	ng/L	1.98	307-24-4	
PFBS*	3.5	2.0	1.4	ng/L	1.98	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.98	375-85-9	
PFPeS*	5.2	2.0	1.8	ng/L	1.98	2706-91-4	
6:2 FTSA*	9.6	2.0	2.0	ng/L	1.98	27619-97-2	
PFOA*	4.9	2.0	1.6	ng/L	1.98	335-67-1	
PFHxS*	12	2.0	1.6	ng/L	1.98	355-46-4	
PFHxS-LN*	9.9	2.0	1.6	ng/L	1.98	355-46-4-LN	
PFHxS-BR*	2.1	2.0	1.6	ng/L	1.98	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.98	375-95-1	
8:2 FTSA*	Not detected	2.0	0.99	ng/L	1.98	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.98	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.98	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.98	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	1.98	2991-50-6	
PFOS*	89	2.0	1.9	ng/L	1.98	1763-23-1	
PFOS-LN*	50	2.0	1.9	ng/L	1.98	1763-23-1-LN	
PFOS-BR*	35	2.0	1.9	ng/L	1.98	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.98	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.98	68259-12-1	
PFDODA*	Not detected	2.0	1.6	ng/L	1.98	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.98	335-77-3	
PFTTrDA*	Not detected	2.0	1.2	ng/L	1.98	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.98	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	1.98	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.98	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.98	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.98	919005-14-4	
HFPO-DA*	Not detected	4.0	2.0	ng/L	1.98	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.0	3.0	ng/L	1.98	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.0	2.2	ng/L	1.98	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.0	1.2	ng/L	1.98	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	1.98	30334-69-1	

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



Analytical Laboratory Report

Lab Sample ID: S49603.03 (continued)

Sample Tag: B-7

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/22/23 20:25, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFECHS*	240	2.0	1.2	ng/L	1.98	67584-42-3	
PFHxSA*	Not detected	2.0	0.99	ng/L	1.98	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49603.04

Sample Tag: FB-060923

Collected Date/Time: 06/09/2023 00:01

Matrix: Groundwater

COC Reference: 153094

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.30/6.42/10	ASTMD7979-19M	06/21/23 11:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/22/23 20:45, Analyst: KCV

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	4.1	2.1	ng/L	2.05	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.1	3.1	ng/L	2.05	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.1	2.3	ng/L	2.05	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.1	1.2	ng/L	2.05	356-02-5	
PFBSA*	Not detected	2.1	1.2	ng/L	2.05	30334-69-1	
PFECHS*	Not detected	2.1	1.2	ng/L	2.05	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49603.04 (continued)

Sample Tag: FB-060923

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/22/23 20:45, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.1	1.0	ng/L	2.05	41997-13-1	

Merit Laboratories Login Checklist

Lab Set ID:S49603

Client:RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Submitted:06/09/2023 15:40 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.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 2.1
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ 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-S49603-01
Generated on 06/30/2023

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): S49603.01-S49603.04
Project: RACER Coldwater Road
Submitted Date/Time: 06/09/2023 15:40
Sampled by: Kevin Schneider
P.O. #: 1940006516 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: S49603.01

Sample Tag: B-27D

Collected Date/Time: 06/08/2023 16:05

Matrix: Groundwater

COC Reference: 153094

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	06/22/23 19:46	AK230622W	PF230621W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49603.02

Sample Tag: B-9

Collected Date/Time: 06/09/2023 10:10

Matrix: Groundwater

COC Reference: 153094

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	06/22/23 20:06	AK230622W	PF230621W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49603.03

Sample Tag: B-7

Collected Date/Time: 06/09/2023 12:45

Matrix: Groundwater

COC Reference: 153094

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/22/23 20:25	AK230622W	PF230621W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49603.04

Sample Tag: FB-060923

Collected Date/Time: 06/09/2023 00:01

Matrix: Groundwater

COC Reference: 153094

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/22/23 20:45	AK230622W	PF230621W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF230621W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49603.01	34 PFAs	ASTMD7979-19M	06/22/23 19:46	AK230622W
S49603.02	34 PFAs	ASTMD7979-19M	06/22/23 20:06	AK230622W
S49603.03	34 PFAs	ASTMD7979-19M	06/22/23 20:25	AK230622W
S49603.04	34 PFAs	ASTMD7979-19M	06/22/23 20:45	AK230622W

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49603.01

Sample Tag: B-27D

Collected Date/Time: 06/08/2023 16:05

Matrix: Groundwater

COC Reference: 153094

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230622W, Run Date: 06/22/2023 19:46, Matrix: WW, Dilution: 2.03

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		123.8	50.0	150.0
M2-6:2FTSA		124.0	50.0	150.0
M2-8:2FTSA		114.7	50.0	150.0
M2PFTeDA		118.9	12.0	218.0
M3PFBS		98.2	50.0	150.0
M3PFHxS		93.8	50.0	150.0
M4PFHpA		103.2	50.0	150.0
M5PFHxA		108.0	50.0	150.0
M5PFPeA		99.1	50.0	150.0
M6PFDA		93.7	50.0	150.0
M7PFUnDA		112.3	50.0	150.0
M8FOSA		104.1	50.0	150.0
M8PFOA		110.1	50.0	150.0
M8PFOS		95.9	50.0	150.0
M9-PFNA		104.8	50.0	150.0
MPFBA		104.3	50.0	150.0
MPFDoDA		112.6	50.0	150.0
d3N-MeFOSAA		99.3	50.0	150.0
d5EtFOSAA		108.8	50.0	150.0
MHFPO-DA		93.5	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49603.02

Sample Tag: B-9

Collected Date/Time: 06/09/2023 10:10

Matrix: Groundwater

COC Reference: 153094

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230622W, Run Date: 06/22/2023 20:06, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		130.4	50.0	150.0
M2-6:2FTSA		131.3	50.0	150.0
M2-8:2FTSA		115.0	50.0	150.0
M2PFTeDA		123.1	12.0	218.0
M3PFBS		97.9	50.0	150.0
M3PFHxS		98.8	50.0	150.0
M4PFHpA		100.3	50.0	150.0
M5PFHxA		100.8	50.0	150.0
M5PFPeA		102.7	50.0	150.0
M6PFDA		86.3	50.0	150.0
M7PFUnDA		108.0	50.0	150.0
M8FOSA		104.9	50.0	150.0
M8PFOA		107.9	50.0	150.0
M8PFOS		107.4	50.0	150.0
M9-PFNA		104.3	50.0	150.0
MPFBA		103.8	50.0	150.0
MPFDoDA		113.2	50.0	150.0
d3N-MeFOSAA		99.9	50.0	150.0
d5EtFOSAA		116.8	50.0	150.0
MHFPO-DA		95.8	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49603.03

Sample Tag: B-7

Collected Date/Time: 06/09/2023 12:45

Matrix: Groundwater

COC Reference: 153094

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230622W, Run Date: 06/22/2023 20:25, Matrix: WW, Dilution: 1.98

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		128.4	50.0	150.0
M2-6:2FTSA		122.4	50.0	150.0
M2-8:2FTSA		109.6	50.0	150.0
M2PFTeDA		123.1	12.0	218.0
M3PFBS		91.8	50.0	150.0
M3PFHxS		101.0	50.0	150.0
M4PFHpA		103.4	50.0	150.0
M5PFHxA		108.9	50.0	150.0
M5PFPeA		100.7	50.0	150.0
M6PFDA		95.1	50.0	150.0
M7PFUnDA		116.6	50.0	150.0
M8FOSA		105.9	50.0	150.0
M8PFOA		104.7	50.0	150.0
M8PFOS		103.7	50.0	150.0
M9-PFNA		110.7	50.0	150.0
MPFBA		105.2	50.0	150.0
MPFDoDA		107.1	50.0	150.0
d3N-MeFOSAA		91.8	50.0	150.0
d5EtFOSAA		101.0	50.0	150.0
MHFPO-DA		96.6	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49603.04

Sample Tag: FB-060923

Collected Date/Time: 06/09/2023 00:01

Matrix: Groundwater

COC Reference: 153094

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230622W, Run Date: 06/22/2023 20:45, Matrix: WW, Dilution: 2.05

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		128.5	50.0	150.0
M2-6:2FTSA		117.8	50.0	150.0
M2-8:2FTSA		141.0	50.0	150.0
M2PFTeDA		113.1	12.0	218.0
M3PFBS		100.2	50.0	150.0
M3PFHxS		100.0	50.0	150.0
M4PFHpA		112.6	50.0	150.0
M5PFHxA		115.3	50.0	150.0
M5PFPeA		101.1	50.0	150.0
M6PFDA		99.4	50.0	150.0
M7PFUnDA		113.5	50.0	150.0
M8FOSA		109.8	50.0	150.0
M8PFOA		121.4	50.0	150.0
M8PFOS		101.5	50.0	150.0
M9-PFNA		98.4	50.0	150.0
MPFBA		105.0	50.0	150.0
MPFDoDA		115.2	50.0	150.0
d3N-MeFOSAA		109.4	50.0	150.0
d5EtFOSAA		116.3	50.0	150.0
MHFPO-DA		96.1	50.0	150.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: PF230621W1

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

Blank (BLK)

Lab Sample ID: AK230622W.BLK230621

Run in Batch: AK230622W, Run Date: 06/22/2023 15:13, Prep Date: 06/21/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		119.6	50.0	150.0
M2-6:2FTSA		121.0	50.0	150.0
M2-8:2FTSA		120.8	50.0	150.0
M2PFTeDA		102.0	12.0	218.0
M3PFBS		91.9	50.0	150.0
M3PFHxS		109.1	50.0	150.0
M4PFHpA		110.2	50.0	150.0
M5PFHxA		110.2	50.0	150.0
M5PFPeA		99.6	50.0	150.0
M6PFDA		98.5	50.0	150.0
M7PFUnDA		95.6	50.0	150.0
M8FOSA		105.8	50.0	150.0
M8PFOA		111.4	50.0	150.0
M8PFOS		97.6	50.0	150.0
M9-PFNA		106.1	50.0	150.0
MPFBA		103.8	50.0	150.0
MPFDoDA		109.5	50.0	150.0
d3N-MeFOSAA		105.1	50.0	150.0
d5EtFOSAA		104.6	50.0	150.0
MHFPO-DA		99.5	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample (LCS)

Lab Sample ID: AK230622W.LCS230621

Run in Batch: AK230622W, Run Date: 06/22/2023 14:34, Prep Date: 06/21/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		103.9	50.0	150.0
M2-6:2FTSA		125.8	50.0	150.0
M2-8:2FTSA		107.7	50.0	150.0
M2PFTeDA		126.8	12.0	218.0
M3PFBS		87.1	50.0	150.0
M3PFHxS		103.6	50.0	150.0
M4PFHpA		96.7	50.0	150.0
M5PFHxA		104.1	50.0	150.0
M5PFPeA		95.2	50.0	150.0
M6PFDA		85.3	50.0	150.0
M7PFUnDA		96.8	50.0	150.0
M8FOSA		98.8	50.0	150.0
M8PFOA		103.4	50.0	150.0
M8PFOS		101.0	50.0	150.0
M9-PFNA		99.9	50.0	150.0
MPFBA		97.8	50.0	150.0
MPFDoDA		107.8	50.0	150.0
d3N-MeFOSAA		94.5	50.0	150.0
d5EtFOSAA		102.6	50.0	150.0
MHFPO-DA		86.6	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK230622W.LCSD2306121D, Parent Sample ID: AK230622W.LCS230621

Run in Batch: AK230622W, Run Date: 06/22/2023 14:54, Prep Date: 06/21/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		118.9	50.0	150.0
M2-6:2FTSA		110.2	50.0	150.0
M2-8:2FTSA		114.3	50.0	150.0
M2PFTeDA		94.1	12.0	218.0
M3PFBS		93.5	50.0	150.0
M3PFHxS		103.1	50.0	150.0
M4PFHpA		103.6	50.0	150.0
M5PFHxA		102.3	50.0	150.0
M5PFPeA		101.1	50.0	150.0
M6PFDA		77.9	50.0	150.0
M7PFUnDA		90.4	50.0	150.0
M8FOSA		102.8	50.0	150.0
M8PFOA		105.6	50.0	150.0
M8PFOS		104.8	50.0	150.0
M9-PFNA		92.5	50.0	150.0
MPFBA		102.5	50.0	150.0
MPFDoDA		93.7	50.0	150.0
d3N-MeFOSAA		104.4	50.0	150.0
d5EtFOSAA		111.7	50.0	150.0
MHFPO-DA		95.4	50.0	150.0

QC Report - Internal Standards per QC Sample

Matrix Spike (MS)

Lab Sample ID: AK230622W.4954714MD, Parent Sample ID: S49547.14

Run in Batch: AK230622W, Run Date: 06/22/2023 16:12, Prep Date: 06/21/2023, Matrix: WW, Dilution: 1.98

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		138.3	50.0	150.0
M2-6:2FTSA		128.1	50.0	150.0
M2-8:2FTSA		101.1	50.0	150.0
M2PFTeDA		107.4	12.0	218.0
M3PFBS		97.7	50.0	150.0
M3PFHxS		101.6	50.0	150.0
M4PFHpA		100.3	50.0	150.0
M5PFHxA		110.5	50.0	150.0
M5PFPeA		103.4	50.0	150.0
M6PFDA		98.2	50.0	150.0
M7PFUnDA		105.9	50.0	150.0
M8FOSA		104.6	50.0	150.0
M8PFOA		107.0	50.0	150.0
M8PFOS		111.1	50.0	150.0
M9-PFNA		98.0	50.0	150.0
MPFBA		106.5	50.0	150.0
MPFDoDA		101.4	50.0	150.0
d3N-MeFOSAA		108.3	50.0	150.0
d5EtFOSAA		111.6	50.0	150.0
MHFPO-DA		95.1	50.0	150.0

QC Report - Internal Standards per QC Sample

Duplicate (DUP)

Lab Sample ID: AK230622W.4954715D, Parent Sample ID: S49547.15

Run in Batch: AK230622W, Run Date: 06/22/2023 16:51, Prep Date: 06/21/2023, Matrix: WW, Dilution: 2.03

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		115.5	50.0	150.0
M2-6:2FTSA		114.0	50.0	150.0
M2-8:2FTSA		111.6	50.0	150.0
M2PFTeDA		115.7	12.0	218.0
M3PFBS		99.8	50.0	150.0
M3PFHxS		106.3	50.0	150.0
M4PFHpA		110.1	50.0	150.0
M5PFHxA		103.4	50.0	150.0
M5PFPeA		98.3	50.0	150.0
M6PFDA		89.1	50.0	150.0
M7PFUnDA		102.2	50.0	150.0
M8FOSA		104.2	50.0	150.0
M8PFOA		114.3	50.0	150.0
M8PFOS		103.9	50.0	150.0
M9-PFNA		98.6	50.0	150.0
MPFBA		106.8	50.0	150.0
MPFDoDA		107.2	50.0	150.0
d3N-MeFOSAA		108.1	50.0	150.0
d5EtFOSAA		101.3	50.0	150.0
MHFPO-DA		105.5	50.0	150.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230621W1

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

Blank (BLK)

Lab Sample ID: AK230622W.BLK230621

Run in Batch: AK230622W, Run Date: 06/22/2023 15:13, Prep Date: 06/21/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/l
PFMPA		ND	2	ng/l
FPrPA (3:3 FTCA)		ND	4	ng/l
PFPPrS		ND	2	ng/l
PFPpA		ND	4	ng/l
PFMBA		ND	2	ng/l
4:2 FTSA		ND	2	ng/l
NFDHA		ND	2	ng/l
PFHxA		ND	2	ng/l
PFBS		ND	2	ng/l
HFPO-DA		ND	4	ng/l
FPePA (5:3 FTCA)		ND	4	ng/l
PFEESA		ND	2	ng/l
PFHpA		ND	2	ng/l
PFPpS		ND	2	ng/l
ADONA		ND	2	ng/l
6:2 FTSA		ND	2	ng/l
PFBSA		ND	2	ng/l
PFOA		ND	2	ng/l
PFHxS-BR		ND	2	ng/l
PFHxS		ND	2	ng/l
PFHxS-LN		ND	2	ng/l
PFNA		ND	2	ng/l
FHpPA (7:3 FTCA)		ND	4	ng/l
PFECHS		ND	2	ng/l
8:2 FTSA		ND	2	ng/l
PFHpS		ND	2	ng/l
N-MeFOSAA		ND	2	ng/l
PFDA		ND	2	ng/l
PFOS-BR		ND	2	ng/l
PFOS		ND	2	ng/l
EtFOSAA		ND	4	ng/l
PFOS-LN		ND	2	ng/l
PFUnDA		ND	2	ng/l
PFHxSA		ND	2	ng/l
9CL-PF3ONS		ND	2	ng/l
PFNS		ND	2	ng/l
PFDoDA		ND	2	ng/l
PFDS		ND	2	ng/l
PFTTrDA		ND	2	ng/l
11CL-PF3OUdS		ND	2	ng/l
PFTeDA		ND	4	ng/l
FOSA		ND	2	ng/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230621W1 (continued)

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

Laboratory Control Sample (LCS)

Lab Sample ID: AK230622W.LCS230621

Run in Batch: AK230622W, Run Date: 06/22/2023 14:34, Prep Date: 06/21/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		102.4	70.0	130.0
PFMPA		90.8	70.0	130.0
FPrPA (3:3 FTCA)		87.2	70.0	130.0
PFPPrS		102.8	70.0	130.0
PFPeA		96.0	70.0	130.0
PFMBA		81.6	70.0	130.0
4:2 FTSA		102.6	70.0	130.0
NFDHA		80.0	70.0	130.0
PFHxA		94.4	70.0	130.0
PFBS		92.2	70.0	130.0
HFPO-DA		92.8	70.0	130.0
FPePA (5:3 FTCA)		92.8	70.0	130.0
PFEESA		77.4	70.0	130.0
PFHpA		88.6	70.0	130.0
PFPeS		99.4	70.0	130.0
ADONA		108.0	70.0	130.0
6:2 FTSA		85.8	70.0	130.0
PFBSA		92.4	70.0	130.0
PFOA		113.4	70.0	130.0
PFHxS		83.6	70.0	130.0
PFNA		97.6	70.0	130.0
FHpPA (7:3 FTCA)		99.4	70.0	130.0
PFECHS		97.8	70.0	130.0
8:2 FTSA		87.0	70.0	130.0
PFHpS		91.4	70.0	130.0
N-MeFOSAA		96.4	70.0	130.0
PFDA		109.8	70.0	130.0
PFOS		93.4	70.0	130.0
EtFOSAA		96.8	70.0	130.0
PFUnDA		101.8	70.0	130.0
PFHxSA		107.6	70.0	130.0
9CL-PF3ONS		88.4	70.0	130.0
PFNS		97.8	70.0	130.0
PFDoDA		103.4	70.0	130.0
PFDS		109.0	70.0	130.0
PFTTrDA		103.2	70.0	130.0
11CL-PF3OUdS		90.8	70.0	130.0
PFTeDA		96.0	70.0	130.0
FOSA		94.4	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK230622W.LCSD2306121D, Parent Sample ID: AK230622W.LCS230621

Run in Batch: AK230622W, Run Date: 06/22/2023 14:54, Prep Date: 06/21/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		100.2	70.0	130.0	2.2	30.0
PFMPA		89.2	70.0	130.0	1.8	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230621W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK230622W.LCSD2306121D, Parent Sample ID: AK230622W.LCS230621

Run in Batch: AK230622W, Run Date: 06/22/2023 14:54, Prep Date: 06/21/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
FPrPA (3:3 FTCA)		94.4	70.0	130.0	7.9	30.0
PFPPrS		97.0	70.0	130.0	5.8	30.0
PFPeA		87.0	70.0	130.0	9.8	30.0
PFMBA		81.4	70.0	130.0	0.2	30.0
4:2 FTSA		102.6	70.0	130.0	0.0	30.0
NFDHA		76.8	70.0	130.0	4.1	30.0
PFHxA		104.6	70.0	130.0	10.3	30.0
PFBS		89.6	70.0	130.0	2.9	30.0
HFPO-DA		94.0	70.0	130.0	1.3	30.0
FPePA (5:3 FTCA)		96.4	70.0	130.0	3.8	30.0
PFEESA		83.0	70.0	130.0	7.0	30.0
PFHpA		96.0	70.0	130.0	8.0	30.0
PFPeS		90.0	70.0	130.0	9.9	30.0
ADONA		96.8	70.0	130.0	10.9	30.0
6:2 FTSA		108.6	70.0	130.0	23.5	30.0
PFBSA		92.2	70.0	130.0	0.2	30.0
PFOA		100.8	70.0	130.0	11.8	30.0
PFHxS		93.4	70.0	130.0	11.1	30.0
PFNA		101.6	70.0	130.0	4.0	30.0
FHpPA (7:3 FTCA)		89.8	70.0	130.0	10.1	30.0
PFECHS		93.6	70.0	130.0	4.4	30.0
8:2 FTSA		91.8	70.0	130.0	5.4	30.0
PFHpS		100.0	70.0	130.0	9.0	30.0
N-MeFOSAA		101.4	70.0	130.0	5.1	30.0
PFDA		129.8	70.0	130.0	16.7	30.0
PFOS		89.0	70.0	130.0	4.8	30.0
EtFOSAA		89.6	70.0	130.0	7.7	30.0
PFUnDA		89.0	70.0	130.0	13.4	30.0
PFHxSA		88.0	70.0	130.0	20.0	30.0
9CL-PF3ONS		85.2	70.0	130.0	3.7	30.0
PFNS		87.4	70.0	130.0	11.2	30.0
PFDoDA		100.8	70.0	130.0	2.5	30.0
PFDS		98.2	70.0	130.0	10.4	30.0
PFTTrDA		95.0	70.0	130.0	8.3	30.0
11CL-PF3OUdS		86.6	70.0	130.0	4.7	30.0
PFTeDA		110.4	70.0	130.0	14.0	30.0
FOSA		86.0	70.0	130.0	9.3	30.0

Matrix Spike (MS)

Lab Sample ID: AK230622W.4954714MD, Parent Sample ID: S49547.14

Run in Batch: AK230622W, Run Date: 06/22/2023 16:12, Prep Date: 06/21/2023, Matrix: WW, Dilution: 1.98

Analyte	Flags	% Rec	LCL	UCL
PFBA		111.1	70.0	130.0
PFPeA		93.9	70.0	130.0
4:2 FTSA		96.0	70.0	130.0
PFHxA		111.1	70.0	130.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230621W1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: AK230622W.4954714MD, Parent Sample ID: S49547.14

Run in Batch: AK230622W, Run Date: 06/22/2023 16:12, Prep Date: 06/21/2023, Matrix: WW, Dilution: 1.98

Analyte	Flags	% Rec	LCL	UCL
PFBS		86.9	70.0	130.0
PFHpA		94.9	70.0	130.0
PFPeS		90.9	70.0	130.0
6:2 FTSA		94.9	70.0	130.0
PFOA		107.0	70.0	130.0
PFHxS		95.9	70.0	130.0
PFNA		101.0	70.0	130.0
8:2 FTSA		111.1	70.0	130.0
PFHpS		94.9	70.0	130.0
PFDA		100.0	70.0	130.0
N-MeFOSAA		92.9	70.0	130.0
EtFOSAA		93.9	70.0	130.0
PFOS		87.9	70.0	130.0
PFUnDA		87.9	70.0	130.0
PFNS		86.9	70.0	130.0
PFDODA		97.0	70.0	130.0
PFDS		90.9	70.0	130.0
PFTTrDA		111.1	70.0	130.0
FOSA		88.9	70.0	130.0
PFTeDA		101.0	70.0	130.0
11CL-PF3OUdS		80.8	70.0	130.0
9CL-PF3ONS		82.8	70.0	130.0
ADONA		93.9	70.0	130.0
HFPO-DA		83.8	70.0	130.0

Duplicate (DUP)

Lab Sample ID: AK230622W.4954715D, Parent Sample ID: S49547.15

Run in Batch: AK230622W, Run Date: 06/22/2023 16:51, Prep Date: 06/21/2023, Matrix: WW, Dilution: 2.03

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
PFPeA		NC	30.0
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		14.9	30.0
PFHxS-LN		18.8	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

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230621W1 (continued)

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

Duplicate (DUP) (continued)

Lab Sample ID: AK230622W.4954715D, Parent Sample ID: S49547.15

Run in Batch: AK230622W, Run Date: 06/22/2023 16:51, Prep Date: 06/21/2023, Matrix: WW, Dilution: 2.03

Analyte	Flags	RPD	RPD CL
EtFOSAA		NC	30.0
PFOS		6.1	30.0
PFOS-LN		0.0	30.0
PFOS-BR		10.3	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

REPORT TO

CONTACT NAME			
clifford Yantz / Kevin Schneider			
COMPANY			
Ramboll			
ADDRESS			
2090 Commonwealth Blvd			
CITY		STATE	ZIP CODE
Ann Arbor		MI	48105
PHONE NO.		CELL NO.	P.O. NO.
		733-333-0211	194006516 Task 37
E-MAIL ADDRESS		QUOTE NO.	
Kevin Schneider@ramboll.com clifford.yantz@ramboll.com			

CHAIN OF CUSTODY RECORD

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

INVOICE TO

PROJECT NO./NAME <u>RACER Coldwater Road</u>	SAMPLER(S) - PLEASE PRINT/SIGN NAME <u>Kevin Schneider</u> <i>KS</i>
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

[illegible]

RELINQUISHED BY:	<i>Stall</i>	☒ Sampler	DATE	TIME
SIGNATURE/ORGANIZATION			6/9/23	12:45
RECEIVED BY:	<i>Dany G. Miller</i>		DATE	TIME
SIGNATURE/ORGANIZATION			6/9/23	14:45
RELINQUISHED BY:	<i>Sam Miller</i>		DATE	TIME
SIGNATURE/ORGANIZATION			6/9/23	15:40
RECEIVED BY:	<i>M. Mikoto</i>		DATE	TIME
SIGNATURE/ORGANIZATION			6/9/23	15:40

RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL <u>2.1</u>
SEAL NO.	SEAL INTACT *YES ☐ NO ☐	INITIALS		

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



Analytical Laboratory Report

Report ID: S49716.01(01)
Generated on 07/12/2023

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): S49716.01-S49716.07
Project: RACER Coldwater Road
Collected Date(s): 06/12/2023 - 06/13/2023
Submitted Date/Time: 06/13/2023 15:00
Sampled by: Kevin Schneider
P.O. #: 1940006516 TASK 37

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- General Report Notes (Page 2)
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- Method Summary (Page 4)
- Sample Summary (Page 5)


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

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-chloroeicosafluoro-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
FHpPA (7:3 FTCA)	3-Perfluoroheptyl propanoic acid	812-70-4
FPePA (5:3 FTCA)	3-Perfluoropentyl propanoic acid	914637-49-3
FPrPA (3:3 FTCA)	3-Perfluoropropyl propanoic acid	356-02-5
PFBSA	Perfluorobutanesulfonamide	30334-69-1
PFECHS	Perfluoro-4-ethylcyclohexanesulfonate	67584-42-3
PFHxSA	Perfluorohexanesulfonamide	41997-13-1



Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S49716.01	OBG MW-9	Groundwater	06/12/23 12:08
S49716.02	OBG MW-13	Groundwater	06/12/23 13:18
S49716.03	OBG MW-24	Groundwater	06/12/23 14:18
S49716.04	OBG MW-28	Groundwater	06/12/23 15:15
S49716.05	OBG MW-29	Groundwater	06/12/23 17:02
S49716.06	OBG MW-18S	Groundwater	06/13/23 11:42
S49716.07	Field Blank-061323	Water	06/13/23 11:45



Analytical Laboratory Report

Lab Sample ID: S49716.01

Sample Tag: OBG MW-9

Collected Date/Time: 06/12/2023 12:08

Matrix: Groundwater

COC Reference: 156508

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.20/6.55/11	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 00:11, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.8	9.8	ng/L	1.95	375-22-4	
PFPeA*	Not detected	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*	Not detected	2.0	1.4	ng/L	1.95	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	1.95	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.95	375-85-9	
PFPeS*	Not detected	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*	Not detected	2.0	1.6	ng/L	1.95	335-67-1	
PFHxS*	2.5	2.0	1.6	ng/L	1.95	355-46-4	
PFHxS-LN*	1.7	2.0	1.6	ng/L	1.95	355-46-4-LN	J
PFHxS-BR*	Not detected	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*	Not detected	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*	3.5	2.0	1.9	ng/L	1.95	1763-23-1	
PFOS-LN*	Not detected	2.0	1.9	ng/L	1.95	1763-23-1-LN	
PFOS-BR*	Not detected	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	2.0	2.0	ng/L	1.95	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	3.9	2.9	ng/L	1.95	812-70-4	
FPePA (5:3 FTCA)*	Not detected	3.9	2.1	ng/L	1.95	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	3.9	1.2	ng/L	1.95	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	1.95	30334-69-1	

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



Analytical Laboratory Report

Lab Sample ID: S49716.01 (continued)

Sample Tag: OBG MW-9

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 00:11, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFECHS*	32	2.0	1.2	ng/L	1.95	67584-42-3	
PFHxSA*	Not detected	2.0	0.98	ng/L	1.95	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49716.02

Sample Tag: OBG MW-13

Collected Date/Time: 06/12/2023 13:18

Matrix: Groundwater

COC Reference: 156508

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.65/6.54/12	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 00:50, 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*	Not detected	2.0	1.4	ng/L	1.96	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	1.96	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.96	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.96	2706-91-4	
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*	Not detected	2.0	1.6	ng/L	1.96	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.96	355-46-4-LN	
PFHxS-BR*	Not detected	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*	Not detected	2.0	1.9	ng/L	1.96	1763-23-1	
PFOS-LN*	Not detected	2.0	1.9	ng/L	1.96	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	1.9	ng/L	1.96	1763-23-1-BR	
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	2.0	2.0	ng/L	1.96	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	3.9	2.9	ng/L	1.96	812-70-4	
FPePA (5:3 FTCA)*	Not detected	3.9	2.2	ng/L	1.96	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	3.9	1.2	ng/L	1.96	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	1.96	30334-69-1	
PFECHS*	Not detected	2.0	1.2	ng/L	1.96	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49716.02 (continued)
Sample Tag: OBG MW-13

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 00:50, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0	0.98	ng/L	1.96	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49716.03

Sample Tag: OBG MW-24

Collected Date/Time: 06/12/2023 14:18

Matrix: Groundwater

COC Reference: 156508

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.07/6.57/11	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 01:29, 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*	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	2.0	2.0	ng/L	2	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.0	3.0	ng/L	2	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.0	2.2	ng/L	2	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.0	1.2	ng/L	2	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	2	30334-69-1	
PFECHS*	1.3	2.0	1.2	ng/L	2	67584-42-3	J

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



Analytical Laboratory Report

Lab Sample ID: S49716.03 (continued)
Sample Tag: OBG MW-24

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 01:29, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0	1.0	ng/L	2	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49716.04

Sample Tag: OBG MW-28

Collected Date/Time: 06/12/2023 15:15

Matrix: Groundwater

COC Reference: 156508

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.61/6.53/10	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 01:49, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	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*	Not detected	2.0	1.4	ng/L	1.97	307-24-4	
PFBS*	2.3	2.0	1.4	ng/L	1.97	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.97	375-85-9	
PFPeS*	Not detected	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*	3.1	2.0	1.6	ng/L	1.97	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	1.97	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.97	355-46-4-LN	
PFHxS-BR*	Not detected	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*	Not detected	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*	Not detected	2.0	1.9	ng/L	1.97	1763-23-1	
PFOS-LN*	Not detected	2.0	1.9	ng/L	1.97	1763-23-1-LN	
PFOS-BR*	Not detected	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	
PFTDA*	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	2.0	2.0	ng/L	1.97	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	3.9	3.0	ng/L	1.97	812-70-4	
FPePA (5:3 FTCA)*	Not detected	3.9	2.2	ng/L	1.97	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	3.9	1.2	ng/L	1.97	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	1.97	30334-69-1	
PFECHS*	4.6	2.0	1.2	ng/L	1.97	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49716.04 (continued)

Sample Tag: OBG MW-28

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 01:49, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0	0.99	ng/L	1.97	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49716.05

Sample Tag: OBG MW-29

Collected Date/Time: 06/12/2023 17:02

Matrix: Groundwater

COC Reference: 156508

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.07/6.54/11	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 02:08, 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*	1.4	4.0	1.00	ng/L	1.99	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.99	757124-72-4	
PFHxA*	2.0	2.0	1.4	ng/L	1.99	307-24-4	
PFBS*	12	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*	19	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*	2.9	2.0	1.6	ng/L	1.99	335-67-1	
PFHxS*	29	2.0	1.6	ng/L	1.99	355-46-4	
PFHxS-LN*	20	2.0	1.6	ng/L	1.99	355-46-4-LN	
PFHxS-BR*	7.9	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	2.0	2.0	ng/L	1.99	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.0	3.0	ng/L	1.99	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.0	2.2	ng/L	1.99	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.0	1.2	ng/L	1.99	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	1.99	30334-69-1	

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



Analytical Laboratory Report

Lab Sample ID: S49716.05 (continued)

Sample Tag: OBG MW-29

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 02:08, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFECHS*	940	2.0	1.2	ng/L	1.99	67584-42-3	
PFHxSA*	Not detected	2.0	1.00	ng/L	1.99	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49716.06

Sample Tag: OBG MW-18S

Collected Date/Time: 06/13/2023 11:42

Matrix: Groundwater

COC Reference: 156508

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.13/6.54/11	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 02:28, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	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*	Not detected	2.0	1.4	ng/L	1.97	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	1.97	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.97	375-85-9	
PFPeS*	Not detected	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*	Not detected	2.0	1.6	ng/L	1.97	335-67-1	
PFHxS*	2.0	2.0	1.6	ng/L	1.97	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.97	355-46-4-LN	
PFHxS-BR*	Not detected	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*	Not detected	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*	Not detected	2.0	1.9	ng/L	1.97	1763-23-1	
PFOS-LN*	Not detected	2.0	1.9	ng/L	1.97	1763-23-1-LN	
PFOS-BR*	Not detected	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	2.0	2.0	ng/L	1.97	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	3.9	3.0	ng/L	1.97	812-70-4	
FPePA (5:3 FTCA)*	Not detected	3.9	2.2	ng/L	1.97	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	3.9	1.2	ng/L	1.97	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	1.97	30334-69-1	
PFECHS*	9.1	2.0	1.2	ng/L	1.97	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49716.06 (continued)

Sample Tag: OBG MW-18S

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 02:28, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0	0.99	ng/L	1.97	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49716.07

Sample Tag: Field Blank-061323

Collected Date/Time: 06/13/2023 11:45

Matrix: Water

COC Reference: 156508

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.11/6.46/9	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 02:47, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	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*	Not detected	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*	Not detected	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*	Not detected	1.9	1.6	ng/L	1.94	335-67-1	
PFHxS*	Not detected	1.9	1.6	ng/L	1.94	355-46-4	
PFHxS-LN*	Not detected	1.9	1.6	ng/L	1.94	355-46-4-LN	
PFHxS-BR*	Not detected	1.9	1.6	ng/L	1.94	355-46-4-BR	
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*	Not detected	1.9	1.9	ng/L	1.94	375-92-8	
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*	Not detected	1.9	1.9	ng/L	1.94	1763-23-1	
PFOS-LN*	Not detected	1.9	1.9	ng/L	1.94	1763-23-1-LN	
PFOS-BR*	Not detected	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	1.9	1.9	ng/L	1.94	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	3.9	2.9	ng/L	1.94	812-70-4	
FPePA (5:3 FTCA)*	Not detected	3.9	2.1	ng/L	1.94	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	3.9	1.2	ng/L	1.94	356-02-5	
PFBSA*	Not detected	1.9	1.2	ng/L	1.94	30334-69-1	
PFECHS*	Not detected	1.9	1.2	ng/L	1.94	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49716.07 (continued)

Sample Tag: Field Blank-061323

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 02:47, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	1.9	0.97	ng/L	1.94	41997-13-1	

Merit Laboratories Login Checklist

Lab Set ID:S49716

Client:RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Submitted:06/13/2023 15:00 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.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 4.6
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ 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: _____

REPORT TO

CONTACT NAME			
clifford yantz / Kevin Schneider			
COMPANY			
Ramboll			
ADDRESS			
2090 Commonwealth Blvd			
CITY		STATE	ZIP CODE
Ann Arbor		MI	48105
PHONE NO.		CELL NO.	P.O. NO.
		313-333-0211	1940006516
E-MAIL ADDRESS		QUOTE NO.	
Kevin.Schneider@Ramboll.com clifford.yantz@Ramboll.com			

CHAIN OF CUSTODY RECORD

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=WIPER	A=AIR	WS=WASTE

[illegible]

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications

☐ OHIO VAP ☐ Drinking Water☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York☐ Other _____

Special Instructions

Low level reporting
limit with estimated
values

34 PFAS compound
List

RELINQUISHED BY:	<i>[Signature]</i>	X	Sampler	DATE	TIME
SIGNATURE/ORGANIZATION				6/13/23	12:53
RECEIVED BY:	<i>[Signature]</i>			DATE	TIME
SIGNATURE/ORGANIZATION				6/13/23	12:53
RELINQUISHED BY:	<i>[Signature]</i>			DATE	TIME
SIGNATURE/ORGANIZATION				6/13/23	15:01
RECEIVED BY:	<i>[Signature]</i>			DATE	TIME
				6/13/23	15:01

RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL _____ 41	
SEAL NO.	SEAL INTACT	INITIALS		



Quality Control Report

Report ID: QC-S49716-01
Generated on 07/12/2023

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): S49716.01-S49716.07
Project: RACER Coldwater Road
Submitted Date/Time: 06/13/2023 15:00
Sampled by: Kevin Schneider
P.O. #: 1940006516 TASK 37

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-8)
Prep Batch Summary (Page 9)
Internal Standards per Lab Sample (Pages 10-16)
Internal Standards per QC Sample (Pages 17-21)
Batch QC Results (Pages 22-26)

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: S49716.01

Sample Tag: OBG MW-9

Collected Date/Time: 06/12/2023 12:08

Matrix: Groundwater

COC Reference: 156508

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 00:11	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49716.02

Sample Tag: OBG MW-13

Collected Date/Time: 06/12/2023 13:18

Matrix: Groundwater

COC Reference: 156508

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 00:50	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49716.03

Sample Tag: OBG MW-24

Collected Date/Time: 06/12/2023 14:18

Matrix: Groundwater

COC Reference: 156508

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 01:29	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49716.04

Sample Tag: OBG MW-28

Collected Date/Time: 06/12/2023 15:15

Matrix: Groundwater

COC Reference: 156508

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 01:49	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49716.05

Sample Tag: OBG MW-29

Collected Date/Time: 06/12/2023 17:02

Matrix: Groundwater

COC Reference: 156508

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 02:08	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49716.06

Sample Tag: OBG MW-18S

Collected Date/Time: 06/13/2023 11:42

Matrix: Groundwater

COC Reference: 156508

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 02:28	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49716.07

Sample Tag: Field Blank-061323

Collected Date/Time: 06/13/2023 11:45

Matrix: Water

COC Reference: 156508

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 02:47	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF230628W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49716.01	34 PFAs	ASTMD7979-19M	06/30/23 00:11	AK230629
S49716.02	34 PFAs	ASTMD7979-19M	06/30/23 00:50	AK230629
S49716.03	34 PFAs	ASTMD7979-19M	06/30/23 01:29	AK230629
S49716.04	34 PFAs	ASTMD7979-19M	06/30/23 01:49	AK230629
S49716.05	34 PFAs	ASTMD7979-19M	06/30/23 02:08	AK230629
S49716.06	34 PFAs	ASTMD7979-19M	06/30/23 02:28	AK230629
S49716.07	34 PFAs	ASTMD7979-19M	06/30/23 02:47	AK230629

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49716.01

Sample Tag: OBG MW-9

Collected Date/Time: 06/12/2023 12:08

Matrix: Groundwater

COC Reference: 156508

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 00:11, Matrix: WW, Dilution: 1.95

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		100.9	50.0	150.0
M2-6:2FTSA		118.2	50.0	150.0
M2-8:2FTSA		101.8	50.0	150.0
M2PFTeDA		136.1	12.0	218.0
M3PFBS		125.6	50.0	150.0
M3PFHxS		97.8	50.0	150.0
M4PFHpA		106.1	50.0	150.0
M5PFHxA		106.8	50.0	150.0
M5PFPeA		115.9	50.0	150.0
M6PFDA		99.8	50.0	150.0
M7PFUnDA		125.5	50.0	150.0
M8FOSA		108.0	50.0	150.0
M8PFOA		106.8	50.0	150.0
M8PFOS		97.6	50.0	150.0
M9-PFNA		121.7	50.0	150.0
MPFBA		113.9	50.0	150.0
MPFDoDA		119.6	50.0	150.0
d3N-MeFOSAA		113.9	50.0	150.0
d5EtFOSAA		115.9	50.0	150.0
MHFPO-DA		126.4	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49716.02

Sample Tag: OBG MW-13

Collected Date/Time: 06/12/2023 13:18

Matrix: Groundwater

COC Reference: 156508

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 00:50, Matrix: WW, Dilution: 1.96

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		104.1	50.0	150.0
M2-6:2FTSA		106.8	50.0	150.0
M2-8:2FTSA		84.4	50.0	150.0
M2PFTeDA		130.1	12.0	218.0
M3PFBS		112.3	50.0	150.0
M3PFHxS		103.2	50.0	150.0
M4PFHpA		103.9	50.0	150.0
M5PFHxA		101.3	50.0	150.0
M5PFPeA		109.9	50.0	150.0
M6PFDA		103.3	50.0	150.0
M7PFUnDA		113.9	50.0	150.0
M8FOSA		105.2	50.0	150.0
M8PFOA		98.3	50.0	150.0
M8PFOS		93.7	50.0	150.0
M9-PFNA		113.4	50.0	150.0
MPFBA		107.7	50.0	150.0
MPFDoDA		113.6	50.0	150.0
d3N-MeFOSAA		101.4	50.0	150.0
d5EtFOSAA		123.6	50.0	150.0
MHFPO-DA		129.9	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49716.03

Sample Tag: OBG MW-24

Collected Date/Time: 06/12/2023 14:18

Matrix: Groundwater

COC Reference: 156508

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 01:29, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		103.4	50.0	150.0
M2-6:2FTSA		101.5	50.0	150.0
M2-8:2FTSA		97.8	50.0	150.0
M2PFTeDA		135.5	12.0	218.0
M3PFBS		109.8	50.0	150.0
M3PFHxS		96.3	50.0	150.0
M4PFHpA		110.7	50.0	150.0
M5PFHxA		97.6	50.0	150.0
M5PFPeA		106.0	50.0	150.0
M6PFDA		94.1	50.0	150.0
M7PFUnDA		99.8	50.0	150.0
M8FOSA		108.1	50.0	150.0
M8PFOA		92.7	50.0	150.0
M8PFOS		84.6	50.0	150.0
M9-PFNA		109.9	50.0	150.0
MPFBA		107.6	50.0	150.0
MPFDoDA		115.6	50.0	150.0
d3N-MeFOSAA		106.0	50.0	150.0
d5EtFOSAA		108.7	50.0	150.0
MHFPO-DA		106.9	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49716.04

Sample Tag: OBG MW-28

Collected Date/Time: 06/12/2023 15:15

Matrix: Groundwater

COC Reference: 156508

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 01:49, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		113.9	50.0	150.0
M2-6:2FTSA		114.6	50.0	150.0
M2-8:2FTSA		97.3	50.0	150.0
M2PFTeDA		164.6	12.0	218.0
M3PFBS		115.2	50.0	150.0
M3PFHxS		100.8	50.0	150.0
M4PFHpA		111.2	50.0	150.0
M5PFHxA		101.5	50.0	150.0
M5PFPeA		116.5	50.0	150.0
M6PFDA		109.0	50.0	150.0
M7PFUnDA		119.1	50.0	150.0
M8FOSA		112.6	50.0	150.0
M8PFOA		103.4	50.0	150.0
M8PFOS		91.3	50.0	150.0
M9-PFNA		119.5	50.0	150.0
MPFBA		116.9	50.0	150.0
MPFDoDA		118.3	50.0	150.0
d3N-MeFOSAA		104.4	50.0	150.0
d5EtFOSAA		130.3	50.0	150.0
MHFPO-DA		120.2	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49716.05

Sample Tag: OBG MW-29

Collected Date/Time: 06/12/2023 17:02

Matrix: Groundwater

COC Reference: 156508

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 02:08, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		86.9	50.0	150.0
M2-6:2FTSA		97.0	50.0	150.0
M2-8:2FTSA		91.7	50.0	150.0
M2PFTeDA		135.8	12.0	218.0
M3PFBS		106.4	50.0	150.0
M3PFHxS		93.0	50.0	150.0
M4PFHpA		95.0	50.0	150.0
M5PFHxA		97.5	50.0	150.0
M5PFPeA		100.9	50.0	150.0
M6PFDA		87.3	50.0	150.0
M7PFUnDA		113.4	50.0	150.0
M8FOSA		103.7	50.0	150.0
M8PFOA		98.3	50.0	150.0
M8PFOS		106.3	50.0	150.0
M9-PFNA		104.5	50.0	150.0
MPFBA		108.6	50.0	150.0
MPFDoDA		106.5	50.0	150.0
d3N-MeFOSAA		92.8	50.0	150.0
d5EtFOSAA		106.9	50.0	150.0
MHFPO-DA		115.0	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49716.06

Sample Tag: OBG MW-18S

Collected Date/Time: 06/13/2023 11:42

Matrix: Groundwater

COC Reference: 156508

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 02:28, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		103.9	50.0	150.0
M2-6:2FTSA		103.8	50.0	150.0
M2-8:2FTSA		93.3	50.0	150.0
M2PFTeDA		153.5	12.0	218.0
M3PFBS		119.2	50.0	150.0
M3PFHxS		85.9	50.0	150.0
M4PFHpA		112.4	50.0	150.0
M5PFHxA		98.1	50.0	150.0
M5PFPeA		105.7	50.0	150.0
M6PFDA		107.0	50.0	150.0
M7PFUnDA		116.8	50.0	150.0
M8FOSA		100.7	50.0	150.0
M8PFOA		96.5	50.0	150.0
M8PFOS		94.1	50.0	150.0
M9-PFNA		115.5	50.0	150.0
MPFBA		107.7	50.0	150.0
MPFDoDA		111.5	50.0	150.0
d3N-MeFOSAA		97.3	50.0	150.0
d5EtFOSAA		98.1	50.0	150.0
MHFPO-DA		108.0	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49716.07

Sample Tag: Field Blank-061323

Collected Date/Time: 06/13/2023 11:45

Matrix: Water

COC Reference: 156508

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 02:47, Matrix: WW, Dilution: 1.94

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		105.4	50.0	150.0
M2-6:2FTSA		109.2	50.0	150.0
M2-8:2FTSA		109.7	50.0	150.0
M2PFTeDA		117.6	12.0	218.0
M3PFBS		117.0	50.0	150.0
M3PFHxS		94.0	50.0	150.0
M4PFHpA		121.5	50.0	150.0
M5PFHxA		100.2	50.0	150.0
M5PFPeA		114.6	50.0	150.0
M6PFDA		103.3	50.0	150.0
M7PFUnDA		120.1	50.0	150.0
M8FOSA		102.3	50.0	150.0
M8PFOA		109.1	50.0	150.0
M8PFOS		100.6	50.0	150.0
M9-PFNA		106.1	50.0	150.0
MPFBA		112.0	50.0	150.0
MPFDoDA		100.2	50.0	150.0
d3N-MeFOSAA		106.6	50.0	150.0
d5EtFOSAA		129.9	50.0	150.0
MHFPO-DA		124.8	50.0	150.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: PF230628W1

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

Blank (BLK)

Lab Sample ID: AK230629.BLK230628

Run in Batch: AK230629, Run Date: 06/29/2023 16:05, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		114.3	50.0	150.0
M2-6:2FTSA		112.4	50.0	150.0
M2-8:2FTSA		101.3	50.0	150.0
M2PFTeDA		116.1	12.0	218.0
M3PFBS		97.2	50.0	150.0
M3PFHxS		104.7	50.0	150.0
M4PFHpA		102.0	50.0	150.0
M5PFHxA		96.7	50.0	150.0
M5PFPeA		107.2	50.0	150.0
M6PFDA		120.7	50.0	150.0
M7PFUnDA		111.2	50.0	150.0
M8FOSA		97.4	50.0	150.0
M8PFOA		94.3	50.0	150.0
M8PFOS		94.3	50.0	150.0
M9-PFNA		116.1	50.0	150.0
MPFBA		102.6	50.0	150.0
MPFDoDA		96.4	50.0	150.0
d3N-MeFOSAA		100.6	50.0	150.0
d5EtFOSAA		110.3	50.0	150.0
MHFPO-DA		118.4	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample (LCS)

Lab Sample ID: AK230629.LCS230628

Run in Batch: AK230629, Run Date: 06/29/2023 15:26, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		108.3	50.0	150.0
M2-6:2FTSA		101.7	50.0	150.0
M2-8:2FTSA		124.9	50.0	150.0
M2PFTeDA		132.8	12.0	218.0
M3PFBS		97.7	50.0	150.0
M3PFHxS		95.4	50.0	150.0
M4PFHpA		116.3	50.0	150.0
M5PFHxA		98.1	50.0	150.0
M5PFPeA		101.5	50.0	150.0
M6PFDA		107.1	50.0	150.0
M7PFUnDA		110.0	50.0	150.0
M8FOSA		101.9	50.0	150.0
M8PFOA		96.2	50.0	150.0
M8PFOS		91.1	50.0	150.0
M9-PFNA		100.6	50.0	150.0
MPFBA		101.5	50.0	150.0
MPFDoDA		114.4	50.0	150.0
d3N-MeFOSAA		101.8	50.0	150.0
d5EtFOSAA		113.1	50.0	150.0
MHFPO-DA		113.8	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK230629.LCSD2306128, Parent Sample ID: AK230629.LCS230628

Run in Batch: AK230629, Run Date: 06/29/2023 15:45, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		108.6	50.0	150.0
M2-6:2FTSA		114.7	50.0	150.0
M2-8:2FTSA		105.4	50.0	150.0
M2PFTeDA		139.5	12.0	218.0
M3PFBS		93.7	50.0	150.0
M3PFHxS		102.7	50.0	150.0
M4PFHpA		103.6	50.0	150.0
M5PFHxA		100.6	50.0	150.0
M5PFPeA		101.0	50.0	150.0
M6PFDA		116.0	50.0	150.0
M7PFUnDA		118.1	50.0	150.0
M8FOSA		100.2	50.0	150.0
M8PFOA		94.5	50.0	150.0
M8PFOS		99.7	50.0	150.0
M9-PFNA		106.8	50.0	150.0
MPFBA		101.7	50.0	150.0
MPFDoDA		99.5	50.0	150.0
d3N-MeFOSAA		101.9	50.0	150.0
d5EtFOSAA		119.2	50.0	150.0
MHFPO-DA		103.6	50.0	150.0

QC Report - Internal Standards per QC Sample

Matrix Spike (MS)

Lab Sample ID: AK230629.4971601M, Parent Sample ID: S49716.01

Run in Batch: AK230629, Run Date: 06/30/2023 00:31, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1.95

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		95.9	50.0	150.0
M2-6:2FTSA		96.4	50.0	150.0
M2-8:2FTSA		107.8	50.0	150.0
M2PFTeDA		132.6	12.0	218.0
M3PFBS		120.4	50.0	150.0
M3PFHxS		99.0	50.0	150.0
M4PFHpA		109.9	50.0	150.0
M5PFHxA		103.2	50.0	150.0
M5PFPeA		114.3	50.0	150.0
M6PFDA		114.1	50.0	150.0
M7PFUnDA		109.7	50.0	150.0
M8FOSA		109.7	50.0	150.0
M8PFOA		110.9	50.0	150.0
M8PFOS		100.3	50.0	150.0
M9-PFNA		110.5	50.0	150.0
MPFBA		115.1	50.0	150.0
MPFDoDA		119.1	50.0	150.0
d3N-MeFOSAA		112.5	50.0	150.0
d5EtFOSAA		113.2	50.0	150.0
MHFPO-DA		120.9	50.0	150.0

QC Report - Internal Standards per QC Sample

Duplicate (DUP)

Lab Sample ID: AK230629.4971602D, Parent Sample ID: S49716.02

Run in Batch: AK230629, Run Date: 06/30/2023 01:10, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1.96

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		112.0	50.0	150.0
M2-6:2FTSA		117.7	50.0	150.0
M2-8:2FTSA		110.0	50.0	150.0
M2PFTeDA		139.7	12.0	218.0
M3PFBS		120.8	50.0	150.0
M3PFHxS		102.5	50.0	150.0
M4PFHpA		109.3	50.0	150.0
M5PFHxA		104.6	50.0	150.0
M5PFPeA		120.8	50.0	150.0
M6PFDA		99.0	50.0	150.0
M7PFUnDA		121.9	50.0	150.0
M8FOSA		109.2	50.0	150.0
M8PFOA		105.9	50.0	150.0
M8PFOS		96.2	50.0	150.0
M9-PFNA		114.8	50.0	150.0
MPFBA		113.7	50.0	150.0
MPFDoDA		118.3	50.0	150.0
d3N-MeFOSAA		114.3	50.0	150.0
d5EtFOSAA		101.8	50.0	150.0
MHFPO-DA		116.8	50.0	150.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230628W1

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

Blank (BLK)

Lab Sample ID: AK230629.BLK230628

Run in Batch: AK230629, Run Date: 06/29/2023 16:05, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFMPA		ND	1	ng/l
PFPtS		ND	1	ng/l
PFMBA		ND	1	ng/l
NFDHA		ND	1	ng/l
PFEESA		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
FHpPA (7:3 FTCA)		ND	2	ng/l
FPePA (5:3 FTCA)		ND	2	ng/l
FPrPA (3:3 FTCA)		ND	2	ng/l
PFBSA		ND	1	ng/l
PFECHS		ND	1	ng/l
PFHxSA		ND	1	ng/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230628W1 (continued)

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

Laboratory Control Sample (LCS)

Lab Sample ID: AK230629.LCS230628

Run in Batch: AK230629, Run Date: 06/29/2023 15:26, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		93.8	70.0	130.0
PFMPA		103.8	70.0	130.0
FPrPA (3:3 FTCA)		106.8	70.0	130.0
PFPPrS		92.6	70.0	130.0
PFPeA		98.4	70.0	130.0
PFMBA		96.0	70.0	130.0
4:2 FTSA		88.8	70.0	130.0
NFDHA		94.6	70.0	130.0
PFHxA		99.4	70.0	130.0
PFBS		100.4	70.0	130.0
HFPO-DA		91.8	70.0	130.0
FPePA (5:3 FTCA)		109.0	70.0	130.0
PFEESA		95.6	70.0	130.0
PFHpA		86.6	70.0	130.0
PFPeS		105.4	70.0	130.0
ADONA		95.8	70.0	130.0
6:2 FTSA		102.4	70.0	130.0
PFBSA		90.2	70.0	130.0
PFOA		94.2	70.0	130.0
PFHxS		107.8	70.0	130.0
PFNA		113.0	70.0	130.0
FHpPA (7:3 FTCA)		119.6	70.0	130.0
PFECHS		106.8	70.0	130.0
8:2 FTSA		83.8	70.0	130.0
PFHpS		97.0	70.0	130.0
N-MeFOSAA		98.0	70.0	130.0
PFDA		93.2	70.0	130.0
EtFOSAA		88.2	70.0	130.0
PFOS		101.6	70.0	130.0
PFUnDA		109.0	70.0	130.0
PFHxSA		95.2	70.0	130.0
9CL-PF3ONS		90.2	70.0	130.0
PFNS		110.6	70.0	130.0
PFDoDA		84.6	70.0	130.0
PFDS		111.8	70.0	130.0
PFTTrDA		93.4	70.0	130.0
11CL-PF3OUdS		100.4	70.0	130.0
PFTeDA		100.4	70.0	130.0
FOSA		98.8	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK230629.LCSD2306128, Parent Sample ID: AK230629.LCS230628

Run in Batch: AK230629, Run Date: 06/29/2023 15:45, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		100.4	70.0	130.0	6.8	30.0
PFMPA		99.6	70.0	130.0	4.1	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230628W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK230629.LCSD2306128, Parent Sample ID: AK230629.LCS230628

Run in Batch: AK230629, Run Date: 06/29/2023 15:45, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
FPrPA (3:3 FTCA)		106.8	70.0	130.0	0.0	30.0
PFPPrS		101.4	70.0	130.0	9.1	30.0
PFPeA		91.0	70.0	130.0	7.8	30.0
PFMBA		86.6	70.0	130.0	10.3	30.0
4:2 FTSA		96.6	70.0	130.0	8.4	30.0
NFDHA		95.2	70.0	130.0	0.6	30.0
PFHxA		104.0	70.0	130.0	4.5	30.0
PFBS		101.0	70.0	130.0	0.6	30.0
HFPO-DA		110.6	70.0	130.0	18.6	30.0
FPePA (5:3 FTCA)		122.8	70.0	130.0	11.9	30.0
PFEESA		81.0	70.0	130.0	16.5	30.0
PFHpA		88.4	70.0	130.0	2.1	30.0
PFPeS		103.0	70.0	130.0	2.3	30.0
ADONA		104.2	70.0	130.0	8.4	30.0
6:2 FTSA		99.6	70.0	130.0	2.8	30.0
PFBSA		98.4	70.0	130.0	8.7	30.0
PFOA		102.6	70.0	130.0	8.5	30.0
PFHxS		95.4	70.0	130.0	12.2	30.0
PFNA		96.6	70.0	130.0	15.6	30.0
FHpPA (7:3 FTCA)		120.0	70.0	130.0	0.3	30.0
PFECHS		93.2	70.0	130.0	13.6	30.0
8:2 FTSA		96.2	70.0	130.0	13.8	30.0
PFHpS		102.2	70.0	130.0	5.2	30.0
N-MeFOSAA		101.2	70.0	130.0	3.2	30.0
PFDA		82.0	70.0	130.0	12.8	30.0
EtFOSAA		93.6	70.0	130.0	5.9	30.0
PFOS		90.2	70.0	130.0	11.9	30.0
PFUnDA		90.8	70.0	130.0	18.2	30.0
PFHxSA		93.8	70.0	130.0	1.5	30.0
9CL-PF3ONS		92.2	70.0	130.0	2.2	30.0
PFNS		95.8	70.0	130.0	14.3	30.0
PFDoDA		111.6	70.0	130.0	27.5	30.0
PFDS		102.6	70.0	130.0	8.6	30.0
PFTTrDA		117.2	70.0	130.0	22.6	30.0
11CL-PF3OUdS		88.4	70.0	130.0	12.7	30.0
PFTeDA		109.6	70.0	130.0	8.8	30.0
FOSA		96.6	70.0	130.0	2.3	30.0

Matrix Spike (MS)

Lab Sample ID: AK230629.4971601M, Parent Sample ID: S49716.01

Run in Batch: AK230629, Run Date: 06/30/2023 00:31, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1.95

Analyte	Flags	% Rec	LCL	UCL
PFBA		85.1	70.0	130.0
PFPeA		81.0	70.0	130.0
4:2 FTSA		94.4	70.0	130.0
PFHxA		86.2	70.0	130.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230628W1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: AK230629.4971601M, Parent Sample ID: S49716.01

Run in Batch: AK230629, Run Date: 06/30/2023 00:31, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1.95

Analyte	Flags	% Rec	LCL	UCL
PFBS		90.3	70.0	130.0
PFHpA		86.2	70.0	130.0
PFPeS		85.1	70.0	130.0
6:2 FTSA		100.5	70.0	130.0
PFOA		77.9	70.0	130.0
PFHxS		82.6	70.0	130.0
PFNA		100.5	70.0	130.0
8:2 FTSA		91.3	70.0	130.0
PFHpS		86.2	70.0	130.0
PFDA	*	67.7	70.0	130.0
N-MeFOSAA		86.2	70.0	130.0
EtFOSAA		84.1	70.0	130.0
PFOS		81.5	70.0	130.0
PFUnDA		85.1	70.0	130.0
PFNS		88.2	70.0	130.0
PFDoDA		80.0	70.0	130.0
PFDS		94.4	70.0	130.0
PFTTrDA		87.2	70.0	130.0
FOSA		90.3	70.0	130.0
PFTeDA		92.3	70.0	130.0
11CL-PF3OUdS		84.1	70.0	130.0
9CL-PF3ONS		81.0	70.0	130.0
ADONA		81.0	70.0	130.0
HFPO-DA		93.3	70.0	130.0
FHpPA (7:3 FTCA)		93.3	70.0	130.0
FPePA (5:3 FTCA)		112.8	70.0	130.0
FPrPA (3:3 FTCA)		88.2	70.0	130.0
PFBSA		88.2	70.0	130.0
PFECHS		90.3	70.0	130.0
PFHxSA		77.9	70.0	130.0

Duplicate (DUP)

Lab Sample ID: AK230629.4971602D, Parent Sample ID: S49716.02

Run in Batch: AK230629, Run Date: 06/30/2023 01:10, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1.96

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
PFPeA		NC	30.0
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

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230628W1 (continued)

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

Duplicate (DUP) (continued)

Lab Sample ID: AK230629.4971602D, Parent Sample ID: S49716.02

Run in Batch: AK230629, Run Date: 06/30/2023 01:10, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1.96

Analyte	Flags	RPD	RPD CL
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		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
FHpPA (7:3 FTCA)		NC	30.0
FPePA (5:3 FTCA)		NC	30.0
FPrPA (3:3 FTCA)		NC	30.0
PFBSA		NC	30.0
PFECHS		NC	30.0
PFHxSA		NC	30.0

REPORT TO

CONTACT NAME			
clifford yantz / Kevin Schneider			
COMPANY			
Ramboll			
ADDRESS			
2090 Commonwealth Blvd			
CITY		STATE	ZIP CODE
Ann Arbor		MI	48105
PHONE NO.		CELL NO.	P.O. NO.
		313-333-0211	1940006516 Task 3
E-MAIL ADDRESS		QUOTE NO.	
Kevin.Schneider@Ramboll.com clifford.yantz@Ramboll.com			

CHAIN OF CUSTODY RECORD

CONTACT NAME		~~NAME~~	
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 <i>[Signature]</i>
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=WIPER	A=AIR	WS=WASTE

[illegible]

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications

☐ OHIO VAP ☐ Drinking Water☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York☐ Other _____

Special Instructions

Low level reporting
limit with estimated
values

34 PFAS compound
list

RELINQUISHED BY:	<i>[Signature]</i>	☒ Sampler	DATE	TIME
SIGNATURE/ORGANIZATION			6/13/23	12:53
RECEIVED BY:	<i>[Signature]</i>		DATE	TIME
SIGNATURE/ORGANIZATION			6/13/23	12:53
RELINQUISHED BY:	<i>[Signature]</i>		DATE	TIME
SIGNATURE/ORGANIZATION			6/13/23	15:01
RECEIVED BY:	<i>[Signature]</i>		DATE	TIME
			6/13/23	15:01

RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL _____ 41	
SEAL NO.	SEAL INTACT	INITIALS		



Analytical Laboratory Report

Report ID: S49807.01(01)
Generated on 07/12/2023

Report to
Attention: Clifford Yantz
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Ann Arbor, MI 48105

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Additional Contacts: Kevin Schneider

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

Report Summary
Lab Sample ID(s): S49807.01-S49807.13
Project: RACER Coldwater Road
Collected Date(s): 06/13/2023 - 06/14/2023
Submitted Date/Time: 06/14/2023 15:45
Sampled by: Kevin Schneider
P.O. #: 1940006516 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

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-chloroeicosafluoro-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
FHpPA (7:3 FTCA)	3-Perfluoroheptyl propanoic acid	812-70-4
FPePA (5:3 FTCA)	3-Perfluoropentyl propanoic acid	914637-49-3
FPrPA (3:3 FTCA)	3-Perfluoropropyl propanoic acid	356-02-5
PFBSA	Perfluorobutanesulfonamide	30334-69-1
PFECHS	Perfluoro-4-ethylcyclohexanesulfonate	67584-42-3
PFHxSA	Perfluorohexanesulfonamide	41997-13-1



Analytical Laboratory Report

Sample Summary (13 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S49807.01	MW-DUP-061323	Groundwater	06/13/23 00:01
S49807.02	OBG MW-12S	Groundwater	06/13/23 15:08
S49807.03	OBG MW-17S	Groundwater	06/13/23 16:42
S49807.04	OBG MW-23	Groundwater	06/13/23 14:35
S49807.05	OBG MW-26	Groundwater	06/13/23 15:45
S49807.06	OBG MW-27	Groundwater	06/13/23 16:50
S49807.07	MW-DUP-061423	Groundwater	06/14/23 00:01
S49807.08	OBG MW-14	Groundwater	06/14/23 11:12
S49807.09	OBG MW-21	Groundwater	06/14/23 11:30
S49807.10	OBG MW-22	Groundwater	06/14/23 13:25
S49807.11	OBG MW-11	Groundwater	06/14/23 14:40
S49807.12	Equipment Blank-061423	Water	06/14/23 13:10
S49807.13	Field Blank-061423	Water	06/14/23 14:48



Analytical Laboratory Report

Lab Sample ID: S49807.01

Sample Tag: MW-DUP-061323

Collected Date/Time: 06/13/2023 00:01

Matrix: Groundwater

COC Reference: 153091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.56/6.55/12	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 03:26, 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*	2.3	2.0	1.4	ng/L	2	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2	375-85-9	
PFPeS*	2.6	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*	2.2	2.0	1.6	ng/L	2	335-67-1	
PFHxS*	8.7	2.0	1.6	ng/L	2	355-46-4	
PFHxS-LN*	7.3	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*	2.9	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*	400	2.0	2.0	ng/L	2	1763-23-1	
PFOS-LN*	230	2.0	2.0	ng/L	2	1763-23-1-LN	
PFOS-BR*	170	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	2.0	2.0	ng/L	2	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.0	3.0	ng/L	2	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.0	2.2	ng/L	2	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.0	1.2	ng/L	2	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	2	30334-69-1	
PFECHS*	580	2.0	1.2	ng/L	2	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49807.01 (continued)

Sample Tag: MW-DUP-061323

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 03:26, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0	1.0	ng/L	2	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49807.02

Sample Tag: OBG MW-12S

Collected Date/Time: 06/13/2023 15:08

Matrix: Groundwater

COC Reference: 153091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.04/6.56/11	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 03:46, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.01	375-22-4	
PFPeA*	Not detected	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*	Not detected	2.0	1.4	ng/L	2.01	307-24-4	
PFBS*	3.4	2.0	1.4	ng/L	2.01	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2.01	375-85-9	
PFPeS*	4.0	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*	Not detected	2.0	1.6	ng/L	2.01	335-67-1	
PFHxS*	14	2.0	1.6	ng/L	2.01	355-46-4	
PFHxS-LN*	11	2.0	1.6	ng/L	2.01	355-46-4-LN	
PFHxS-BR*	2.3	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	
PFHpS*	4.8	2.0	2.0	ng/L	2.01	375-92-8	
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	
EtFOSAA*	Not detected	4.0	2.0	ng/L	2.01	2991-50-6	
PFOS*	170	2.0	2.0	ng/L	2.01	1763-23-1	
PFOS-LN*	36	2.0	2.0	ng/L	2.01	1763-23-1-LN	
PFOS-BR*	130	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	2.0	2.0	ng/L	2.01	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.0	3.0	ng/L	2.01	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.0	2.2	ng/L	2.01	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.0	1.2	ng/L	2.01	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	2.01	30334-69-1	
PFECHS*	1,000	2.0	1.2	ng/L	2.01	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49807.02 (continued)

Sample Tag: OBG MW-12S

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 03:46, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0	1.0	ng/L	2.01	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49807.03

Sample Tag: OBG MW-17S

Collected Date/Time: 06/13/2023 16:42

Matrix: Groundwater

COC Reference: 153091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.60/6.53/10	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 04:05, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	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*	Not detected	2.0	1.4	ng/L	1.97	307-24-4	
PFBS*	2.1	2.0	1.4	ng/L	1.97	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.97	375-85-9	
PFPeS*	2.6	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*	2.9	2.0	1.6	ng/L	1.97	335-67-1	
PFHxS*	9.6	2.0	1.6	ng/L	1.97	355-46-4	
PFHxS-LN*	7.8	2.0	1.6	ng/L	1.97	355-46-4-LN	
PFHxS-BR*	Not detected	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*	4.2	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*	380	2.0	1.9	ng/L	1.97	1763-23-1	
PFOS-LN*	220	2.0	1.9	ng/L	1.97	1763-23-1-LN	
PFOS-BR*	160	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	2.0	2.0	ng/L	1.97	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	3.9	3.0	ng/L	1.97	812-70-4	
FPePA (5:3 FTCA)*	Not detected	3.9	2.2	ng/L	1.97	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	3.9	1.2	ng/L	1.97	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	1.97	30334-69-1	
PFECHS*	580	2.0	1.2	ng/L	1.97	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49807.03 (continued)

Sample Tag: OBG MW-17S

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 04:05, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0	0.99	ng/L	1.97	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49807.04

Sample Tag: OBG MW-23

Collected Date/Time: 06/13/2023 14:35

Matrix: Groundwater

COC Reference: 153091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.45/6.47/12	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 04:25, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.01	375-22-4	
PFPeA*	Not detected	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*	Not detected	2.0	1.4	ng/L	2.01	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	2.01	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2.01	375-85-9	
PFPeS*	Not detected	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*	Not detected	2.0	1.6	ng/L	2.01	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	2.01	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	2.01	355-46-4-LN	
PFHxS-BR*	Not detected	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	
PFHpS*	Not detected	2.0	2.0	ng/L	2.01	375-92-8	
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	
EtFOSAA*	Not detected	4.0	2.0	ng/L	2.01	2991-50-6	
PFOS*	Not detected	2.0	2.0	ng/L	2.01	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	2.01	1763-23-1-LN	
PFOS-BR*	Not detected	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	2.0	2.0	ng/L	2.01	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.0	3.0	ng/L	2.01	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.0	2.2	ng/L	2.01	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.0	1.2	ng/L	2.01	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	2.01	30334-69-1	
PFECHS*	Not detected	2.0	1.2	ng/L	2.01	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49807.04 (continued)

Sample Tag: OBG MW-23

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 04:25, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0	1.0	ng/L	2.01	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49807.05

Sample Tag: OBG MW-26

Collected Date/Time: 06/13/2023 15:45

Matrix: Groundwater

COC Reference: 153091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.22/ 6.56/11	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 04:44, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	15	9.7	9.7	ng/L	1.94	375-22-4	
PFPeA*	23	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*	23	1.9	1.4	ng/L	1.94	307-24-4	
PFBS*	4.5	1.9	1.4	ng/L	1.94	375-73-5	
PFHpA*	3.4	1.9	1.4	ng/L	1.94	375-85-9	
PFPeS*	7.7	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*	21	1.9	1.6	ng/L	1.94	335-67-1	
PFHxS*	41	1.9	1.6	ng/L	1.94	355-46-4	
PFHxS-LN*	36	1.9	1.6	ng/L	1.94	355-46-4-LN	
PFHxS-BR*	4.3	1.9	1.6	ng/L	1.94	355-46-4-BR	
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*	13	1.9	1.9	ng/L	1.94	375-92-8	
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*	440	1.9	1.9	ng/L	1.94	1763-23-1	
PFOS-LN*	150	1.9	1.9	ng/L	1.94	1763-23-1-LN	
PFOS-BR*	280	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	1.9	1.9	ng/L	1.94	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	3.9	2.9	ng/L	1.94	812-70-4	
FPePA (5:3 FTCA)*	Not detected	3.9	2.1	ng/L	1.94	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	3.9	1.2	ng/L	1.94	356-02-5	
PFBSA*	Not detected	1.9	1.2	ng/L	1.94	30334-69-1	
PFECHS*	1,200	1.9	1.2	ng/L	1.94	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49807.05 (continued)

Sample Tag: OBG MW-26

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 04:44, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	1.9	0.97	ng/L	1.94	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49807.06

Sample Tag: OBG MW-27

Collected Date/Time: 06/13/2023 16:50

Matrix: Groundwater

COC Reference: 153091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	13.14/6.55/13	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 05:04, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	16	9.9	9.9	ng/L	1.97	375-22-4	
PFPeA*	21	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*	19	2.0	1.4	ng/L	1.97	307-24-4	
PFBS*	5.9	2.0	1.4	ng/L	1.97	375-73-5	
PFHpA*	3.3	2.0	1.4	ng/L	1.97	375-85-9	
PFPeS*	8.0	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*	11	2.0	1.6	ng/L	1.97	335-67-1	
PFHxS*	36	2.0	1.6	ng/L	1.97	355-46-4	
PFHxS-LN*	32	2.0	1.6	ng/L	1.97	355-46-4-LN	
PFHxS-BR*	3.6	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*	12	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*	450	2.0	1.9	ng/L	1.97	1763-23-1	
PFOS-LN*	250	2.0	1.9	ng/L	1.97	1763-23-1-LN	
PFOS-BR*	200	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	2.0	2.0	ng/L	1.97	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	3.9	3.0	ng/L	1.97	812-70-4	
FPePA (5:3 FTCA)*	Not detected	3.9	2.2	ng/L	1.97	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	3.9	1.2	ng/L	1.97	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	1.97	30334-69-1	
PFECHS*	1,100	2.0	1.2	ng/L	1.97	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49807.06 (continued)

Sample Tag: OBG MW-27

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 05:04, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0	0.99	ng/L	1.97	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49807.07

Sample Tag: MW-DUP-061423

Collected Date/Time: 06/14/2023 00:01

Matrix: Groundwater

COC Reference: 153091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.91/6.56/11	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 05:23, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	18	10	10	ng/L	2.06	375-22-4	
PFPeA*	6.1	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*	4.5	2.1	1.4	ng/L	2.06	307-24-4	
PFBS*	20	2.1	1.4	ng/L	2.06	375-73-5	
PFHpA*	3.5	2.1	1.4	ng/L	2.06	375-85-9	
PFPeS*	45	2.1	1.9	ng/L	2.06	2706-91-4	
6:2 FTSA*	10	2.1	2.1	ng/L	2.06	27619-97-2	
PFOA*	22	2.1	1.6	ng/L	2.06	335-67-1	
PFHxS*	150	2.1	1.6	ng/L	2.06	355-46-4	
PFHxS-LN*	130	2.1	1.6	ng/L	2.06	355-46-4-LN	
PFHxS-BR*	24	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*	36	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*	1,500	2.1	2.0	ng/L	2.06	1763-23-1	
PFOS-LN*	680	2.1	2.0	ng/L	2.06	1763-23-1-LN	
PFOS-BR*	770	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	2.1	2.1	ng/L	2.06	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.1	3.1	ng/L	2.06	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.1	2.3	ng/L	2.06	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.1	1.2	ng/L	2.06	356-02-5	
PFBSA*	Not detected	2.1	1.2	ng/L	2.06	30334-69-1	
PFECHS*	5,500	2.1	1.2	ng/L	2.06	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49807.07 (continued)

Sample Tag: MW-DUP-061423

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 05:23, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.1	1.0	ng/L	2.06	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49807.08

Sample Tag: OBG MW-14

Collected Date/Time: 06/14/2023 11:12

Matrix: Groundwater

COC Reference: 153091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.55/6.54/12	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 05:43, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	21	10	10	ng/L	2	375-22-4	
PFPeA*	8.5	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*	6.0	2.0	1.4	ng/L	2	307-24-4	
PFBS*	22	2.0	1.4	ng/L	2	375-73-5	
PFHpA*	3.3	2.0	1.4	ng/L	2	375-85-9	
PFPeS*	49	2.0	1.8	ng/L	2	2706-91-4	
6:2 FTSA*	12	2.0	2.0	ng/L	2	27619-97-2	
PFOA*	28	2.0	1.6	ng/L	2	335-67-1	
PFHxS*	170	2.0	1.6	ng/L	2	355-46-4	
PFHxS-LN*	150	2.0	1.6	ng/L	2	355-46-4-LN	
PFHxS-BR*	26	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*	38	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*	1,600	2.0	2.0	ng/L	2	1763-23-1	
PFOS-LN*	760	2.0	2.0	ng/L	2	1763-23-1-LN	
PFOS-BR*	860	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	2.0	2.0	ng/L	2	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.0	3.0	ng/L	2	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.0	2.2	ng/L	2	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.0	1.2	ng/L	2	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	2	30334-69-1	
PFECHS*	5,700	2.0	1.2	ng/L	2	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49807.08 (continued)

Sample Tag: OBG MW-14

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 05:43, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0	1.0	ng/L	2	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49807.09

Sample Tag: OBG MW-21

Collected Date/Time: 06/14/2023 11:30

Matrix: Groundwater

COC Reference: 153091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	13.07/6.53/13	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 06:02, 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*	1.4	2.0	1.4	ng/L	1.99	307-24-4	J
PFBS*	2.2	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*	2.6	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*	3.5	2.0	1.6	ng/L	1.99	355-46-4	
PFHxS-LN*	2.0	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	3	2.0	ng/L	1.99	1763-23-1	X
PFOS-LN*	Not detected	3	2.0	ng/L	1.99	1763-23-1-LN	X
PFOS-BR*	Not detected	3	2.0	ng/L	1.99	1763-23-1-BR	X
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	2.0	2.0	ng/L	1.99	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.0	3.0	ng/L	1.99	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.0	2.2	ng/L	1.99	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.0	1.2	ng/L	1.99	356-02-5	

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

X-Elevated reporting limit due to matrix interference



Analytical Laboratory Report

Lab Sample ID: S49807.09 (continued)

Sample Tag: OBG MW-21

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 06:02, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBSA*	Not detected	2.0	1.2	ng/L	1.99	30334-69-1	
PFECHS*	400	2.0	1.2	ng/L	1.99	67584-42-3	
PFHxSA*	Not detected	2.0	1.00	ng/L	1.99	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49807.10

Sample Tag: OBG MW-22

Collected Date/Time: 06/14/2023 13:25

Matrix: Groundwater

COC Reference: 153091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	13.06/6.55/13	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 09:22, 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*	6.2	2.0	1.4	ng/L	2	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2	375-85-9	
PFPeS*	7.9	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*	3.6	2.0	1.6	ng/L	2	335-67-1	
PFHxS*	33	2.0	1.6	ng/L	2	355-46-4	
PFHxS-LN*	29	2.0	1.6	ng/L	2	355-46-4-LN	
PFHxS-BR*	3.7	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*	17	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*	1,500	2.0	2.0	ng/L	2	1763-23-1	
PFOS-LN*	880	2.0	2.0	ng/L	2	1763-23-1-LN	
PFOS-BR*	630	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	2.0	2.0	ng/L	2	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.0	3.0	ng/L	2	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.0	2.2	ng/L	2	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.0	1.2	ng/L	2	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	2	30334-69-1	
PFECHS*	1,800	2.0	1.2	ng/L	2	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49807.10 (continued)

Sample Tag: OBG MW-22

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 09:22, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0	1.0	ng/L	2	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49807.11

Sample Tag: OBG MW-11

Collected Date/Time: 06/14/2023 14:40

Matrix: Groundwater

COC Reference: 153091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	13.77/6.54/14	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 09:41, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	25	9.7	9.7	ng/L	1.94	375-22-4	
PFPeA*	8.8	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*	15	1.9	1.4	ng/L	1.94	307-24-4	
PFBS*	74	1.9	1.4	ng/L	1.94	375-73-5	
PFHpA*	5.5	1.9	1.4	ng/L	1.94	375-85-9	
PFPeS*	94	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*	27	1.9	1.6	ng/L	1.94	335-67-1	
PFHxS*	310	1.9	1.6	ng/L	1.94	355-46-4	
PFHxS-LN*	260	1.9	1.6	ng/L	1.94	355-46-4-LN	
PFHxS-BR*	55	1.9	1.6	ng/L	1.94	355-46-4-BR	
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*	8.0	1.9	1.9	ng/L	1.94	375-92-8	
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*	100	1.9	1.9	ng/L	1.94	1763-23-1	
PFOS-LN*	16	1.9	1.9	ng/L	1.94	1763-23-1-LN	
PFOS-BR*	82	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	1.9	1.9	ng/L	1.94	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	3.9	2.9	ng/L	1.94	812-70-4	
FPePA (5:3 FTCA)*	Not detected	3.9	2.1	ng/L	1.94	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	3.9	1.2	ng/L	1.94	356-02-5	
PFBSA*	Not detected	1.9	1.2	ng/L	1.94	30334-69-1	
PFECHS*	2,400	1.9	1.2	ng/L	1.94	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49807.11 (continued)

Sample Tag: OBG MW-11

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 09:41, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	1.9	0.97	ng/L	1.94	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49807.12

Sample Tag: Equipment Blank-061423

Collected Date/Time: 06/14/2023 13:10

Matrix: Water

COC Reference: 153091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.05/6.55/11	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 10:01, 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*	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	2.0	2.0	ng/L	2	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.0	3.0	ng/L	2	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.0	2.2	ng/L	2	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.0	1.2	ng/L	2	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	2	30334-69-1	
PFECHS*	Not detected	2.0	1.2	ng/L	2	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49807.12 (continued)

Sample Tag: Equipment Blank-061423

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 10:01, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.0	1.0	ng/L	2	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49807.13

Sample Tag: Field Blank-061423

Collected Date/Time: 06/14/2023 14:48

Matrix: Water

COC Reference: 153092

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.11/6.47/9	ASTMD7979-19M	06/28/23 12:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 10:20, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	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*	Not detected	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*	Not detected	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*	Not detected	1.9	1.6	ng/L	1.94	335-67-1	
PFHxS*	Not detected	1.9	1.6	ng/L	1.94	355-46-4	
PFHxS-LN*	Not detected	1.9	1.6	ng/L	1.94	355-46-4-LN	
PFHxS-BR*	Not detected	1.9	1.6	ng/L	1.94	355-46-4-BR	
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*	Not detected	1.9	1.9	ng/L	1.94	375-92-8	
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*	Not detected	1.9	1.9	ng/L	1.94	1763-23-1	
PFOS-LN*	Not detected	1.9	1.9	ng/L	1.94	1763-23-1-LN	
PFOS-BR*	Not detected	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	1.9	1.9	ng/L	1.94	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	3.9	2.9	ng/L	1.94	812-70-4	
FPePA (5:3 FTCA)*	Not detected	3.9	2.1	ng/L	1.94	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	3.9	1.2	ng/L	1.94	356-02-5	
PFBSA*	Not detected	1.9	1.2	ng/L	1.94	30334-69-1	
PFECHS*	Not detected	1.9	1.2	ng/L	1.94	67584-42-3	



Analytical Laboratory Report

Lab Sample ID: S49807.13 (continued)

Sample Tag: Field Blank-061423

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/30/23 10:20, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	1.9	0.97	ng/L	1.94	41997-13-1	

Merit Laboratories Login Checklist

Lab Set ID:S49807

Client:RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Submitted:06/14/2023 15:45 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.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 4.8
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ 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: _____



2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE #

2 OF 2

153092

REPORT TO

CONTACT NAME clifford Yantz / Kevin Schneider			
COMPANY Ramboll			
ADDRESS 2010 Commonwealth Blvd			
CITY Ann Arbor		STATE MI	ZIP CODE 48105
PHONE NO.		CELL NO. 313-333-0211	P.O. NO. 1940006516 Task 37
E-MAIL ADDRESS clifford.yantz@ramboll.com		QUOTE NO.	

CHAIN OF CUSTODY RECORD

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

INVOICE TO

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME RACER Coldwater Road	SAMPLER(S) - PLEASE PRINT/SIGN NAME Kevin Sinner <i>KS</i>
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____	
DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____	

Certifications

☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York☐ Other _____

Special Instructions

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

[illegible]

RELINQUISHED BY:		D. Sampler	DATE	TIME
SIGNATURE/ORGANIZATION			6/14/23	1455
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION			6/14/23	1457
RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION			6/14/23	1505
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION			6/14/23	1545

RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL <u>4.8</u>
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

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

Rev. 1.26.22



Quality Control Report

Report ID: QC-S49807-01
Generated on 07/12/2023

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): S49807.01-S49807.13
Project: RACER Coldwater Road
Submitted Date/Time: 06/14/2023 15:45
Sampled by: Kevin Schneider
P.O. #: 1940006516 TASK 37

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-14)
Prep Batch Summary (Page 15)
Internal Standards per Lab Sample (Pages 16-28)
Internal Standards per QC Sample (Pages 29-33)
Batch QC Results (Pages 34-38)

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: S49807.01

Sample Tag: MW-DUP-061323

Collected Date/Time: 06/13/2023 00:01

Matrix: Groundwater

COC Reference: 153091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	06/30/23 03:26	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49807.02

Sample Tag: OBG MW-12S

Collected Date/Time: 06/13/2023 15:08

Matrix: Groundwater

COC Reference: 153091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 03:46	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49807.03

Sample Tag: OBG MW-17S

Collected Date/Time: 06/13/2023 16:42

Matrix: Groundwater

COC Reference: 153091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 04:05	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49807.04

Sample Tag: OBG MW-23

Collected Date/Time: 06/13/2023 14:35

Matrix: Groundwater

COC Reference: 153091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 04:25	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49807.05

Sample Tag: OBG MW-26

Collected Date/Time: 06/13/2023 15:45

Matrix: Groundwater

COC Reference: 153091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 04:44	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49807.06

Sample Tag: OBG MW-27

Collected Date/Time: 06/13/2023 16:50

Matrix: Groundwater

COC Reference: 153091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 05:04	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49807.07

Sample Tag: MW-DUP-061423

Collected Date/Time: 06/14/2023 00:01

Matrix: Groundwater

COC Reference: 153091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 05:23	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49807.08

Sample Tag: OBG MW-14

Collected Date/Time: 06/14/2023 11:12

Matrix: Groundwater

COC Reference: 153091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 05:43	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49807.09

Sample Tag: OBG MW-21

Collected Date/Time: 06/14/2023 11:30

Matrix: Groundwater

COC Reference: 153091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	06/30/23 06:02	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49807.10

Sample Tag: OBG MW-22

Collected Date/Time: 06/14/2023 13:25

Matrix: Groundwater

COC Reference: 153091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	06/30/23 09:22	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49807.11

Sample Tag: OBG MW-11

Collected Date/Time: 06/14/2023 14:40

Matrix: Groundwater

COC Reference: 153091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 09:41	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49807.12

Sample Tag: Equipment Blank-061423

Collected Date/Time: 06/14/2023 13:10

Matrix: Water

COC Reference: 153091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 10:01	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49807.13

Sample Tag: Field Blank-061423

Collected Date/Time: 06/14/2023 14:48

Matrix: Water

COC Reference: 153092

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/30/23 10:20	AK230629	PF230628W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF230628W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49807.01	34 PFAs	ASTMD7979-19M	06/30/23 03:26	AK230629
S49807.02	34 PFAs	ASTMD7979-19M	06/30/23 03:46	AK230629
S49807.03	34 PFAs	ASTMD7979-19M	06/30/23 04:05	AK230629
S49807.04	34 PFAs	ASTMD7979-19M	06/30/23 04:25	AK230629
S49807.05	34 PFAs	ASTMD7979-19M	06/30/23 04:44	AK230629
S49807.06	34 PFAs	ASTMD7979-19M	06/30/23 05:04	AK230629
S49807.07	34 PFAs	ASTMD7979-19M	06/30/23 05:23	AK230629
S49807.08	34 PFAs	ASTMD7979-19M	06/30/23 05:43	AK230629
S49807.09	34 PFAs	ASTMD7979-19M	06/30/23 06:02	AK230629
S49807.10	34 PFAs	ASTMD7979-19M	06/30/23 09:22	AK230629
S49807.11	34 PFAs	ASTMD7979-19M	06/30/23 09:41	AK230629
S49807.12	34 PFAs	ASTMD7979-19M	06/30/23 10:01	AK230629
S49807.13	34 PFAs	ASTMD7979-19M	06/30/23 10:20	AK230629

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49807.01

Sample Tag: MW-DUP-061323

Collected Date/Time: 06/13/2023 00:01

Matrix: Groundwater

COC Reference: 153091

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 03:26, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		103.3	50.0	150.0
M2-6:2FTSA		107.7	50.0	150.0
M2-8:2FTSA		85.1	50.0	150.0
M2PFTeDA		121.2	12.0	218.0
M3PFBS		112.9	50.0	150.0
M3PFHxS		92.8	50.0	150.0
M4PFHpA		103.9	50.0	150.0
M5PFHxA		97.9	50.0	150.0
M5PFPeA		111.1	50.0	150.0
M6PFDA		92.4	50.0	150.0
M7PFUnDA		103.8	50.0	150.0
M8FOSA		99.8	50.0	150.0
M8PFOA		93.2	50.0	150.0
M8PFOS		91.0	50.0	150.0
M9-PFNA		106.0	50.0	150.0
MPFBA		105.4	50.0	150.0
MPFDoDA		102.7	50.0	150.0
d3N-MeFOSAA		116.1	50.0	150.0
d5EtFOSAA		107.3	50.0	150.0
MHFPO-DA		99.7	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49807.02

Sample Tag: OBG MW-12S

Collected Date/Time: 06/13/2023 15:08

Matrix: Groundwater

COC Reference: 153091

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 03:46, Matrix: WW, Dilution: 2.01

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		99.8	50.0	150.0
M2-6:2FTSA		100.1	50.0	150.0
M2-8:2FTSA		96.6	50.0	150.0
M2PFTeDA		142.1	12.0	218.0
M3PFBS		106.6	50.0	150.0
M3PFHxS		98.3	50.0	150.0
M4PFHpA		98.1	50.0	150.0
M5PFHxA		106.8	50.0	150.0
M5PFPeA		106.7	50.0	150.0
M6PFDA		102.4	50.0	150.0
M7PFUnDA		100.3	50.0	150.0
M8FOSA		102.6	50.0	150.0
M8PFOA		104.9	50.0	150.0
M8PFOS		88.8	50.0	150.0
M9-PFNA		100.4	50.0	150.0
MPFBA		105.0	50.0	150.0
MPFDoDA		111.7	50.0	150.0
d3N-MeFOSAA		113.5	50.0	150.0
d5EtFOSAA		110.5	50.0	150.0
MHFPO-DA		116.2	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49807.03

Sample Tag: OBG MW-17S

Collected Date/Time: 06/13/2023 16:42

Matrix: Groundwater

COC Reference: 153091

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 04:05, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		113.6	50.0	150.0
M2-6:2FTSA		113.1	50.0	150.0
M2-8:2FTSA		101.8	50.0	150.0
M2PFTeDA		144.2	12.0	218.0
M3PFBS		114.0	50.0	150.0
M3PFHxS		98.2	50.0	150.0
M4PFHpA		107.4	50.0	150.0
M5PFHxA		111.4	50.0	150.0
M5PFPeA		116.9	50.0	150.0
M6PFDA		109.1	50.0	150.0
M7PFUnDA		125.8	50.0	150.0
M8FOSA		106.7	50.0	150.0
M8PFOA		103.4	50.0	150.0
M8PFOS		102.2	50.0	150.0
M9-PFNA		121.3	50.0	150.0
MPFBA		112.3	50.0	150.0
MPFDoDA		112.8	50.0	150.0
d3N-MeFOSAA		110.2	50.0	150.0
d5EtFOSAA		111.3	50.0	150.0
MHFPO-DA		130.2	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49807.04

Sample Tag: OBG MW-23

Collected Date/Time: 06/13/2023 14:35

Matrix: Groundwater

COC Reference: 153091

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 04:25, Matrix: WW, Dilution: 2.01

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		116.4	50.0	150.0
M2-6:2FTSA		115.8	50.0	150.0
M2-8:2FTSA		105.9	50.0	150.0
M2PFTeDA		141.1	12.0	218.0
M3PFBS		112.5	50.0	150.0
M3PFHxS		100.0	50.0	150.0
M4PFHpA		105.8	50.0	150.0
M5PFHxA		109.3	50.0	150.0
M5PFPeA		115.7	50.0	150.0
M6PFDA		93.0	50.0	150.0
M7PFUnDA		119.7	50.0	150.0
M8FOSA		104.1	50.0	150.0
M8PFOA		110.1	50.0	150.0
M8PFOS		91.2	50.0	150.0
M9-PFNA		108.8	50.0	150.0
MPFBA		116.1	50.0	150.0
MPFDoDA		113.7	50.0	150.0
d3N-MeFOSAA		108.1	50.0	150.0
d5EtFOSAA		126.8	50.0	150.0
MHFPO-DA		115.7	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49807.05

Sample Tag: OBG MW-26

Collected Date/Time: 06/13/2023 15:45

Matrix: Groundwater

COC Reference: 153091

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 04:44, Matrix: WW, Dilution: 1.94

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		104.1	50.0	150.0
M2-6:2FTSA		98.1	50.0	150.0
M2-8:2FTSA		95.5	50.0	150.0
M2PFTeDA		141.7	12.0	218.0
M3PFBS		104.5	50.0	150.0
M3PFHxS		95.7	50.0	150.0
M4PFHpA		112.0	50.0	150.0
M5PFHxA		99.2	50.0	150.0
M5PFPeA		110.2	50.0	150.0
M6PFDA		90.9	50.0	150.0
M7PFUnDA		107.8	50.0	150.0
M8FOSA		98.2	50.0	150.0
M8PFOA		107.8	50.0	150.0
M8PFOS		94.8	50.0	150.0
M9-PFNA		108.1	50.0	150.0
MPFBA		106.7	50.0	150.0
MPFDoDA		103.3	50.0	150.0
d3N-MeFOSAA		116.9	50.0	150.0
d5EtFOSAA		116.7	50.0	150.0
MHFPO-DA		110.1	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49807.06

Sample Tag: OBG MW-27

Collected Date/Time: 06/13/2023 16:50

Matrix: Groundwater

COC Reference: 153091

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 05:04, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		101.8	50.0	150.0
M2-6:2FTSA		113.7	50.0	150.0
M2-8:2FTSA		93.2	50.0	150.0
M2PFTeDA		142.8	12.0	218.0
M3PFBS		122.6	50.0	150.0
M3PFHxS		91.9	50.0	150.0
M4PFHpA		91.2	50.0	150.0
M5PFHxA		100.3	50.0	150.0
M5PFPeA		111.1	50.0	150.0
M6PFDA		97.0	50.0	150.0
M7PFUnDA		112.6	50.0	150.0
M8FOSA		104.9	50.0	150.0
M8PFOA		88.6	50.0	150.0
M8PFOS		91.0	50.0	150.0
M9-PFNA		98.5	50.0	150.0
MPFBA		107.1	50.0	150.0
MPFDoDA		109.9	50.0	150.0
d3N-MeFOSAA		110.2	50.0	150.0
d5EtFOSAA		115.5	50.0	150.0
MHFPO-DA		128.2	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49807.07

Sample Tag: MW-DUP-061423

Collected Date/Time: 06/14/2023 00:01

Matrix: Groundwater

COC Reference: 153091

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 05:23, Matrix: WW, Dilution: 2.06

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		112.5	50.0	150.0
M2-6:2FTSA		104.7	50.0	150.0
M2-8:2FTSA		92.0	50.0	150.0
M2PFTeDA		158.5	12.0	218.0
M3PFBS		120.2	50.0	150.0
M3PFHxS		103.4	50.0	150.0
M4PFHpA		108.2	50.0	150.0
M5PFHxA		105.2	50.0	150.0
M5PFPeA		122.9	50.0	150.0
M6PFDA		106.7	50.0	150.0
M7PFUnDA		107.7	50.0	150.0
M8FOSA		106.5	50.0	150.0
M8PFOA		104.8	50.0	150.0
M8PFOS		92.0	50.0	150.0
M9-PFNA		116.2	50.0	150.0
MPFBA		116.0	50.0	150.0
MPFDoDA		110.7	50.0	150.0
d3N-MeFOSAA		112.8	50.0	150.0
d5EtFOSAA		110.7	50.0	150.0
MHFPO-DA		114.5	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49807.08

Sample Tag: OBG MW-14

Collected Date/Time: 06/14/2023 11:12

Matrix: Groundwater

COC Reference: 153091

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 05:43, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		93.8	50.0	150.0
M2-6:2FTSA		99.0	50.0	150.0
M2-8:2FTSA		80.8	50.0	150.0
M2PFTeDA		144.3	12.0	218.0
M3PFBS		111.6	50.0	150.0
M3PFHxS		91.4	50.0	150.0
M4PFHpA		100.6	50.0	150.0
M5PFHxA		93.5	50.0	150.0
M5PFPeA		98.2	50.0	150.0
M6PFDA		89.4	50.0	150.0
M7PFUnDA		102.5	50.0	150.0
M8FOSA		98.8	50.0	150.0
M8PFOA		87.1	50.0	150.0
M8PFOS		85.9	50.0	150.0
M9-PFNA		92.9	50.0	150.0
MPFBA		101.7	50.0	150.0
MPFDoDA		109.9	50.0	150.0
d3N-MeFOSAA		103.3	50.0	150.0
d5EtFOSAA		111.0	50.0	150.0
MHFPO-DA		112.3	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49807.09

Sample Tag: OBG MW-21

Collected Date/Time: 06/14/2023 11:30

Matrix: Groundwater

COC Reference: 153091

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 06:02, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		105.5	50.0	150.0
M2-6:2FTSA		113.8	50.0	150.0
M2-8:2FTSA		103.7	50.0	150.0
M2PFTeDA		130.0	12.0	218.0
M3PFBS		107.1	50.0	150.0
M3PFHxS		93.9	50.0	150.0
M4PFHpA		111.4	50.0	150.0
M5PFHxA		99.1	50.0	150.0
M5PFPeA		113.3	50.0	150.0
M6PFDA		93.9	50.0	150.0
M7PFUnDA		107.3	50.0	150.0
M8FOSA		100.6	50.0	150.0
M8PFOA		101.8	50.0	150.0
M8PFOS		88.7	50.0	150.0
M9-PFNA		107.6	50.0	150.0
MPFBA		109.0	50.0	150.0
MPFDoDA		107.5	50.0	150.0
d3N-MeFOSAA		99.1	50.0	150.0
d5EtFOSAA		104.2	50.0	150.0
MHFPO-DA		105.7	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49807.10

Sample Tag: OBG MW-22

Collected Date/Time: 06/14/2023 13:25

Matrix: Groundwater

COC Reference: 153091

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 09:22, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		94.1	50.0	150.0
M2-6:2FTSA		96.2	50.0	150.0
M2-8:2FTSA		87.2	50.0	150.0
M2PFTeDA		133.3	12.0	218.0
M3PFBS		93.9	50.0	150.0
M3PFHxS		91.9	50.0	150.0
M4PFHpA		93.1	50.0	150.0
M5PFHxA		98.8	50.0	150.0
M5PFPeA		104.3	50.0	150.0
M6PFDA		102.1	50.0	150.0
M7PFUnDA		107.1	50.0	150.0
M8FOSA		96.5	50.0	150.0
M8PFOA		96.1	50.0	150.0
M8PFOS		89.9	50.0	150.0
M9-PFNA		97.3	50.0	150.0
MPFBA		106.6	50.0	150.0
MPFDoDA		102.8	50.0	150.0
d3N-MeFOSAA		95.6	50.0	150.0
d5EtFOSAA		98.7	50.0	150.0
MHFPO-DA		101.8	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49807.11

Sample Tag: OBG MW-11

Collected Date/Time: 06/14/2023 14:40

Matrix: Groundwater

COC Reference: 153091

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 09:41, Matrix: WW, Dilution: 1.94

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		106.8	50.0	150.0
M2-6:2FTSA		78.0	50.0	150.0
M2-8:2FTSA		95.4	50.0	150.0
M2PFTeDA		121.6	12.0	218.0
M3PFBS		110.1	50.0	150.0
M3PFHxS		100.9	50.0	150.0
M4PFHpA		119.0	50.0	150.0
M5PFHxA		101.2	50.0	150.0
M5PFPeA		111.9	50.0	150.0
M6PFDA		108.2	50.0	150.0
M7PFUnDA		113.4	50.0	150.0
M8FOSA		101.4	50.0	150.0
M8PFOA		97.3	50.0	150.0
M8PFOS		97.2	50.0	150.0
M9-PFNA		110.7	50.0	150.0
MPFBA		106.0	50.0	150.0
MPFDoDA		102.2	50.0	150.0
d3N-MeFOSAA		117.6	50.0	150.0
d5EtFOSAA		101.5	50.0	150.0
MHFPO-DA		119.8	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49807.12

Sample Tag: Equipment Blank-061423

Collected Date/Time: 06/14/2023 13:10

Matrix: Water

COC Reference: 153091

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 10:01, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		99.6	50.0	150.0
M2-6:2FTSA		96.3	50.0	150.0
M2-8:2FTSA		90.9	50.0	150.0
M2PFTeDA		133.5	12.0	218.0
M3PFBS		111.4	50.0	150.0
M3PFHxS		89.5	50.0	150.0
M4PFHpA		95.0	50.0	150.0
M5PFHxA		97.7	50.0	150.0
M5PFPeA		111.7	50.0	150.0
M6PFDA		94.2	50.0	150.0
M7PFUnDA		113.1	50.0	150.0
M8FOSA		98.5	50.0	150.0
M8PFOA		96.3	50.0	150.0
M8PFOS		94.1	50.0	150.0
M9-PFNA		122.0	50.0	150.0
MPFBA		105.7	50.0	150.0
MPFDoDA		106.4	50.0	150.0
d3N-MeFOSAA		107.4	50.0	150.0
d5EtFOSAA		104.3	50.0	150.0
MHFPO-DA		115.5	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49807.13

Sample Tag: Field Blank-061423

Collected Date/Time: 06/14/2023 14:48

Matrix: Water

COC Reference: 153092

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230629, Run Date: 06/30/2023 10:20, Matrix: WW, Dilution: 1.94

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		113.5	50.0	150.0
M2-6:2FTSA		107.8	50.0	150.0
M2-8:2FTSA		97.5	50.0	150.0
M2PFTeDA		162.0	12.0	218.0
M3PFBS		109.4	50.0	150.0
M3PFHxS		88.3	50.0	150.0
M4PFHpA		110.4	50.0	150.0
M5PFHxA		105.7	50.0	150.0
M5PFPeA		109.8	50.0	150.0
M6PFDA		97.3	50.0	150.0
M7PFUnDA		125.5	50.0	150.0
M8FOSA		103.6	50.0	150.0
M8PFOA		102.4	50.0	150.0
M8PFOS		92.4	50.0	150.0
M9-PFNA		112.6	50.0	150.0
MPFBA		89.9	50.0	150.0
MPFDoDA		116.5	50.0	150.0
d3N-MeFOSAA		119.8	50.0	150.0
d5EtFOSAA		116.2	50.0	150.0
MHFPO-DA		102.6	50.0	150.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: PF230628W1

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

Blank (BLK)

Lab Sample ID: AK230629.BLK230628

Run in Batch: AK230629, Run Date: 06/29/2023 16:05, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		114.3	50.0	150.0
M2-6:2FTSA		112.4	50.0	150.0
M2-8:2FTSA		101.3	50.0	150.0
M2PFTeDA		116.1	12.0	218.0
M3PFBS		97.2	50.0	150.0
M3PFHxS		104.7	50.0	150.0
M4PFHpA		102.0	50.0	150.0
M5PFHxA		96.7	50.0	150.0
M5PFPeA		107.2	50.0	150.0
M6PFDA		120.7	50.0	150.0
M7PFUnDA		111.2	50.0	150.0
M8FOSA		97.4	50.0	150.0
M8PFOA		94.3	50.0	150.0
M8PFOS		94.3	50.0	150.0
M9-PFNA		116.1	50.0	150.0
MPFBA		102.6	50.0	150.0
MPFDoDA		96.4	50.0	150.0
d3N-MeFOSAA		100.6	50.0	150.0
d5EtFOSAA		110.3	50.0	150.0
MHFPO-DA		118.4	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample (LCS)

Lab Sample ID: AK230629.LCS230628

Run in Batch: AK230629, Run Date: 06/29/2023 15:26, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		108.3	50.0	150.0
M2-6:2FTSA		101.7	50.0	150.0
M2-8:2FTSA		124.9	50.0	150.0
M2PFTeDA		132.8	12.0	218.0
M3PFBS		97.7	50.0	150.0
M3PFHxS		95.4	50.0	150.0
M4PFHpA		116.3	50.0	150.0
M5PFHxA		98.1	50.0	150.0
M5PFPeA		101.5	50.0	150.0
M6PFDA		107.1	50.0	150.0
M7PFUnDA		110.0	50.0	150.0
M8FOSA		101.9	50.0	150.0
M8PFOA		96.2	50.0	150.0
M8PFOS		91.1	50.0	150.0
M9-PFNA		100.6	50.0	150.0
MPFBA		101.5	50.0	150.0
MPFDoDA		114.4	50.0	150.0
d3N-MeFOSAA		101.8	50.0	150.0
d5EtFOSAA		113.1	50.0	150.0
MHFPO-DA		113.8	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK230629.LCSD2306128, Parent Sample ID: AK230629.LCS230628

Run in Batch: AK230629, Run Date: 06/29/2023 15:45, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		108.6	50.0	150.0
M2-6:2FTSA		114.7	50.0	150.0
M2-8:2FTSA		105.4	50.0	150.0
M2PFTeDA		139.5	12.0	218.0
M3PFBS		93.7	50.0	150.0
M3PFHxS		102.7	50.0	150.0
M4PFHpA		103.6	50.0	150.0
M5PFHxA		100.6	50.0	150.0
M5PFPeA		101.0	50.0	150.0
M6PFDA		116.0	50.0	150.0
M7PFUnDA		118.1	50.0	150.0
M8FOSA		100.2	50.0	150.0
M8PFOA		94.5	50.0	150.0
M8PFOS		99.7	50.0	150.0
M9-PFNA		106.8	50.0	150.0
MPFBA		101.7	50.0	150.0
MPFDoDA		99.5	50.0	150.0
d3N-MeFOSAA		101.9	50.0	150.0
d5EtFOSAA		119.2	50.0	150.0
MHFPO-DA		103.6	50.0	150.0

QC Report - Internal Standards per QC Sample

Matrix Spike (MS)

Lab Sample ID: AK230629.4971601M, Parent Sample ID: S49716.01

Run in Batch: AK230629, Run Date: 06/30/2023 00:31, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1.95

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		95.9	50.0	150.0
M2-6:2FTSA		96.4	50.0	150.0
M2-8:2FTSA		107.8	50.0	150.0
M2PFTeDA		132.6	12.0	218.0
M3PFBS		120.4	50.0	150.0
M3PFHxS		99.0	50.0	150.0
M4PFHpA		109.9	50.0	150.0
M5PFHxA		103.2	50.0	150.0
M5PFPeA		114.3	50.0	150.0
M6PFDA		114.1	50.0	150.0
M7PFUnDA		109.7	50.0	150.0
M8FOSA		109.7	50.0	150.0
M8PFOA		110.9	50.0	150.0
M8PFOS		100.3	50.0	150.0
M9-PFNA		110.5	50.0	150.0
MPFBA		115.1	50.0	150.0
MPFDoDA		119.1	50.0	150.0
d3N-MeFOSAA		112.5	50.0	150.0
d5EtFOSAA		113.2	50.0	150.0
MHFPO-DA		120.9	50.0	150.0

QC Report - Internal Standards per QC Sample

Duplicate (DUP)

Lab Sample ID: AK230629.4971602D, Parent Sample ID: S49716.02

Run in Batch: AK230629, Run Date: 06/30/2023 01:10, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1.96

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		112.0	50.0	150.0
M2-6:2FTSA		117.7	50.0	150.0
M2-8:2FTSA		110.0	50.0	150.0
M2PFTeDA		139.7	12.0	218.0
M3PFBS		120.8	50.0	150.0
M3PFHxS		102.5	50.0	150.0
M4PFHpA		109.3	50.0	150.0
M5PFHxA		104.6	50.0	150.0
M5PFPeA		120.8	50.0	150.0
M6PFDA		99.0	50.0	150.0
M7PFUnDA		121.9	50.0	150.0
M8FOSA		109.2	50.0	150.0
M8PFOA		105.9	50.0	150.0
M8PFOS		96.2	50.0	150.0
M9-PFNA		114.8	50.0	150.0
MPFBA		113.7	50.0	150.0
MPFDoDA		118.3	50.0	150.0
d3N-MeFOSAA		114.3	50.0	150.0
d5EtFOSAA		101.8	50.0	150.0
MHFPO-DA		116.8	50.0	150.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230628W1

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

Blank (BLK)

Lab Sample ID: AK230629.BLK230628

Run in Batch: AK230629, Run Date: 06/29/2023 16:05, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFMPA		ND	1	ng/l
PFPPrS		ND	1	ng/l
PFMBA		ND	1	ng/l
NFDHA		ND	1	ng/l
PFEESA		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
FHpPA (7:3 FTCA)		ND	2	ng/l
FPePA (5:3 FTCA)		ND	2	ng/l
FPrPA (3:3 FTCA)		ND	2	ng/l
PFBSA		ND	1	ng/l
PFECHS		ND	1	ng/l
PFHxSA		ND	1	ng/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230628W1 (continued)

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

Laboratory Control Sample (LCS)

Lab Sample ID: AK230629.LCS230628

Run in Batch: AK230629, Run Date: 06/29/2023 15:26, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		93.8	70.0	130.0
PFMPA		103.8	70.0	130.0
FPrPA (3:3 FTCA)		106.8	70.0	130.0
PFPPrS		92.6	70.0	130.0
PFPeA		98.4	70.0	130.0
PFMBA		96.0	70.0	130.0
4:2 FTSA		88.8	70.0	130.0
NFDHA		94.6	70.0	130.0
PFHxA		99.4	70.0	130.0
PFBS		100.4	70.0	130.0
HFPO-DA		91.8	70.0	130.0
FPePA (5:3 FTCA)		109.0	70.0	130.0
PFEESA		95.6	70.0	130.0
PFHpA		86.6	70.0	130.0
PFPeS		105.4	70.0	130.0
ADONA		95.8	70.0	130.0
6:2 FTSA		102.4	70.0	130.0
PFBSA		90.2	70.0	130.0
PFOA		94.2	70.0	130.0
PFHxS		107.8	70.0	130.0
PFNA		113.0	70.0	130.0
FHpPA (7:3 FTCA)		119.6	70.0	130.0
PFECHS		106.8	70.0	130.0
8:2 FTSA		83.8	70.0	130.0
PFHpS		97.0	70.0	130.0
N-MeFOSAA		98.0	70.0	130.0
PFDA		93.2	70.0	130.0
EtFOSAA		88.2	70.0	130.0
PFOS		101.6	70.0	130.0
PFUnDA		109.0	70.0	130.0
PFHxSA		95.2	70.0	130.0
9CL-PF3ONS		90.2	70.0	130.0
PFNS		110.6	70.0	130.0
PFDODA		84.6	70.0	130.0
PFDS		111.8	70.0	130.0
PFTTrDA		93.4	70.0	130.0
11CL-PF3OUdS		100.4	70.0	130.0
PFTeDA		100.4	70.0	130.0
FOSA		98.8	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK230629.LCSD2306128, Parent Sample ID: AK230629.LCS230628

Run in Batch: AK230629, Run Date: 06/29/2023 15:45, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		100.4	70.0	130.0	6.8	30.0
PFMPA		99.6	70.0	130.0	4.1	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230628W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK230629.LCSD2306128, Parent Sample ID: AK230629.LCS230628

Run in Batch: AK230629, Run Date: 06/29/2023 15:45, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
FPrPA (3:3 FTCA)		106.8	70.0	130.0	0.0	30.0
PFPPrS		101.4	70.0	130.0	9.1	30.0
PFPeA		91.0	70.0	130.0	7.8	30.0
PFMBA		86.6	70.0	130.0	10.3	30.0
4:2 FTSA		96.6	70.0	130.0	8.4	30.0
NFDHA		95.2	70.0	130.0	0.6	30.0
PFHxA		104.0	70.0	130.0	4.5	30.0
PFBS		101.0	70.0	130.0	0.6	30.0
HFPO-DA		110.6	70.0	130.0	18.6	30.0
FPePA (5:3 FTCA)		122.8	70.0	130.0	11.9	30.0
PFEESA		81.0	70.0	130.0	16.5	30.0
PFHpA		88.4	70.0	130.0	2.1	30.0
PFPeS		103.0	70.0	130.0	2.3	30.0
ADONA		104.2	70.0	130.0	8.4	30.0
6:2 FTSA		99.6	70.0	130.0	2.8	30.0
PFBSA		98.4	70.0	130.0	8.7	30.0
PFOA		102.6	70.0	130.0	8.5	30.0
PFHxS		95.4	70.0	130.0	12.2	30.0
PFNA		96.6	70.0	130.0	15.6	30.0
FHpPA (7:3 FTCA)		120.0	70.0	130.0	0.3	30.0
PFECHS		93.2	70.0	130.0	13.6	30.0
8:2 FTSA		96.2	70.0	130.0	13.8	30.0
PFHpS		102.2	70.0	130.0	5.2	30.0
N-MeFOSAA		101.2	70.0	130.0	3.2	30.0
PFDA		82.0	70.0	130.0	12.8	30.0
EtFOSAA		93.6	70.0	130.0	5.9	30.0
PFOS		90.2	70.0	130.0	11.9	30.0
PFUnDA		90.8	70.0	130.0	18.2	30.0
PFHxSA		93.8	70.0	130.0	1.5	30.0
9CL-PF3ONS		92.2	70.0	130.0	2.2	30.0
PFNS		95.8	70.0	130.0	14.3	30.0
PFDoDA		111.6	70.0	130.0	27.5	30.0
PFDS		102.6	70.0	130.0	8.6	30.0
PFTTrDA		117.2	70.0	130.0	22.6	30.0
11CL-PF3OUdS		88.4	70.0	130.0	12.7	30.0
PFTeDA		109.6	70.0	130.0	8.8	30.0
FOSA		96.6	70.0	130.0	2.3	30.0

Matrix Spike (MS)

Lab Sample ID: AK230629.4971601M, Parent Sample ID: S49716.01

Run in Batch: AK230629, Run Date: 06/30/2023 00:31, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1.95

Analyte	Flags	% Rec	LCL	UCL
PFBA		85.1	70.0	130.0
PFPeA		81.0	70.0	130.0
4:2 FTSA		94.4	70.0	130.0
PFHxA		86.2	70.0	130.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230628W1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: AK230629.4971601M, Parent Sample ID: S49716.01

Run in Batch: AK230629, Run Date: 06/30/2023 00:31, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1.95

Analyte	Flags	% Rec	LCL	UCL
PFBS		90.3	70.0	130.0
PFHpA		86.2	70.0	130.0
PFPeS		85.1	70.0	130.0
6:2 FTSA		100.5	70.0	130.0
PFOA		77.9	70.0	130.0
PFHxS		82.6	70.0	130.0
PFNA		100.5	70.0	130.0
8:2 FTSA		91.3	70.0	130.0
PFHpS		86.2	70.0	130.0
PFDA	*	67.7	70.0	130.0
N-MeFOSAA		86.2	70.0	130.0
EtFOSAA		84.1	70.0	130.0
PFOS		81.5	70.0	130.0
PFUnDA		85.1	70.0	130.0
PFNS		88.2	70.0	130.0
PFDoDA		80.0	70.0	130.0
PFDS		94.4	70.0	130.0
PFTTrDA		87.2	70.0	130.0
FOSA		90.3	70.0	130.0
PFTeDA		92.3	70.0	130.0
11CL-PF3OUdS		84.1	70.0	130.0
9CL-PF3ONS		81.0	70.0	130.0
ADONA		81.0	70.0	130.0
HFPO-DA		93.3	70.0	130.0
FHpPA (7:3 FTCA)		93.3	70.0	130.0
FPePA (5:3 FTCA)		112.8	70.0	130.0
FPrPA (3:3 FTCA)		88.2	70.0	130.0
PFBSA		88.2	70.0	130.0
PFECHS		90.3	70.0	130.0
PFHxSA		77.9	70.0	130.0

Duplicate (DUP)

Lab Sample ID: AK230629.4971602D, Parent Sample ID: S49716.02

Run in Batch: AK230629, Run Date: 06/30/2023 01:10, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1.96

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
PFPeA		NC	30.0
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

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230628W1 (continued)

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

Duplicate (DUP) (continued)

Lab Sample ID: AK230629.4971602D, Parent Sample ID: S49716.02

Run in Batch: AK230629, Run Date: 06/30/2023 01:10, Prep Date: 06/28/2023, Matrix: WW, Dilution: 1.96

Analyte	Flags	RPD	RPD CL
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		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
FHpPA (7:3 FTCA)		NC	30.0
FPePA (5:3 FTCA)		NC	30.0
FPrPA (3:3 FTCA)		NC	30.0
PFBSA		NC	30.0
PFECHS		NC	30.0
PFHxSA		NC	30.0

**INVOICE TO**

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



2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE #

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153092

REPORT TO

CONTACT NAME clifford Yantz / Kevin Schneider			
COMPANY Ramboll			
ADDRESS 2010 Commonwealth Blvd			
CITY Ann Arbor		STATE MI	ZIP CODE 48105
PHONE NO.		CELL NO. 313-333-0211	P.O. NO. 1940006516 Task 37
E-MAIL ADDRESS clifford.yantz@ramboll.com		QUOTE NO. kevin.schneider@ramboll.com	

CHAIN OF CUSTODY RECORD

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

INVOICE TO

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

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

Certifications

☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York
☐ Other _____

Special Instructions

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. FOR LAB USE ONLY	COLLECTION		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	PFA	☐ Other _____
	DATE	TIME												Special Instructions
49807.13	6/14/03	1448	Field Blank - 061423	QC	1	1							X	Low Level Report with estimated values 34 PFAs compound list

Low Level Reporting
with estimated
values

34 PFAS compound LIST

RELINQUISHED BY:	<i>[Signature]</i>	D Sampler	DATE	TIME
SIGNATURE/ORGANIZATION			6/14/23	1455
RECEIVED BY:	<i>[Signature]</i>		DATE	TIME
SIGNATURE/ORGANIZATION			6/14/23	1457
RELINQUISHED BY:	<i>[Signature]</i>		DATE	TIME
SIGNATURE/ORGANIZATION			6/14/23	1528
RECEIVED BY:	<i>[Signature]</i>		DATE	TIME
SIGNATURE/ORGANIZATION			6/14/23	1545

RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL <u>4.8</u>
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

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

Rev. 1.26.22



Analytical Laboratory Report

Report ID: S49456.01(01)
Generated on 06/28/2023

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

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

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Report Summary
Lab Sample ID(s): S49456.01-S49456.04
Project: RACER Coldwater Road
Collected Date(s): 06/06/2023 - 06/07/2023
Submitted Date/Time: 06/07/2023 15:10
Sampled by: Kevin Schneider
P.O. #: 1940006516 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

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

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-chloroeicosafluoro-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
FHpPA (7:3 FTCA)	3-Perfluoroheptyl propanoic acid	812-70-4
FPePA (5:3 FTCA)	3-Perfluoropentyl propanoic acid	914637-49-3
FPrPA (3:3 FTCA)	3-Perfluoropropyl propanoic acid	356-02-5
PFBSA	Perfluorobutanesulfonamide	30334-69-1
PFECHS	Perfluoro-4-ethylcyclohexanesulfonate	67584-42-3
PFHxSA	Perfluorohexanesulfonamide	41997-13-1



Analytical Laboratory Report

Sample Summary (4 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S49456.01	Vault-A	Wastewater	06/06/23 11:52
S49456.02	Vault-C	Wastewater	06/06/23 14:42
S49456.03	Vault-DUP-060623	Wastewater	06/06/23 00:01
S49456.04	Vault-E	Wastewater	06/07/23 12:15



Analytical Laboratory Report

Lab Sample ID: S49456.01

Sample Tag: Vault-A

Collected Date/Time: 06/06/2023 11:52

Matrix: Wastewater

COC Reference: 156515

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	13.17/6.53/13	ASTMD7979-19M	06/16/23 10:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/17/23 03:57, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.8	9.8	ng/L	1.96	375-22-4	
PFPeA*	1.7	3.9	0.98	ng/L	1.96	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.96	757124-72-4	
PFHxA*	3.1	2.0	1.4	ng/L	1.96	307-24-4	
PFBS*	5.7	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*	6.9	2.0	1.8	ng/L	1.96	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.96	27619-97-2	
PFOA*	6.3	2.0	1.6	ng/L	1.96	335-67-1	
PFHxS*	21	2.0	1.6	ng/L	1.96	355-46-4	
PFHxS-LN*	18	2.0	1.6	ng/L	1.96	355-46-4-LN	
PFHxS-BR*	3.5	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*	5.1	2.0	2.0	ng/L	1.96	375-92-8	
PFDA*	2.3	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*	370	2.0	1.9	ng/L	1.96	1763-23-1	
PFOS-LN*	200	2.0	1.9	ng/L	1.96	1763-23-1-LN	
PFOS-BR*	170	2.0	1.9	ng/L	1.96	1763-23-1-BR	
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	3.9	2.0	ng/L	1.96	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	3.9	2.9	ng/L	1.96	812-70-4	
FPePA (5:3 FTCA)*	Not detected	3.9	2.2	ng/L	1.96	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	3.9	1.2	ng/L	1.96	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	1.96	30334-69-1	

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



Analytical Laboratory Report

Lab Sample ID: S49456.01 (continued)

Sample Tag: Vault-A

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/17/23 03:57, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFECHS*	1,100	2.0	1.2	ng/L	1.96	67584-42-3	
PFHxSA*	Not detected	2.0	0.98	ng/L	1.96	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49456.02

Sample Tag: Vault-C

Collected Date/Time: 06/06/2023 14:42

Matrix: Wastewater

COC Reference: 156515

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.95/6.54/13	ASTMD7979-19M	06/16/23 10:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/17/23 04:16, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	12	10	10	ng/L	2.03	375-22-4	
PFPeA*	1.3	4.1	1.0	ng/L	2.03	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.03	757124-72-4	
PFHxA*	1.6	2.0	1.4	ng/L	2.03	307-24-4	J
PFBS*	4.7	2.0	1.4	ng/L	2.03	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2.03	375-85-9	
PFPeS*	5.4	2.0	1.8	ng/L	2.03	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2.03	27619-97-2	
PFOA*	8.3	2.0	1.6	ng/L	2.03	335-67-1	
PFHxS*	16	2.0	1.6	ng/L	2.03	355-46-4	
PFHxS-LN*	13	2.0	1.6	ng/L	2.03	355-46-4-LN	
PFHxS-BR*	2.9	2.0	1.6	ng/L	2.03	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.03	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.03	39108-34-4	
PFHpS*	5.2	2.0	2.0	ng/L	2.03	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.03	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.03	2355-31-9	
EtFOSAA*	Not detected	4.1	2.0	ng/L	2.03	2991-50-6	
PFOS*	360	2.0	2.0	ng/L	2.03	1763-23-1	
PFOS-LN*	200	2.0	2.0	ng/L	2.03	1763-23-1-LN	
PFOS-BR*	160	2.0	2.0	ng/L	2.03	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.03	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.03	68259-12-1	
PFDODA*	Not detected	2.0	1.6	ng/L	2.03	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.03	335-77-3	
PFTTrDA*	Not detected	2.0	1.2	ng/L	2.03	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.03	754-91-6	
PFTeDA*	Not detected	4.1	1.8	ng/L	2.03	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.03	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.03	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.03	919005-14-4	
HFPO-DA*	Not detected	4.1	2.0	ng/L	2.03	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.1	3.0	ng/L	2.03	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.1	2.2	ng/L	2.03	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.1	1.2	ng/L	2.03	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	2.03	30334-69-1	

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



Analytical Laboratory Report

Lab Sample ID: S49456.02 (continued)
Sample Tag: Vault-C

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/17/23 04:16, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFECHS*	970	2.0	1.2	ng/L	2.03	67584-42-3	
PFHxSA*	Not detected	2.0	1.0	ng/L	2.03	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49456.03

Sample Tag: Vault-DUP-060623

Collected Date/Time: 06/06/2023 00:01

Matrix: Wastewater

COC Reference: 156515

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	13.63/6.55/14	ASTMD7979-19M	06/16/23 10:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/17/23 04:36, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.9	9.9	ng/L	1.98	375-22-4	
PFPeA*	1.3	4.0	0.99	ng/L	1.98	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.98	757124-72-4	
PFHxA*	1.9	2.0	1.4	ng/L	1.98	307-24-4	J
PFBS*	5.9	2.0	1.4	ng/L	1.98	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.98	375-85-9	
PFPeS*	5.9	2.0	1.8	ng/L	1.98	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.98	27619-97-2	
PFOA*	7.6	2.0	1.6	ng/L	1.98	335-67-1	
PFHxS*	17	2.0	1.6	ng/L	1.98	355-46-4	
PFHxS-LN*	14	2.0	1.6	ng/L	1.98	355-46-4-LN	
PFHxS-BR*	3.2	2.0	1.6	ng/L	1.98	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.98	375-95-1	
8:2 FTSA*	Not detected	2.0	0.99	ng/L	1.98	39108-34-4	
PFHpS*	4.5	2.0	2.0	ng/L	1.98	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.98	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.98	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	1.98	2991-50-6	
PFOS*	330	2.0	1.9	ng/L	1.98	1763-23-1	
PFOS-LN*	180	2.0	1.9	ng/L	1.98	1763-23-1-LN	
PFOS-BR*	150	2.0	1.9	ng/L	1.98	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.98	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.98	68259-12-1	
PFDODA*	Not detected	2.0	1.6	ng/L	1.98	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.98	335-77-3	
PFTDA*	Not detected	2.0	1.2	ng/L	1.98	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.98	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	1.98	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.98	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.98	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.98	919005-14-4	
HFPO-DA*	Not detected	4.0	2.0	ng/L	1.98	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.0	3.0	ng/L	1.98	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.0	2.2	ng/L	1.98	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.0	1.2	ng/L	1.98	356-02-5	
PFBSA*	Not detected	2.0	1.2	ng/L	1.98	30334-69-1	

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



Analytical Laboratory Report

Lab Sample ID: S49456.03 (continued)

Sample Tag: Vault-DUP-060623

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/17/23 04:36, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFECHS*	920	2.0	1.2	ng/L	1.98	67584-42-3	
PFHxSA*	Not detected	2.0	0.99	ng/L	1.98	41997-13-1	



Analytical Laboratory Report

Lab Sample ID: S49456.04

Sample Tag: Vault-E

Collected Date/Time: 06/07/2023 12:15

Matrix: Wastewater

COC Reference: 156515

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.06/6.54/11	ASTMD7979-19M	06/16/23 10:00	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/17/23 04:55, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10.0	10.0	ng/L	1.99	375-22-4	
PFPeA*	1.9	4.0	1.00	ng/L	1.99	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.99	757124-72-4	
PFHxA*	2.9	2.0	1.4	ng/L	1.99	307-24-4	
PFBS*	9.5	2.0	1.4	ng/L	1.99	375-73-5	
PFHpA*	2.9	2.0	1.4	ng/L	1.99	375-85-9	
PFPeS*	14	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*	14	2.0	1.6	ng/L	1.99	335-67-1	
PFHxS*	46	2.0	1.6	ng/L	1.99	355-46-4	
PFHxS-LN*	37	2.0	1.6	ng/L	1.99	355-46-4-LN	
PFHxS-BR*	8.1	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*	11	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*	520	2.0	2.0	ng/L	1.99	1763-23-1	
PFOS-LN*	270	2.0	2.0	ng/L	1.99	1763-23-1-LN	
PFOS-BR*	260	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	
PFTDA*	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	4.0	2.0	ng/L	1.99	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.0	3.0	ng/L	1.99	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.0	2.2	ng/L	1.99	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.0	1.2	ng/L	1.99	356-02-5	
PFBSA*	1.6	2.0	1.2	ng/L	1.99	30334-69-1	J

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



Analytical Laboratory Report

Lab Sample ID: S49456.04 (continued)
Sample Tag: Vault-E

34 PFAs, Method: ASTMD7979-19M, Run Date: 06/17/23 04:55, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFECHS*	1,300	2.0	1.2	ng/L	1.99	67584-42-3	
PFHxSA*	Not detected	2.0	1.00	ng/L	1.99	41997-13-1	

Merit Laboratories Login Checklist

Lab Set ID:S49456

Client:RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Submitted:06/07/2023 15:10 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.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 2.9
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ 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: _____

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO[illegible]

RELINQUISHED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>	DATE	TIME	RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>	DATE	TIME	RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>	DATE	TIME	SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL <i>2.9</i>
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>	DATE	TIME	SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	

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



Quality Control Report

Report ID: QC-S49456-01
Generated on 06/28/2023

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): S49456.01-S49456.04
Project: RACER Coldwater Road
Submitted Date/Time: 06/07/2023 15:10
Sampled by: Kevin Schneider
P.O. #: 1940006516 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: S49456.01

Sample Tag: Vault-A

Collected Date/Time: 06/06/2023 11:52

Matrix: Wastewater

COC Reference: 156515

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	06/17/23 03:57	AK230616W	PF230616W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49456.02

Sample Tag: Vault-C

Collected Date/Time: 06/06/2023 14:42

Matrix: Wastewater

COC Reference: 156515

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/17/23 04:16	AK230616W	PF230616W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49456.03

Sample Tag: Vault-DUP-060623

Collected Date/Time: 06/06/2023 00:01

Matrix: Wastewater

COC Reference: 156515

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/17/23 04:36	AK230616W	PF230616W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S49456.04

Sample Tag: Vault-E

Collected Date/Time: 06/07/2023 12:15

Matrix: Wastewater

COC Reference: 156515

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
34 PFAs	ASTMD7979-19M	06/17/23 04:55	AK230616W	PF230616W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF230616W2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49456.01	34 PFAs	ASTMD7979-19M	06/17/23 03:57	AK230616W
S49456.02	34 PFAs	ASTMD7979-19M	06/17/23 04:16	AK230616W
S49456.03	34 PFAs	ASTMD7979-19M	06/17/23 04:36	AK230616W
S49456.04	34 PFAs	ASTMD7979-19M	06/17/23 04:55	AK230616W

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49456.01

Sample Tag: Vault-A

Collected Date/Time: 06/06/2023 11:52

Matrix: Wastewater

COC Reference: 156515

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230616W, Run Date: 06/17/2023 03:57, Matrix: WW, Dilution: 1.96

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		74.3	50.0	150.0
M2-6:2FTSA		74.8	50.0	150.0
M2-8:2FTSA		78.9	50.0	150.0
M2PFTeDA		105.5	12.0	218.0
M3PFBS		101.6	50.0	150.0
M3PFHxS		112.4	50.0	150.0
M4PFHpA		98.4	50.0	150.0
M5PFHxA		103.7	50.0	150.0
M5PFPeA		99.1	50.0	150.0
M6PFDA		92.6	50.0	150.0
M7PFUnDA		91.4	50.0	150.0
M8FOSA		96.6	50.0	150.0
M8PFOA		117.4	50.0	150.0
M8PFOS		93.6	50.0	150.0
M9-PFNA		105.6	50.0	150.0
MPFBA		104.5	50.0	150.0
MPFDoDA		94.6	50.0	150.0
d3N-MeFOSAA		86.6	50.0	150.0
d5EtFOSAA		82.3	50.0	150.0
MHFPO-DA		119.8	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49456.02

Sample Tag: Vault-C

Collected Date/Time: 06/06/2023 14:42

Matrix: Wastewater

COC Reference: 156515

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230616W, Run Date: 06/17/2023 04:16, Matrix: WW, Dilution: 2.03

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		82.4	50.0	150.0
M2-6:2FTSA		66.7	50.0	150.0
M2-8:2FTSA		78.4	50.0	150.0
M2PFTeDA		110.5	12.0	218.0
M3PFBS		108.6	50.0	150.0
M3PFHxS		108.3	50.0	150.0
M4PFHpA		97.3	50.0	150.0
M5PFHxA		111.8	50.0	150.0
M5PFPeA		101.1	50.0	150.0
M6PFDA		90.3	50.0	150.0
M7PFUnDA		97.7	50.0	150.0
M8FOSA		93.8	50.0	150.0
M8PFOA		106.2	50.0	150.0
M8PFOS		97.5	50.0	150.0
M9-PFNA		99.2	50.0	150.0
MPFBA		102.4	50.0	150.0
MPFDoDA		96.6	50.0	150.0
d3N-MeFOSAA		84.5	50.0	150.0
d5EtFOSAA		85.7	50.0	150.0
MHFPO-DA		125.4	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49456.03

Sample Tag: Vault-DUP-060623

Collected Date/Time: 06/06/2023 00:01

Matrix: Wastewater

COC Reference: 156515

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230616W, Run Date: 06/17/2023 04:36, Matrix: WW, Dilution: 1.98

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		82.8	50.0	150.0
M2-6:2FTSA		68.9	50.0	150.0
M2-8:2FTSA		70.4	50.0	150.0
M2PFTeDA		99.6	12.0	218.0
M3PFBS		99.4	50.0	150.0
M3PFHxS		113.5	50.0	150.0
M4PFHpA		97.6	50.0	150.0
M5PFHxA		110.9	50.0	150.0
M5PFPeA		105.1	50.0	150.0
M6PFDA		92.6	50.0	150.0
M7PFUnDA		91.9	50.0	150.0
M8FOSA		86.1	50.0	150.0
M8PFOA		104.3	50.0	150.0
M8PFOS		101.6	50.0	150.0
M9-PFNA		107.3	50.0	150.0
MPFBA		105.1	50.0	150.0
MPFDoDA		98.5	50.0	150.0
d3N-MeFOSAA		89.8	50.0	150.0
d5EtFOSAA		78.3	50.0	150.0
MHFPO-DA		122.3	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S49456.04

Sample Tag: Vault-E

Collected Date/Time: 06/07/2023 12:15

Matrix: Wastewater

COC Reference: 156515

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230616W, Run Date: 06/17/2023 04:55, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		81.2	50.0	150.0
M2-6:2FTSA		67.0	50.0	150.0
M2-8:2FTSA		83.0	50.0	150.0
M2PFTeDA		113.3	12.0	218.0
M3PFBS		106.0	50.0	150.0
M3PFHxS		114.6	50.0	150.0
M4PFHpA		97.1	50.0	150.0
M5PFHxA		103.3	50.0	150.0
M5PFPeA		99.5	50.0	150.0
M6PFDA		94.6	50.0	150.0
M7PFUnDA		90.1	50.0	150.0
M8FOSA		92.3	50.0	150.0
M8PFOA		108.4	50.0	150.0
M8PFOS		98.7	50.0	150.0
M9-PFNA		107.5	50.0	150.0
MPFBA		103.7	50.0	150.0
MPFDoDA		99.7	50.0	150.0
d3N-MeFOSAA		85.6	50.0	150.0
d5EtFOSAA		85.1	50.0	150.0
MHFPO-DA		117.9	50.0	150.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: PF230616W2

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

Blank (BLK)

Lab Sample ID: AK230616W.BLK230616

Run in Batch: AK230616W, Run Date: 06/17/2023 01:01, Prep Date: 06/16/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		80.5	50.0	150.0
M2-6:2FTSA		77.1	50.0	150.0
M2-8:2FTSA		91.6	50.0	150.0
M2PFTeDA		89.5	12.0	218.0
M3PFBS		95.6	50.0	150.0
M3PFHxS		107.8	50.0	150.0
M4PFHpA		92.4	50.0	150.0
M5PFHxA		102.4	50.0	150.0
M5PFPeA		98.7	50.0	150.0
M6PFDA		87.8	50.0	150.0
M7PFUnDA		88.5	50.0	150.0
M8FOSA		87.2	50.0	150.0
M8PFOA		100.9	50.0	150.0
M8PFOS		92.4	50.0	150.0
M9-PFNA		105.0	50.0	150.0
MPFBA		97.5	50.0	150.0
MPFDoDA		91.4	50.0	150.0
d3N-MeFOSAA		78.7	50.0	150.0
d5EtFOSAA		82.8	50.0	150.0
MHFPO-DA		111.0	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample (LCS)

Lab Sample ID: AK230616W.LCS230616

Run in Batch: AK230616W, Run Date: 06/17/2023 00:22, Prep Date: 06/16/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		87.3	50.0	150.0
M2-6:2FTSA		78.7	50.0	150.0
M2-8:2FTSA		82.7	50.0	150.0
M2PFTeDA		94.2	12.0	218.0
M3PFBS		90.3	50.0	150.0
M3PFHxS		109.8	50.0	150.0
M4PFHpA		95.3	50.0	150.0
M5PFHxA		108.9	50.0	150.0
M5PFPeA		98.1	50.0	150.0
M6PFDA		100.4	50.0	150.0
M7PFUnDA		109.1	50.0	150.0
M8FOSA		88.1	50.0	150.0
M8PFOA		109.6	50.0	150.0
M8PFOS		93.8	50.0	150.0
M9-PFNA		100.6	50.0	150.0
MPFBA		99.1	50.0	150.0
MPFDoDA		96.2	50.0	150.0
d3N-MeFOSAA		87.2	50.0	150.0
d5EtFOSAA		79.8	50.0	150.0
MHFPO-DA		114.0	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK230616W.LCSD230616, Parent Sample ID: AK230616W.LCS230616

Run in Batch: AK230616W, Run Date: 06/17/2023 00:41, Prep Date: 06/16/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		82.1	50.0	150.0
M2-6:2FTSA		69.9	50.0	150.0
M2-8:2FTSA		89.3	50.0	150.0
M2PFTeDA		100.7	12.0	218.0
M3PFBS		95.5	50.0	150.0
M3PFHxS		107.5	50.0	150.0
M4PFHpA		89.0	50.0	150.0
M5PFHxA		106.5	50.0	150.0
M5PFPeA		91.4	50.0	150.0
M6PFDA		87.8	50.0	150.0
M7PFUnDA		92.5	50.0	150.0
M8FOSA		87.8	50.0	150.0
M8PFOA		101.4	50.0	150.0
M8PFOS		94.3	50.0	150.0
M9-PFNA		100.5	50.0	150.0
MPFBA		96.7	50.0	150.0
MPFDoDA		90.7	50.0	150.0
d3N-MeFOSAA		78.2	50.0	150.0
d5EtFOSAA		78.3	50.0	150.0
MHFPO-DA		112.9	50.0	150.0

QC Report - Internal Standards per QC Sample

Matrix Spike (MS)

Lab Sample ID: AK230616W.4933402M, Parent Sample ID: S49334.02

Run in Batch: AK230616W, Run Date: 06/17/2023 02:58, Prep Date: 06/16/2023, Matrix: WW, Dilution: 2.01

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		79.3	50.0	150.0
M2-6:2FTSA		74.7	50.0	150.0
M2-8:2FTSA		90.7	50.0	150.0
M2PFTeDA		100.3	12.0	218.0
M3PFBS		95.6	50.0	150.0
M3PFHxS		104.9	50.0	150.0
M4PFHpA		95.9	50.0	150.0
M5PFHxA		103.4	50.0	150.0
M5PFPeA		94.6	50.0	150.0
M6PFDA		92.5	50.0	150.0
M7PFUnDA		106.9	50.0	150.0
M8FOSA		100.1	50.0	150.0
M8PFOA		108.9	50.0	150.0
M8PFOS		93.0	50.0	150.0
M9-PFNA		104.1	50.0	150.0
MPFBA		99.4	50.0	150.0
MPFDoDA		92.5	50.0	150.0
d3N-MeFOSAA		80.1	50.0	150.0
d5EtFOSAA		78.9	50.0	150.0
MHFPO-DA		123.4	50.0	150.0

QC Report - Internal Standards per QC Sample

Duplicate (DUP)

Lab Sample ID: AK230616W.4933403D, Parent Sample ID: S49334.03

Run in Batch: AK230616W, Run Date: 06/17/2023 03:37, Prep Date: 06/16/2023, Matrix: WW, Dilution: 1.92

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		77.4	50.0	150.0
M2-6:2FTSA		70.0	50.0	150.0
M2-8:2FTSA		75.4	50.0	150.0
M2PFTeDA		98.7	12.0	218.0
M3PFBS		88.9	50.0	150.0
M3PFHxS		110.3	50.0	150.0
M4PFHpA		97.7	50.0	150.0
M5PFHxA		98.1	50.0	150.0
M5PFPeA		95.5	50.0	150.0
M6PFDA		85.9	50.0	150.0
M7PFUnDA		91.5	50.0	150.0
M8FOSA		93.0	50.0	150.0
M8PFOA		108.8	50.0	150.0
M8PFOS		93.7	50.0	150.0
M9-PFNA		94.3	50.0	150.0
MPFBA		95.9	50.0	150.0
MPFDoDA		95.9	50.0	150.0
d3N-MeFOSAA		80.2	50.0	150.0
d5EtFOSAA		81.7	50.0	150.0
MHFPO-DA		104.0	50.0	150.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230616W2

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

Blank (BLK)

Lab Sample ID: AK230616W.BLK230616

Run in Batch: AK230616W, Run Date: 06/17/2023 01:01, Prep Date: 06/16/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/l
PFMPA		ND	2	ng/l
FPrPA (3:3 FTCA)		ND	4	ng/l
PFPPrS		ND	2	ng/l
PFPeA		ND	4	ng/l
PFMBA		ND	2	ng/l
4:2 FTSA		ND	2	ng/l
NFDHA		ND	2	ng/l
PFHxA		ND	2	ng/l
PFBS		ND	2	ng/l
HFPO-DA		ND	4	ng/l
FPePA (5:3 FTCA)		ND	4	ng/l
PFEESA		ND	2	ng/l
PFFHpA		ND	2	ng/l
PFPeS		ND	2	ng/l
ADONA		ND	2	ng/l
6:2 FTSA		ND	2	ng/l
PFBSA		ND	2	ng/l
PFOA		ND	2	ng/l
PFHxS-BR		ND	2	ng/l
PFHxS		ND	2	ng/l
PFHxS-LN		ND	2	ng/l
FHpPA (7:3 FTCA)		ND	4	ng/l
PFNA		ND	2	ng/l
PFECHS		ND	2	ng/l
8:2 FTSA		ND	2	ng/l
PFFHpS		ND	2	ng/l
N-MeFOSAA		ND	2	ng/l
PFDA		ND	2	ng/l
PFOS-BR		ND	2	ng/l
EtFOSAA		ND	4	ng/l
PFOS		ND	2	ng/l
PFOS-LN		ND	2	ng/l
PFHxSA		ND	2	ng/l
PFUnDA		ND	2	ng/l
9CL-PF3ONS		ND	2	ng/l
PFNS		ND	2	ng/l
PFDoDA		ND	2	ng/l
PFDS		ND	2	ng/l
PFTTrDA		ND	2	ng/l
11CL-PF3OUdS		ND	2	ng/l
FOSA		ND	2	ng/l
PFTeDA		ND	4	ng/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230616W2 (continued)

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

Laboratory Control Sample (LCS)

Lab Sample ID: AK230616W.LCS230616

Run in Batch: AK230616W, Run Date: 06/17/2023 00:22, Prep Date: 06/16/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		94.4	70.0	130.0
PFMPA		98.2	70.0	130.0
FPrPA (3:3 FTCA)	*	134.0	70.0	130.0
PFPPrS		104.6	70.0	130.0
PFPeA		90.2	70.0	130.0
PFMBA		87.4	70.0	130.0
4:2 FTSA		86.0	70.0	130.0
NFDHA		102.4	70.0	130.0
PFHxA		94.8	70.0	130.0
PFBS		118.6	70.0	130.0
HFPO-DA		88.2	70.0	130.0
FPePA (5:3 FTCA)		116.2	70.0	130.0
PFEESA		96.8	70.0	130.0
PFHpA		100.8	70.0	130.0
PFPeS		105.0	70.0	130.0
ADONA		123.6	70.0	130.0
6:2 FTSA		89.2	70.0	130.0
PFBSA		112.2	70.0	130.0
PFOA		91.6	70.0	130.0
PFHxS		104.2	70.0	130.0
FHpPA (7:3 FTCA)		123.8	70.0	130.0
PFNA		98.0	70.0	130.0
PFECHS		97.2	70.0	130.0
8:2 FTSA		89.2	70.0	130.0
PFHpS		89.2	70.0	130.0
N-MeFOSAA		87.6	70.0	130.0
PFDA		99.4	70.0	130.0
EtFOSAA		103.4	70.0	130.0
PFOS		105.4	70.0	130.0
PFHxSA		114.2	70.0	130.0
PFUnDA		79.6	70.0	130.0
9CL-PF3ONS		107.0	70.0	130.0
PFNS		111.8	70.0	130.0
PFDoDA		95.2	70.0	130.0
PFDS		98.4	70.0	130.0
PFTTrDA		103.0	70.0	130.0
11CL-PF3OUdS		98.8	70.0	130.0
FOSA		108.4	70.0	130.0
PFTeDA		93.4	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK230616W.LCSD230616, Parent Sample ID: AK230616W.LCS230616

Run in Batch: AK230616W, Run Date: 06/17/2023 00:41, Prep Date: 06/16/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		101.6	70.0	130.0	7.3	30.0
PFMPA		94.8	70.0	130.0	3.5	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230616W2 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK230616W.LCSD230616, Parent Sample ID: AK230616W.LCS230616

Run in Batch: AK230616W, Run Date: 06/17/2023 00:41, Prep Date: 06/16/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
FPrPA (3:3 FTCA)		119.6	70.0	130.0	11.4	30.0
PFPPrS		99.2	70.0	130.0	5.3	30.0
PFPeA		99.2	70.0	130.0	9.5	30.0
PFMBA		89.4	70.0	130.0	2.3	30.0
4:2 FTSA		94.6	70.0	130.0	9.5	30.0
NFDHA		97.8	70.0	130.0	4.6	30.0
PFHxA		93.0	70.0	130.0	1.9	30.0
PFBS		102.6	70.0	130.0	14.5	30.0
HFPO-DA		107.0	70.0	130.0	19.3	30.0
FPePA (5:3 FTCA)		118.4	70.0	130.0	1.9	30.0
PFEESA		86.2	70.0	130.0	11.6	30.0
PFHpA		108.6	70.0	130.0	7.4	30.0
PFPeS		92.2	70.0	130.0	13.0	30.0
ADONA		115.0	70.0	130.0	7.2	30.0
6:2 FTSA		100.6	70.0	130.0	12.0	30.0
PFBSA		103.2	70.0	130.0	8.4	30.0
PFOA		99.4	70.0	130.0	8.2	30.0
PFHxS		95.6	70.0	130.0	8.6	30.0
FHpPA (7:3 FTCA)	*	150.0	70.0	130.0	19.1	30.0
PFNA		110.6	70.0	130.0	12.1	30.0
PFECHS		86.6	70.0	130.0	11.5	30.0
8:2 FTSA		81.8	70.0	130.0	8.7	30.0
PFHpS		97.8	70.0	130.0	9.2	30.0
N-MeFOSAA		103.8	70.0	130.0	16.9	30.0
PFDA		103.6	70.0	130.0	4.1	30.0
EtFOSAA		95.4	70.0	130.0	8.0	30.0
PFOS		101.6	70.0	130.0	3.7	30.0
PFHxSA		99.8	70.0	130.0	13.5	30.0
PFUnDA		104.6	70.0	130.0	27.1	30.0
9CL-PF3ONS		98.8	70.0	130.0	8.0	30.0
PFNS		108.0	70.0	130.0	3.5	30.0
PFDoDA		110.0	70.0	130.0	14.4	30.0
PFDS		102.6	70.0	130.0	4.2	30.0
PFTTrDA		112.4	70.0	130.0	8.7	30.0
11CL-PF3OUdS		102.4	70.0	130.0	3.6	30.0
FOSA		113.8	70.0	130.0	4.9	30.0
PFTeDA		96.6	70.0	130.0	3.4	30.0

Matrix Spike (MS)

Lab Sample ID: AK230616W.4933402M, Parent Sample ID: S49334.02

Run in Batch: AK230616W, Run Date: 06/17/2023 02:58, Prep Date: 06/16/2023, Matrix: WW, Dilution: 2.01

Analyte	Flags	% Rec	LCL	UCL
PFBA		108.9	70.0	130.0
PFPeA		97.0	70.0	130.0
4:2 FTSA		99.0	70.0	130.0
PFHxA		108.9	70.0	130.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230616W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: AK230616W.4933402M, Parent Sample ID: S49334.02

Run in Batch: AK230616W, Run Date: 06/17/2023 02:58, Prep Date: 06/16/2023, Matrix: WW, Dilution: 2.01

Analyte	Flags	% Rec	LCL	UCL
PFBS		99.0	70.0	130.0
PFHpA		99.0	70.0	130.0
PFPeS		99.0	70.0	130.0
6:2 FTSA		97.0	70.0	130.0
PFOA		99.0	70.0	130.0
PFHxS		108.9	70.0	130.0
PFNA		90.1	70.0	130.0
8:2 FTSA		88.1	70.0	130.0
PFHpS		96.0	70.0	130.0
PFDA		108.9	70.0	130.0
N-MeFOSAA		94.1	70.0	130.0
EtFOSAA		108.9	70.0	130.0
PFOS		108.9	70.0	130.0
PFUnDA		90.1	70.0	130.0
PFNS		108.9	70.0	130.0
PFDoDA		118.8	70.0	130.0
PFDS		99.0	70.0	130.0
PFTTrDA		118.8	70.0	130.0
FOSA		108.9	70.0	130.0
PFTeDA		99.0	70.0	130.0
11CL-PF3OUdS		98.0	70.0	130.0
9CL-PF3ONS		99.0	70.0	130.0
ADONA		128.7	70.0	130.0
HFPO-DA		88.1	70.0	130.0
FHpPA (7:3 FTCA)		118.8	70.0	130.0
FPePA (5:3 FTCA)		128.7	70.0	130.0
FPrPA (3:3 FTCA)	*	138.6	70.0	130.0
PFBSA		91.1	70.0	130.0
PFECHS		91.1	70.0	130.0
PFHxSA		96.0	70.0	130.0

Duplicate (DUP)

Lab Sample ID: AK230616W.4933403D, Parent Sample ID: S49334.03

Run in Batch: AK230616W, Run Date: 06/17/2023 03:37, Prep Date: 06/16/2023, Matrix: WW, Dilution: 1.92

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
PFPeA		NC	30.0
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

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230616W2 (continued)

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

Duplicate (DUP) (continued)

Lab Sample ID: AK230616W.4933403D, Parent Sample ID: S49334.03

Run in Batch: AK230616W, Run Date: 06/17/2023 03:37, Prep Date: 06/16/2023, Matrix: WW, Dilution: 1.92

Analyte	Flags	RPD	RPD CL
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		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
FHpPA (7:3 FTCA)		NC	30.0
FPePA (5:3 FTCA)		NC	30.0
FPrPA (3:3 FTCA)		NC	30.0
PFBSA		NC	30.0
PFECHS		NC	30.0
PFHxSA		NC	30.0

REPORT TO

CONTACT NAME Clifford Yntz / Kevin Schneider	
COMPANY Ramboll	
ADDRESS 2090 Commonwealth Blvd	
CITY Ann Arbor	
PHONE NO.	CELL NO. 313-333-0211
E-MAIL ADDRESS Kevin.Schneider@Ramboll.com Clifford.Yntz@Ramboll.com	

CHAIN OF CUSTODY RECORD

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 Sumner
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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. FOR LAB USE ONLY	COLLECTION		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	PFA	☐ Other _____
	DATE	TIME												Special Instructions
49456.01	6/6/23	1150	Vault - A	mw	3	3							X	Low level Report with estimated values
.02	6/6/23	1442	Vault - C	mw	3	3							X	
.03	6/6/23	—	Vault-DUP-060623	mw	3	3							X	
.04	6/7/23	1215	Vault - E	mw	3	3							X	
PFAS LIST														

RELINQUISHED BY:	<i>[Signature]</i>	<i>X</i> Sampler	DATE	TIME
SIGNATURE/ORGANIZATION			6/7/23	14:15
RECEIVED BY:	<i>[Signature]</i>		DATE	TIME
SIGNATURE/ORGANIZATION			6/7/23	14:15
RELINQUISHED BY:	<i>[Signature]</i>		DATE	TIME
SIGNATURE/ORGANIZATION			6/7/23	15:00
RECEIVED BY:	<i>[Signature]</i>		DATE	TIME
SIGNATURE/ORGANIZATION			6/7/23	15:15

RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL <u>2.9</u>
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		