RAMBOLL

ENVIRONMENT
& HEALTH

Transmitted via email

Ms. Nicole Sanabria, Ms. Christina Hebert, and Ms. Oognagh McKenna
Materials Management Division
Department of Environment, Great Lakes, and Energy
PO Box 30473
Lansing, MI 48909-7973

Mr. Kevin Forbes
Administrative Superintendent
Beecher Metropolitan District
G-1057 Louis Avenue
Flint, MI, 48505

September 13, 2023

Mr. Robert Ellis
Department of Public Works Manager
Genesee Township
7244 N. Genesee Road
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RE: **West of Site Sanitary Sewer Update**
RACER Trust – Coldwater Road Facility
FILE: 15388/1940103462/Corres

Dear **Ms. Sanabria, Ms. Hebert, Ms. McKenna, Mr. Forbes, & Mr. Ellis:**

Ramboll Americas Engineering Solutions, Inc. (Ramboll), on behalf of the Revitalizing Auto Communities Environmental Response Trust (RACER Trust) is providing this letter to summarize the per- and polyfluoroalkyl substances (PFAS) sample results collected from the Beecher Metropolitan District sanitary sewers west of the RACER Trust Coldwater Road Facility (Site) located in Flint, Michigan collected on June 27, 2023.

The samples were collected at SAN-06, SAN-12, and SAN-14. See **Figure 1** for sample locations.

Sanitary sewer sampling was performed in accordance with the methods specified in EGLE's Wastewater PFAS Sampling Guidance.

Analytical Results

The sewer samples were analyzed for PFAS by method ASTMD7979-19 (no preservative). The analytical results for the recent sewer samples and historical

samples are summarized in **Table 1**, and the analytical laboratory reports for the most recent sampling event are included in **Appendix A**.

- SAN-06 had a detection of 11 ng/l for PFOS on June 27, 2023, which is near the low end of the range of previously detected concentrations and is lower compared to the previous result of 32 ng/l (4/6/2023) for PFOS.
- SAN-12 had a detection of 36 ng/l for PFOS on June 27, 2023, which is near the low end of the range of previously detected concentrations and is higher compared to the previous result of 31 ng/l (4/6/2023) for PFOS. The PFOS result for SAN-12 was biased high by the laboratory due to matrix interference.
- SAN-14 had a detection of 8.4 ng/l for PFOS on June 27, 2023, which is near the middle of the range of previously detected concentrations and is higher compared to the previous result of 28 ng/l (4/6/2023) for PFOS.

The observed flow rates were similar to the reduced flow rates observed during previous post-lining (lining completed in February 2022) sampling events. PFOS concentrations appear to be variable at a given sampling location but generally lower than before repairs were implemented.

Based on these results and to allow for evaluation of concentration variability and trends, we propose to continue collecting samples on a semiannual basis from sample locations SAN-06, SAN-12, and SAN-14. The next samples to be collected in December 2023. An update similar to this one will be provided within approximately four weeks of receipt of the analytical results from the laboratory.

Please contact me at 313-333-0211 or clifford.yantz@ramboll.com or Dave Favero with RACER at dfavero@racertrust.org or 217-741-6235, if you have any questions.

Very truly yours,

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

Clifford S. Yantz
Project Manager

M 313.333.0211
Clifford.yantz@ramboll.com

ENCLOSURES:

Tables
Table 1 – Sanitary Sewer Analytical Results – West of Site

Figures
Figure 1 – Sanitary Sewer/Manhole Sample Locations

Attachments
Attachment A – Laboratory Analytical Reports

cc: Mr. Daniel K Eashoo - Genesee Township Supervisor (via email)
Ms. Tiffany Minder – City of Flint (via email)
Ms. Carla Davidson – EGLE (via email)
Mr. Brian Zuber – EGLE (via email)
Mr. David Favero – RACER Trust (via email)
Mr. Kevin Schneider – Ramboll (via email)

TABLES

TABLE 1
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results
Sanitary Sewer Samples - West of Site

Coldwater Rd - Sanitary Sewer Samples West of Site

Perfluorinated Compound	Well/Sample ID:	EGLE Part 201 Generic Cleanup Criteria and Screening Levels GSI	SAN-3 (Sanitary Sewer)	SAN-3 (Sanitary Sewer)	SAN-3 (Sanitary Sewer)	SAN-3 (Sanitary Sewer)	SAN-4 (Sanitary Sewer)	SAN-5 (Sanitary Sewer)
	Sample Date:		*11/5/2019*	*6/25/2020*	*12/18/2020*	*3/11/2021*	*11/5/2019*	*11/5/2019*
Perfluorobutanoic Acid (PFBA)		--	<19	25 U	<9.8	<10	<20	<20
Perfluoropentanoic Acid (PFPeA)		--	<9.7	**5.0**	**1.2 J**	**1.8 J**	<10	<10
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorohexanoic Acid (PFHxA)		--	<9.7	**5.4**	**1.6 J**	**1.8 J**	<10	<10
Perfluorobutane Sulfonic Acid (PFBS)		**670,000**	<9.7	**9.3**	**8.6**	**8.3**	<10	<10
Perfluoroheptanoic Acid (PFHpA)		--	<9.7	**3.1**	<2.0	<2.0	<10	<10
Perfluoropentane Sulfonic Acid (PFPeS)		--	<9.7	**11**	**10**	**9.4**	<10	<10
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorooctanoic Acid (**PFOA**)		**170**	<9.7	**9.8**	**3.3**	**3.5**	<10	<10
Perfluorohexane Sulfonic Acid (PFHxS)		--	**40**	**63**	**52**	**42**	<10	**20**
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	**33**	**55**	**46**	**35**	<10	**16**
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	<9.7	**7.9**	**6.5**	**6.5**	<10	<10
Perfluorononanoic Acid (PFNA)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluoroheptane Sulfonic Acid (PFHpS)		--	<9.7	**9.9**	**9.4**	**4.4**	<10	<10
Perfluorodecanoic Acid (PFDA)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	<9.7	<4.1	<3.9	<4.1	<10	<10
Perfluorooctane Sulfonic Acid (**PFOS**)		**12**	**110**	**230**	**210**	**96**	**61**	**170**
Perfluorooctane Sulfonic Acid (**PFOS**-LN)		--	**21**	**55**	**38**	**17**	**17**	**69**
Perfluorooctane Sulfonic Acid (**PFOS**-BR)		--	**85**	**170**	**170**	**79**	**33**	**100**
Perfluoroundecanoic Acid (PFUnDA)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorononane Sulfonic Acid (PFNS)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorododecanoic Acid (PFDoDA)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorodecane Sulfonic Acid (PFDS)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorotridecanoic Acid (PFTrDA)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorooctane Sulfonamide (FOSA)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
Perfluorotetradecanoic Acid (PFTeDA)		--	<9.7	<4.1	<3.9	<4.1	<10	<10
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	<9.7	<2.0	<2.0	<2.0	<10	<10
Hexafluoropropylene oxide dimer (HFPO-DA)		--	<9.7	<2.0	<2.0	<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		--	**150.0**	**371.5**	**296.1**	**167.2**	**61.0**	**190.0**

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020.
7) Concentration above the groundwater surface water interface (GSI) criteria are highlighted in yellow.
8) The detection of PFBA in Field Blank-062520 was caused from the centrifuge tubes leaching out PFBA during the extraction process. The 5X Rule was applied to PFBA detections. If the sample value(s) is less than 5 times the blank concentration (5X Rule), then positive results are qualified "U,"undetected.
9) 1 - Biased high -- matrix interference
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) Light gray header is most recent sampling event result.
15) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

TABLE 1
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results
Sanitary Sewer Samples - West of Site

Coldwater Rd - Sanitary Sewer Samples West of Site

Perfluorinated Compound / Well/Sample ID: / Sample Date:	EGLE Part 201 Generic Cleanup Criteria and Screening Levels GSI	SAN-06 (Sanitary Sewer) 3/17/2020	SAN-06 (Sanitary Sewer) 6/25/2020	SAN-06 (Sanitary Sewer) 12/18/2020	SAN-06 (Sanitary Sewer) 3/11/2021	SAN-06 (Sanitary Sewer) 3/31/2022	SAN-06 (Sanitary Sewer) 9/7/2022	SAN-06 (Sanitary Sewer) 12/13/2022	SAN-06 (Sanitary Sewer) 4/6/2023	SAN-06 (Sanitary Sewer) 6/27/2023
Perfluorobutanoic Acid (PFBA)	--	<21	13 U	<10	<11	<10	<10	<9.6	**2.8 J**	<11 x
Perfluoropentanoic Acid (PFPeA)	--	<10	**1.3 J**	<4.0	**1.9 J**	**3.2 J**	<4.0	<3.8	**3.1 J**	**1.2 J**
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	<10	<2.0 I	<2.0 I	<2.1	<2.1	<2.0 I	<1.9	<2.0	<1.9 I
Perfluorohexanoic Acid (PFHxA)	--	<10	<2.0	<2.0	**1.9 J**	**3.1**	**3.4**	**2.1**	**3.2**	**2.2**
Perfluorobutane Sulfonic Acid (PFBS)	**670,000**	<10	**3.1**	**3.7**	**4.5**	**11**	<2.0	<1.9	**5.8**	<1.9
Perfluoroheptanoic Acid (PFHpA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	**1.9 J**	<1.9
Perfluoropentane Sulfonic Acid (PFPeS)	--	<10	<2.0	<2.0	**2.3**	**6.7**	<2.0	<1.9	**3.3**	<1.9
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	<10	<2.0 I	<2.0 I	<2.1	<2.1	<2.0 I	<1.9	<2.0	<1.9 I
Perfluorooctanoic Acid (**PFOA**)	**170**	<10	<2.0	<2.0	<2.1	**2.7**	<2.0	<1.9	**3.0**	<1.9
Perfluorohexane Sulfonic Acid (PFHxS)	--	<10	**11**	**6.3**	**10**	**18**	**5.6**	<1.9	**10**	**1.7 J**
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	<10	**9.0**	**5.0**	**8.1**	**14**	**2.5**	<1.9	**8.2**	**1.7 J**
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	<10	<2.0	<2.0	<2.1	**3.7**	**2.7**	<1.9	**2.6**	<1.9
Perfluorononanoic Acid (PFNA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	**1.1 J**	<1.9
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	<10	<2.0	<2.0 I	<2.1	<2.1	<2.0 I	<1.9	<2.0	<1.9
Perfluoroheptane Sulfonic Acid (PFHpS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	**1.4 J**	<1.9
Perfluorodecanoic Acid (PFDA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	**0.76 J**	<1.9
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	**2.7**	<1.9
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	<10	<3.9 I	<4.0 I	<4.2	<4.1	<4.0	<3.8	<4.0	<3.9 I
Perfluorooctane Sulfonic Acid (**PFOS**)	**12**	**14**	**21**	**26**	**34**	**38**	**13**	**4.5**	**32**	**11**
Perfluorooctane Sulfonic Acid (**PFOS**-LN)	--	<10	**5.7**	**5.0**	**5.7**	**5.7**	**3.6**	**2.0**	**7.0**	**3.1**
Perfluorooctane Sulfonic Acid (**PFOS**-BR)	--	<10	**16**	**19**	**27**	**31**	**9.1**	**2.4**	**25**	**8.0**
Perfluoroundecanoic Acid (PFUnDA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<2.0	<1.9
Perfluorononane Sulfonic Acid (PFNS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<2.0	<1.9
Perfluorododecanoic Acid (PFDoDA)	--	<10	<2.0 I	<2.0	<2.1	<2.1	<2.0	<1.9	**1.2 J**	<1.9
Perfluorodecane Sulfonic Acid (PFDS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<2.0	<1.9
Perfluorotridecanoic Acid (PFTrDA)	--	<10	<2.0 I	<2.0	<2.1	<2.1	<2.0	<1.9	<2.0	<1.9
Perfluorooctane Sulfonamide (FOSA)	--	<10	<2.0	<2.0 I	<2.1	<2.1	<2.0	<1.9	<2.0	<1.9
Perfluorotetradecanoic Acid (PFTeDA)	--	<10	<3.9	<4.0	<4.2	<4.1	<4.0	<3.8	<4.0	<3.9
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<2.0	<1.9
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<2.0	<1.9
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.0	<1.9	<2.0	<1.9
Hexafluoropropylene oxide dimer (HFPO-DA)	--	<10	<2.0	<2.0	<2.1	<4.1	<10	<9.6	<2.0	<1.9
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))	--	--	--	--	--	--	--	--	--	<3.9
3-Perfluoropentyl propanoic acid (FPePA (5:3 FTCA))	--	--	--	--	--	--	--	--	--	**5.0**
3-Perfluoropropyl propanoic acid (FPrPA (3:3 FTCA))	--	--	--	--	--	--	--	--	--	<3.9
Perfluorobutanesulfonamide (PFBSA)	--	--	--	--	--	--	--	--	--	<1.9
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)	--	--	--	--	--	--	--	--	--	**64**
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--	<1.9
Total Per-and Polyfluoroalkyl Substances	--	**14.0**	**49.4**	**36.0**	**54.6**	**82.7**	**22.0**	**6.6**	**72.3**	**85.1**

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
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5) Dup = Duplicate sample.
6) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020.
7) Concentration above the groundwater surface water interface (GSI) criteria are highlighted in yellow.
8) The detection of PFBA in Field Blank-062520 was caused from the centrifuge tubes leaching out PFBA during the extraction process. The 5X Rule was applied to PFBA detections. If the sample value(s) is less than 5 times the blank concentration (5X Rule), then positive results are qualified "U,"undetected.
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TABLE 1
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results
Sanitary Sewer Samples - West of Site

Coldwater Rd - Sanitary Sewer Samples West of Site

Perfluorinated Compound / Well/Sample ID: / Sample Date:	EGLE Part 201 Generic Cleanup Criteria and Screening Levels GSI	SAN-07 (Sanitary Sewer) 3/18/2020	SAN-10 (Sanitary Sewer) 3/18/2020	SAN-10 (Sanitary Sewer) 6/25/2020	SAN-10 (Sanitary Sewer) 12/18/2020	SAN-DUP-121820 (SAN-10) Sanitary Sewer 12/18/2020	SAN-10 (Sanitary Sewer) 3/11/2021	SAN-DUP-031121 (SAN-10) Sanitary Sewer 3/11/2021	SAN-11 (Sanitary Sewer) 3/18/2020
Perfluorobutanoic Acid (PFBA)	--	<21	<20	10 U	<9.9	<10	<11	<10	<19
Perfluoropentanoic Acid (PFPeA)	--	<11	<10	<3.9	<4.0	<4.1	**2.2 J**	**1.8 J**	<9.7
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	<11	<10	<2.0 **I**	<2.0 **I**	<2.0 **I**	<2.1	<2.0	<9.7
Perfluorohexanoic Acid (PFHxA)	--	<11	<10	<2.0	<2.0	<2.0	**1.6 J**	**1.7 J**	<9.7
Perfluorobutane Sulfonic Acid (PFBS)	**670,000**	<11	<10	**5.2**	**5.0**	**4.0**	**6.2**	**6.9**	**9.9**
Perfluoroheptanoic Acid (PFHpA)	--	<11	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluoropentane Sulfonic Acid (PFPeS)	--	<11	<10	<2.0	**2.2**	**2.1**	**4.1**	**5.0**	<9.7
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	<11	<10	<2.0 **I**	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluorooctanoic Acid (**PFOA**)	**170**	<11	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluorohexane Sulfonic Acid (PFHxS)	--	<11	<10	**9.5**	**9.4**	**9.1**	**13**	**15**	**25**
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	<11	<10	**7.7**	**7.7**	**7.2**	**11**	**11**	**21**
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	<11	<10	<2.0	<2.0	<2.0	**2.4**	**3.2**	<9.7
Perfluorononanoic Acid (PFNA)	--	<11	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	<11	<10	<2.0 **I**	<2.0 **I**	<2.0	<2.1	<2.0	<9.7
Perfluoroheptane Sulfonic Acid (PFHpS)	--	<11	<10	<2.0	<2.0	<2.0	<2.1	**2.3**	<9.7
Perfluorodecanoic Acid (PFDA)	--	<11	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	<11	<10	<2.0 **I**	<2.0	<2.0	<2.1	<2.0	<9.7
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	<11	<10	<3.9 **I**	<4.0 **I**	<4.0 **I**	<4.3	<4.1	<9.7
Perfluorooctane Sulfonic Acid (**PFOS**)	**12**	<11	**29**	**26**	**31**	**33**	**43**	**45**	**160**
Perfluorooctane Sulfonic Acid (**PFOS**-LN)	--	<11	<10	**6.2**	**4.7**	**4.9**	**7.2**	**8.2**	**62**
Perfluorooctane Sulfonic Acid (**PFOS**-BR)	--	<11	**24**	**19**	**25**	**26**	**34**	**36**	**100**
Perfluoroundecanoic Acid (PFUnDA)	--	<11	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluorononane Sulfonic Acid (PFNS)	--	<11	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluorododecanoic Acid (PFDoDA)	--	<11	<10	<2.0 **I**	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluorodecane Sulfonic Acid (PFDS)	--	<11	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluorotridecanoic Acid (PFTrDA)	--	<11	<10	<2.0 **I**	<2.0	<2.0	<2.1	<2.0	<9.7
Perfluorooctane Sulfonamide (FOSA)	--	<11	<10	<2.0 **I**	<2.0 **I**	<2.0	<2.1	<2.0	<9.7
Perfluorotetradecanoic Acid (PFTeDA)	--	<11	<10	<3.9	<4.0	<4.1	<4.3	<4.1	<9.7
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	<11	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	<11	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	<11	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
Hexafluoropropylene oxide dimer (HFPO-DA)	--	<11	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<9.7
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**	**29.0**	**50.7**	**47.6**	**48.2**	**70.1**	**77.7**	**194.9**

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020.
7) Concentration above the groundwater surface water interface (GSI) criteria are highlighted in yellow.
8) The detection of PFBA in Field Blank-062520 was caused from the centrifuge tubes leaching out PFBA during the extraction process. The 5X Rule was applied to PFBA detections. If the sample value(s) is less than 5 times the blank concentration (5X Rule), then positive results are qualified "U,"undetected.
9) 1 - Biased high -- matrix interference
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) Light gray header is most recent sampling event result.
15) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

RAMBOLL

TABLE 1
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results
Sanitary Sewer Samples - West of Site

Coldwater Rd - Sanitary Sewer Samples West of Site

Perfluorinated Compound / Well/Sample ID: / Sample Date:	EGLE Part 201 Generic Cleanup Criteria and Screening Levels GSI	SAN-12 (Sanitary Sewer) 3/18/2020	SAN-12 (Sanitary Sewer) 6/25/2020	SAN-12 (Sanitary Sewer) 12/18/2020	SAN-12 (Sanitary Sewer) 3/11/2021	SAN-12 (Sanitary Sewer) 3/31/2022	SAN-12 (Sanitary Sewer) 9/7/2022	SAN-12 (Sanitary Sewer) 12/13/2022	SAN-12 (Sanitary Sewer) 4/6/2023	SAN-12 (Sanitary Sewer) 6/27/2023	SAN-13 (Sanitary Sewer) 3/19/2020
Perfluorobutanoic Acid (PFBA)	--	<20	15 U	<9.8	<10	<10	<10	<9.8	**2.6 J**	<10	<100
Perfluoropentanoic Acid (PFPeA)	--	<10	<4.1	<3.9	**7.3**	**7.1**	<4.1	**14**	**4.1**	<4.1	<10
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	<10	<2.0 **I**	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<2.0 **I**	<10
Perfluorohexanoic Acid (PFHxA)	--	<10	<2.0	<2.0	**5.6**	**6.0**	**1.6 J**	**12**	**4.1**	**2.3**	<10
Perfluorobutane Sulfonic Acid (PFBS)	**670,000**	<10	<2.0	**2.3**	**5.6**	**8.4**	<2.0	**2.0**	**5.4**	<2.0	<10
Perfluoroheptanoic Acid (PFHpA)	--	<10	<2.0	<2.0	**1.9 J**	**2.0 J**	<2.0	<2.0	**2.4**	<2.0	<10
Perfluoropentane Sulfonic Acid (PFPeS)	--	<10	<2.0	<2.0	<2.0	**5.0**	<2.0	<2.0	**2.2**	<2.0	<10
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	<10	<2.0 **I**	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	**2.2 I**	<10
Perfluorooctanoic Acid (**PFOA**)	**170**	<10	<2.0	<2.0	**5.0**	**7.0**	<2.0	**2.6**	**4.3**	<2.0	<10
Perfluorohexane Sulfonic Acid (PFHxS)	--	**16**	**2.1**	**3.8**	**5.6**	**22**	<2.0	**2.3**	**15**	**3.4**	**19**
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	**12**	<2.0	**2.8**	**3.6**	**18**	<2.0	**1.7 J**	**12**	**3.4**	**16**
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	<10	<2.0	<2.0	<2.0	**3.5**	<2.0	<2.0	**3.2**	<2.0	<10
Perfluorononanoic Acid (PFNA)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	**0.89 J**	<2.0	<10
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0 **I**	<2.0	<2.0	<2.0 **I**	<10
Perfluoroheptane Sulfonic Acid (PFHpS)	--	<10	<2.0	<2.0	<2.0	**4.8**	<2.0	<2.0	**1.3 J**	<2.0	<10
Perfluorodecanoic Acid (PFDA)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<2.0	<10
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<2.0	<10
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	<10	<4.1 **I**	<3.9	<4.1	<4.1	<4.1	<3.9	<3.9	<4.1	<10
Perfluorooctane Sulfonic Acid (**PFOS**)	**12**	**110**	**55**	**55**	**48**	**120**	**19**	**18**	**31**	**36 1**	**150**
Perfluorooctane Sulfonic Acid (**PFOS**-LN)	--	**48**	**32**	**33**	**24**	**50**	**12**	**7.2**	**12**	**5.8**	**75**
Perfluorooctane Sulfonic Acid (**PFOS**-BR)	--	**66**	**21**	**21**	**22**	**69**	**4.8**	**10**	**19**	**29 1**	**75**
Perfluoroundecanoic Acid (PFUnDA)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<2.0	<10
Perfluorononane Sulfonic Acid (PFNS)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<2.0	<10
Perfluorododecanoic Acid (PFDoDA)	--	<10	<2.0 **I**	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<2.0	<10
Perfluorodecane Sulfonic Acid (PFDS)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<2.0	<10
Perfluorotridecanoic Acid (PFTrDA)	--	<10	<2.0 **I**	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<2.0	<10
Perfluorooctane Sulfonamide (FOSA)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<2.0	<10
Perfluorotetradecanoic Acid (PFTeDA)	--	<10	<4.1	<3.9	<4.1	<4.1	<4.1	<3.9	<3.9	<4.1	<10
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<2.0	<10
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<2.0	<10
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	<10	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<2.0	<10
Hexafluoropropylene oxide dimer (HFPO-DA)	--	<10	<2.0	<2.0	<2.0	<4.1	<10	<9.8	<2.0	<2.0	<10
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)	--	--	--	--	--	--	--	--	--	**18**	--
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--	<2.0	--
Total Per-and Polyfluoroalkyl Substances	--	**126.0**	**72.1**	**61.1**	**79.0**	**182.3**	**20.6**	**50.9**	**73.3**	**61.9**	**169.0**

Notes
1) Detections in **bold**.
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5) Dup = Duplicate sample.
6) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020.
7) Concentration above the groundwater surface water interface (GSI) criteria are highlighted in yellow.
8) The detection of PFBA in Field Blank-062520 was caused from the centrifuge tubes leaching out PFBA during the extraction process. The 5X Rule was applied to PFBA detections. If the sample value(s) is less than 5 times the blank concentration (5X Rule), then positive results are qualified "U,"undetected.
9) 1 - Biased high -- matrix interference
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RAMBOLL

TABLE 1
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results
Sanitary Sewer Samples - West of Site

Coldwater Rd - Sanitary Sewer Samples West of Site

Perfluorinated Compound / Well/Sample ID: / Sample Date:	EGLE Part 201 Generic Cleanup Criteria and Screening Levels GSI	SAN-14 (Sanitary Sewer) 3/19/2020	SAN-14 (Sanitary Sewer) 6/25/2020	SAN-14 (Sanitary Sewer) 12/18/2020	SAN-14 (Sanitary Sewer) 3/11/2021	SAN-14 (Sanitary Sewer) 3/31/2022	SAN-14 (Sanitary Sewer) 9/7/2022	SAN-14 (Sanitary Sewer) 12/13/2022	SAN-14 (Sanitary Sewer) 4/6/2023	SAN-14 (Sanitary Sewer) 6/27/2023
Perfluorobutanoic Acid (PFBA)	--	<100	12 U	<10.0	<11	<11	<11	<9.9	**4.1 J**	<10.0
Perfluoropentanoic Acid (PFPeA)	--	<10	**2.1 J**	**3.6 J**	**11**	**3.2 J**	<4.3	<3.9	**5.9**	<4.0
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	<10	<2.0	<2.0 **I**	<2.1	<2.1	<2.1	<2.0	<2.0	<2.0 **I**
Perfluorohexanoic Acid (PFHxA)	--	<10	**1.8 J**	**3.8**	**8.0**	**2.8**	**2.5**	**1.5 J**	**7.4**	<2.0
Perfluorobutane Sulfonic Acid (PFBS)	**670,000**	<10	**2.5**	**11**	**10.0**	**7.6**	**2.5**	**3.0**	**5.9**	<2.0
Perfluoroheptanoic Acid (PFHpA)	--	<10	**1.6 J**	**2.8**	**5.5**	**1.6 J**	<2.1	<2.0	**4.3**	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	**1.5 J**	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	<10	<2.0	<2.0 **I**	<2.1	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorooctanoic Acid (**PFOA**)	**170**	<10	**4.4**	**9.4**	**12**	**4.7**	**3.2**	<2.0	**12**	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)	--	<10	**2.9**	**6.2**	**4.6**	**3.0**	**3.3**	**4.0**	**4.3**	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	<10	**2.0**	**4.3**	**3.4**	**2.1**	**2.4**	**2.6**	**3.5**	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	**1.3 J**	<2.0
Perfluorononanoic Acid (PFNA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	**1.3 J**	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1 **I**	<2.0	<2.0	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorodecanoic Acid (PFDA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	**0.65 J**	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0	<2.0 **I**
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	<10	<4.0	<4.0 **I**	<4.2	<4.2	<4.3	<3.9	<4.0	<4.0
Perfluorooctane Sulfonic Acid (**PFOS**)	**12**	**29**	**23**	**52**	**40**	**15**	**14**	**6.3**	**28**	**8.4**
Perfluorooctane Sulfonic Acid (**PFOS**-LN)	--	<10	**9**	**21**	**17**	**3.7**	**6.6**	**2.4**	**9.9**	**3.4**
Perfluorooctane Sulfonic Acid (**PFOS**-BR)	--	**20**	**13**	**30**	**23**	**11**	**8.1**	**3.8**	**18**	**5.0**
Perfluoroundecanoic Acid (PFUnDA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorotridecanoic Acid (PFTrDA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	<10	<4.0	<4.0	<4.2	<4.2	<4.3	<3.9	<4.0	<4.0
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	<10	<2.0	<2.0	<2.1	<2.1	<2.1	<2.0	<2.0	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	--	<10	<2.0	<2.0	<2.1	<4.2	<11	<9.9	<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)	--	--	--	--	--	--	--	--	--	**8.9**
Perfluorohexanesulfonamide (PFHxSA)	--	--	--	--	--	--	--	--	--	<2.0
Total Per-and Polyfluoroalkyl Substances	--	**29.0**	**50.3**	**88.8**	**91.1**	**37.9**	**25.5**	**14.8**	**75.4**	**17.3**

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020.
7) Concentration above the groundwater surface water interface (GSI) criteria are highlighted in yellow.
8) The detection of PFBA in Field Blank-062520 was caused from the centrifuge tubes leaching out PFBA during the extraction process. The 5X Rule was applied to PFBA detections. If the sample value(s) is less than 5 times the blank concentration (5X Rule), then positive results are qualified "U,"undetected.
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10) B - Compound also found in associated method blank.
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12) J - Estimated value less than reporting limit, but greater than MDL.
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15) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

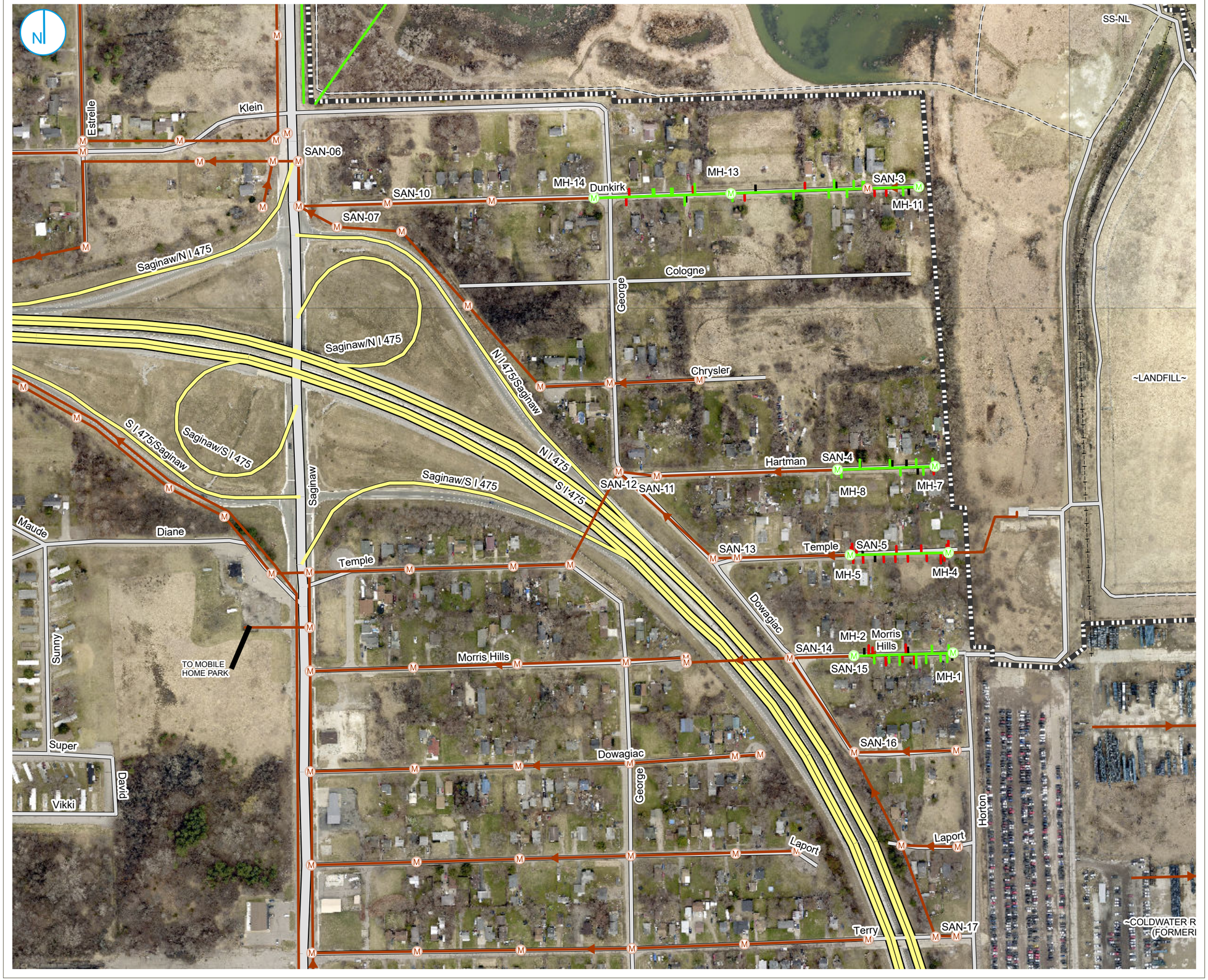
TABLE 1
RACER Trust - Coldwater Road
Per-and Polyfluoroalkyl Substances Sampling Results
Sanitary Sewer Samples - West of Site

Coldwater Rd - Sanitary Sewer Samples West of Site

Perfluorinated Compound / Well/Sample ID: / Sample Date:	EGLE Part 201 Generic Cleanup Criteria and Screening Levels GSI	SAN-15 (Sanitary Sewer) 3/19/2020	SAN-16 (Sanitary Sewer) 3/19/2020	SAN-17 (Sanitary Sewer) 3/19/2020	SAN-DUP-1/ SAN-17 (Sanitary Sewer) 3/19/2020	SAN-19 (Sanitary Sewer) 3/19/2020	SAN-20 (Sanitary Sewer) 3/19/2020
Perfluorobutanoic Acid (PFBA)	--	<98	<100	<96	<99	<100	<100
Perfluoropentanoic Acid (PFPeA)	--	<9.8	<10	<9.6	<9.9	<10	<10
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorohexanoic Acid (PFHxA)	--	<9.8	<10	<9.6	<9.9	<10	**10**
Perfluorobutane Sulfonic Acid (PFBS)	**670,000**	<9.8	**12**	<9.6	<9.9	<10	<10
Perfluoroheptanoic Acid (PFHpA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluoropentane Sulfonic Acid (PFPeS)	--	<9.8	<10	<9.6	<9.9	<10	<10
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorooctanoic Acid (**PFOA**)	**170**	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorohexane Sulfonic Acid (PFHxS)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorononanoic Acid (PFNA)	--	<9.8	<10	<9.6	<9.9	<10	<10
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluoroheptane Sulfonic Acid (PFHpS)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorodecanoic Acid (PFDA)	--	<9.8	<10	<9.6	<9.9	<10	<10
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	<9.8	<10	<9.6	<9.9	<10	<10
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorooctane Sulfonic Acid (**PFOS**)	**12**	**35**	**13**	<9.6	<9.9	<10	**11**
Perfluorooctane Sulfonic Acid (**PFOS**-LN)	--	**12**	<10	<9.6	<9.9	<10	<10
Perfluorooctane Sulfonic Acid (**PFOS**-BR)	--	**20**	<10	<9.6	<9.9	<10	<10
Perfluoroundecanoic Acid (PFUnDA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorononane Sulfonic Acid (PFNS)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorododecanoic Acid (PFDoDA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorodecane Sulfonic Acid (PFDS)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorotridecanoic Acid (PFTrDA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorooctane Sulfonamide (FOSA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Perfluorotetradecanoic Acid (PFTeDA)	--	<9.8	<10	<9.6	<9.9	<10	<10
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	<9.8	<10	<9.6	<9.9	<10	<10
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	<9.8	<10	<9.6	<9.9	<10	<10
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	<9.8	<10	<9.6	<9.9	<10	<10
Hexafluoropropylene oxide dimer (HFPO-DA)	--	<9.8	<10	<9.6	<9.9	<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	--	**35.0**	**25.0**	**0.0**	**0.0**	**0.0**	**21.0**

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) EGLE Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020.
7) Concentration above the groundwater surface water interface (GSI) criteria are highlighted in yellow.
8) The detection of PFBA in Field Blank-062520 was caused from the centrifuge tubes leaching out PFBA during the extraction process. The 5X Rule was applied to PFBA detections. If the sample value(s) is less than 5 times the blank concentration (5X Rule), then positive results are qualified "U,"undetected.
9) 1 - Biased high -- matrix interference
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) Light gray header is most recent sampling event result.
15) QA/QC Samples were either not detected above the reporting limit or below the EGLE Part 201 Groundwater Generic Cleanup Criteria.

FIGURES



- SANITARY SEWER MANHOLE
- SANITARY SEWER MANHOLE LINED
- NO LINER VIDEO
- LINED
- CONTRACTOR INDICATES LINED; NO VIDEO TO CONFIRM
- CAPPED LATERAL

0 150 300 Feet

SANITARY SEWER / MANHOLE SAMPLE LOCATIONS

RACER TRUST
COLDWATER ROAD
FLINT, MICHIGAN

FIGURE 01

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

PROJECT: 1940/1046 | DATED: 6/22/2023 | DESIGNER: MONET ANT I:\Racer-Trust.1088190\GIS\Coldwater_Road\ProjRACER_Coldwater_Road_2022_Annual_LDS_and_GW_Figures\Coldwater_Road_2022_Annual_LDS_and_GW_Figures.aprx\Figure 2 - Sanitary Sewer Manhole Sample Locations_06012023

ATTACHMENT A
LABORATORY ANALYTICAL REPORTS

Analytical Laboratory Report

Report ID: S50407.01(01)
Generated on 07/26/2023

Report to

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

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

Addtional 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 Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S50407.01-S50407.04
Project: RACER Coldwater Road
Collected Date(s): 06/27/2023
Submitted Date/Time: 06/28/2023 14:40
Sampled by: Kevin Schneider
P.O. #: 1940006516 TASK 37

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Sample Summary (Page 5)

Maya Murshak
Technical Director

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.

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/IEC 17025:2017	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
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
PFTrDA	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
S50407.01	SAN-06	Liquid	06/27/23 14:42
S50407.02	SAN-12	Liquid	06/27/23 14:56
S50407.03	SAN-14	Liquid	06/27/23 15:04
S50407.04	Field Blank - 062723	Liquid	06/27/23 15:30

Analytical Laboratory Report

Lab Sample ID: S50407.01
Sample Tag: SAN-06
Collected Date/Time: 06/27/2023 14:42
Matrix: Liquid
COC Reference: 153096

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.19/6.53/11	ASTMD7979-19M	07/06/23 13:30	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 07/15/23 13:46, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	11	9.7	ng/L	1.94	375-22-4	X
PFPeA*	1.2	3.9	0.97	ng/L	1.94	2706-90-3	J
4:2 FTSA*	Not detected	1.9	1.6	ng/L	1.94	757124-72-4	I
PFHxA*	2.2	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	I
PFOA*	Not detected	1.9	1.6	ng/L	1.94	335-67-1	
PFHxS*	1.7	1.9	1.6	ng/L	1.94	355-46-4	J
PFHxS-LN*	1.7	1.9	1.6	ng/L	1.94	355-46-4-LN	J
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	I
PFOS*	11	1.9	1.9	ng/L	1.94	1763-23-1	
PFOS-LN*	3.1	1.9	1.9	ng/L	1.94	1763-23-1-LN	
PFOS-BR*	8.0	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	
PFTrDA*	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)*	5.0	3.9	2.1	ng/L	1.94	914637-49-3	

X-Elevated reporting limit due to matrix interference
J-Estimated value less than reporting limit, but greater than MDL
I-Matrix interference with internal standard

Lab Sample ID: S50407.01 (continued)
Sample Tag: SAN-06

34 PFAs, Method: ASTMD7979-19M, Run Date: 07/15/23 13:46, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
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*	64	1.9	1.2	ng/L	1.94	67584-42-3	
PFHxSA*	Not detected	1.9	0.97	ng/L	1.94	41997-13-1	

Analytical Laboratory Report

Lab Sample ID: S50407.02
Sample Tag: SAN-12
Collected Date/Time: 06/27/2023 14:56
Matrix: Liquid
COC Reference: 153096

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.92/6.55/13	ASTMD7979-19M	07/06/23 13:30	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 07/15/23 14:05, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.04	375-22-4	
PFPeA*	Not detected	4.1	1.0	ng/L	2.04	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.04	757124-72-4	I
PFHxA*	2.3	2.0	1.4	ng/L	2.04	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	2.04	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2.04	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	2.04	2706-91-4	
6:2 FTSA*	2.2	2.0	2.0	ng/L	2.04	27619-97-2	I
PFOA*	Not detected	2.0	1.6	ng/L	2.04	335-67-1	
PFHxS*	3.4	2.0	1.6	ng/L	2.04	355-46-4	
PFHxS-LN*	3.4	2.0	1.6	ng/L	2.04	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2.04	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.04	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.04	39108-34-4	I
PFHpS*	Not detected	2.0	2.0	ng/L	2.04	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.04	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.04	2355-31-9	
EtFOSAA*	Not detected	4.1	2.0	ng/L	2.04	2991-50-6	
PFOS*	36	2.0	2.0	ng/L	2.04	1763-23-1	1
PFOS-LN*	5.8	2.0	2.0	ng/L	2.04	1763-23-1-LN	
PFOS-BR*	29	2.0	2.0	ng/L	2.04	1763-23-1-BR	1
PFUnDA*	Not detected	2.0	1.4	ng/L	2.04	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.04	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2.04	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.04	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	2.04	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.04	754-91-6	
PFTeDA*	Not detected	4.1	1.8	ng/L	2.04	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.04	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.04	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.04	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	2.04	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	4.1	3.1	ng/L	2.04	812-70-4	
FPePA (5:3 FTCA)*	Not detected	4.1	2.2	ng/L	2.04	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	4.1	1.2	ng/L	2.04	356-02-5	

I-Matrix interference with internal standard
1-biased high -- matrix interference

Lab Sample ID: S50407.02 (continued)

Sample Tag: SAN-12

34 PFAs, Method: ASTMD7979-19M, Run Date: 07/15/23 14:05, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBSA*	Not detected	2.0	1.2	ng/L	2.04	30334-69-1	
PFECHS*	18	2.0	1.2	ng/L	2.04	67584-42-3	
PFHxSA*	Not detected	2.0	1.0	ng/L	2.04	41997-13-1	

Lab Sample ID: S50407.03
Sample Tag: SAN-14
Collected Date/Time: 06/27/2023 15:04
Matrix: Liquid
COC Reference: 153096

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.99/6.46/11	ASTMD7979-19M	07/06/23 13:30	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 07/15/23 14:25, 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*	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	I
PFHxA*	Not detected	2.0	1.4	ng/L	1.99	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	1.99	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.99	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.99	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.99	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	1.99	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	1.99	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.99	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	1.99	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.99	375-95-1	
8:2 FTSA*	Not detected	2.0	1.00	ng/L	1.99	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.99	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.99	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.99	2355-31-9	I
EtFOSAA*	Not detected	4.0	2.0	ng/L	1.99	2991-50-6	
PFOS*	8.4	2.0	2.0	ng/L	1.99	1763-23-1	
PFOS-LN*	3.4	2.0	2.0	ng/L	1.99	1763-23-1-LN	
PFOS-BR*	5.0	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	
PFTrDA*	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	

I-Matrix interference with internal standard

Lab Sample ID: S50407.03 (continued)

Sample Tag: SAN-14

34 PFAs, Method: ASTMD7979-19M, Run Date: 07/15/23 14:25, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFECHS*	8.9	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: S50407.04
Sample Tag: Field Blank - 062723
Collected Date/Time: 06/27/2023 15:30
Matrix: Liquid
COC Reference: 153096

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.17/6.45/9	ASTMD7979-19M	07/06/23 13:30	AB	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 07/15/23 09:22, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.6	9.6	ng/L	1.91	375-22-4	
PFPeA*	Not detected	3.8	0.96	ng/L	1.91	2706-90-3	
4:2 FTSA*	Not detected	1.9	1.5	ng/L	1.91	757124-72-4	
PFHxA*	Not detected	1.9	1.3	ng/L	1.91	307-24-4	
PFBS*	Not detected	1.9	1.3	ng/L	1.91	375-73-5	
PFHpA*	Not detected	1.9	1.3	ng/L	1.91	375-85-9	
PFPeS*	Not detected	1.9	1.7	ng/L	1.91	2706-91-4	
6:2 FTSA*	Not detected	1.9	1.9	ng/L	1.91	27619-97-2	
PFOA*	Not detected	1.9	1.5	ng/L	1.91	335-67-1	
PFHxS*	Not detected	1.9	1.5	ng/L	1.91	355-46-4	
PFHxS-LN*	Not detected	1.9	1.5	ng/L	1.91	355-46-4-LN	
PFHxS-BR*	Not detected	1.9	1.5	ng/L	1.91	355-46-4-BR	
PFNA*	Not detected	1.9	1.7	ng/L	1.91	375-95-1	
8:2 FTSA*	Not detected	1.9	0.96	ng/L	1.91	39108-34-4	
PFHpS*	Not detected	1.9	1.9	ng/L	1.91	375-92-8	
PFDA*	Not detected	1.9	1.9	ng/L	1.91	335-76-2	
N-MeFOSAA*	Not detected	1.9	1.9	ng/L	1.91	2355-31-9	
EtFOSAA*	Not detected	3.8	1.9	ng/L	1.91	2991-50-6	
PFOS*	Not detected	1.9	1.9	ng/L	1.91	1763-23-1	
PFOS-LN*	Not detected	1.9	1.9	ng/L	1.91	1763-23-1-LN	
PFOS-BR*	Not detected	1.9	1.9	ng/L	1.91	1763-23-1-BR	
PFUnDA*	Not detected	1.9	1.3	ng/L	1.91	2058-94-8	
PFNS*	Not detected	1.9	1.3	ng/L	1.91	68259-12-1	
PFDoDA*	Not detected	1.9	1.5	ng/L	1.91	307-55-1	
PFDS*	Not detected	1.9	1.3	ng/L	1.91	335-77-3	
PFTrDA*	Not detected	1.9	1.1	ng/L	1.91	72629-94-8	
FOSA*	Not detected	1.9	1.7	ng/L	1.91	754-91-6	
PFTeDA*	Not detected	3.8	1.7	ng/L	1.91	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	1.7	ng/L	1.91	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	1.3	ng/L	1.91	756426-58-1	
ADONA*	Not detected	1.9	1.9	ng/L	1.91	919005-14-4	
HFPO-DA*	Not detected	1.9	1.9	ng/L	1.91	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	3.8	2.9	ng/L	1.91	812-70-4	
FPePA (5:3 FTCA)*	Not detected	3.8	2.1	ng/L	1.91	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	3.8	1.1	ng/L	1.91	356-02-5	
PFBSA*	Not detected	1.9	1.1	ng/L	1.91	30334-69-1	
PFECHS*	Not detected	1.9	1.1	ng/L	1.91	67584-42-3	

Lab Sample ID: S50407.04 (continued)

Sample Tag: Field Blank - 062723

34 PFAs, Method: ASTMD7979-19M, Run Date: 07/15/23 09:22, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	1.9	0.96	ng/L	1.91	41997-13-1	

Merit Laboratories Login Checklist

Lab Set ID: S50407
Client: RAMBOLL (Ramboll Americas)
Project: RACER Coldwater Road
Submitted: 06/28/2023 14:40 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.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 4.9
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	[X] Yes	[ ] No	[ ] N/A	COC adequately filled out	
07.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
08.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
09.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	[X] Yes	[ ] No	[ ] N/A	Do sample have correct chemical preservation	
11.	[ ] Yes	[ ] No	[X] N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	[ ] Yes	[X] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
14.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
15.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
16.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	
17.	[ ] Yes	[X] No	[ ] N/A	Samples require laboratory filtration	
18.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
19.	[ ] Yes	[ ] No	[X] N/A	Do water VOC or TOX bottles contain headspace	

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

Client Review By: _____ Date: _____

Merit Laboratories, Inc.

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

C.O.C. PAGE # 1 OF 1

153096

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 2090 Commonwealth Blvd
CITY: Ann Arbor | STATE: MI | ZIP CODE: 48105
PHONE NO. | CELL NO.: 313-333-0211 | P.O. NO.: 1940006514 Task 37
E-MAIL ADDRESS: clifford.yantz@Ramboll.com | QUOTE NO.

INVOICE TO

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

PROJECT NO./NAME: RACER Coldwater Road
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	COLLECTION DATE	COLLECTION TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	PFAS (7179)
50407.01	6/27/23	1442	SAN-06	L	3	X							X
.02	↓	1456	SAN-12	L	3	X							X
.03		1504	SAN-14	L	3	X							X
.04		1530	Field Blank - 062723	L	1	X							X

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	X Sampler	6/28/23	17:45
RECEIVED BY: SIGNATURE/ORGANIZATION	Ramboll	6/28/23	17:46
RELINQUISHED BY: SIGNATURE/ORGANIZATION	Ramboll	6/28/23	14:20
RECEIVED BY: SIGNATURE/ORGANIZATION	M Abbott	6/28/23	1440

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME

SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS
SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS

NOTES: TEMP. ON ARRIVAL 4.9

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

Rev. 1.26.22

Quality Control Report

Report ID: QC-S50407-01
Generated on 07/26/2023

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): S50407.01-S50407.04
Project: RACER Coldwater Road
Submitted Date/Time: 06/28/2023 14:40
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: S50407.01
Sample Tag: SAN-06
Collected Date/Time: 06/27/2023 14:42
Matrix: Liquid
COC Reference: 153096

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	07/15/23 13:46	AK230714B	PF230706W2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S50407.02
Sample Tag: SAN-12
Collected Date/Time: 06/27/2023 14:56
Matrix: Liquid
COC Reference: 153096

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	07/15/23 14:05	AK230714B	PF230706W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S50407.03
Sample Tag: SAN-14
Collected Date/Time: 06/27/2023 15:04
Matrix: Liquid
COC Reference: 153096

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	07/15/23 14:25	AK230714B	PF230706W2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S50407.04

Sample Tag: Field Blank - 062723

Collected Date/Time: 06/27/2023 15:30

Matrix: Liquid

COC Reference: 153096

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	07/15/23 09:22	AK230714B	PF230706W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF230706W2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S50407.01	34 PFAs	ASTMD7979-19M	07/15/23 13:46	AK230714B
S50407.02	34 PFAs	ASTMD7979-19M	07/15/23 14:05	AK230714B
S50407.03	34 PFAs	ASTMD7979-19M	07/15/23 14:25	AK230714B
S50407.04	34 PFAs	ASTMD7979-19M	07/15/23 09:22	AK230714B

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S50407.01

Sample Tag: SAN-06

Collected Date/Time: 06/27/2023 14:42

Matrix: Liquid

COC Reference: 153096

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230714B, Run Date: 07/15/2023 13:46, Matrix: WW, Dilution: 1.94

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA	*	**254.0**	50.0	150.0
M2-6:2FTSA	*	**151.7**	50.0	150.0
M2-8:2FTSA		**136.1**	50.0	150.0
M2PFTeDA		**119.7**	12.0	218.0
M3PFBS		**101.3**	50.0	150.0
M3PFHxS		**90.5**	50.0	150.0
M4PFHpA		**109.9**	50.0	150.0
M5PFHxA		**112.8**	50.0	150.0
M5PFPeA		**106.5**	50.0	150.0
M6PFDA		**112.8**	50.0	150.0
M7PFUnDA		**123.4**	50.0	150.0
M8FOSA		**105.5**	50.0	150.0
M8PFOA		**105.5**	50.0	150.0
M8PFOS		**85.8**	50.0	150.0
M9-PFNA		**118.5**	50.0	150.0
MPFBA		**102.7**	50.0	150.0
MPFDoDA		**120.7**	50.0	150.0
d3N-MeFOSAA		**117.9**	50.0	150.0
d5EtFOSAA	*	**156.2**	50.0	150.0
MHFPO-DA		**82.6**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S50407.02

Sample Tag: SAN-12

Collected Date/Time: 06/27/2023 14:56

Matrix: Liquid

COC Reference: 153096

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230714B, Run Date: 07/15/2023 14:05, Matrix: WW, Dilution: 2.04

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA	*	**229.2**	50.0	150.0
M2-6:2FTSA	*	**252.5**	50.0	150.0
M2-8:2FTSA	*	**191.8**	50.0	150.0
M2PFTeDA		**99.3**	12.0	218.0
M3PFBS		**95.4**	50.0	150.0
M3PFHxS		**92.3**	50.0	150.0
M4PFHpA		**95.0**	50.0	150.0
M5PFHxA		**102.3**	50.0	150.0
M5PFPeA		**100.9**	50.0	150.0
M6PFDA		**105.3**	50.0	150.0
M7PFUnDA		**107.0**	50.0	150.0
M8FOSA		**102.7**	50.0	150.0
M8PFOA		**95.9**	50.0	150.0
M8PFOS		**94.9**	50.0	150.0
M9-PFNA		**120.7**	50.0	150.0
MPFBA		**91.6**	50.0	150.0
MPFDoDA		**112.3**	50.0	150.0
d3N-MeFOSAA		**118.9**	50.0	150.0
d5EtFOSAA		**148.4**	50.0	150.0
MHFPO-DA		**80.3**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S50407.03

Sample Tag: SAN-14

Collected Date/Time: 06/27/2023 15:04

Matrix: Liquid

COC Reference: 153096

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230714B, Run Date: 07/15/2023 14:25, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA	*	**150.9**	50.0	150.0
M2-6:2FTSA		**140.1**	50.0	150.0
M2-8:2FTSA		**116.1**	50.0	150.0
M2PFTeDA		**60.2**	12.0	218.0
M3PFBS		**97.8**	50.0	150.0
M3PFHxS		**88.8**	50.0	150.0
M4PFHpA		**108.2**	50.0	150.0
M5PFHxA		**108.1**	50.0	150.0
M5PFPeA		**96.8**	50.0	150.0
M6PFDA		**107.5**	50.0	150.0
M7PFUnDA		**119.9**	50.0	150.0
M8FOSA		**108.5**	50.0	150.0
M8PFOA		**108.3**	50.0	150.0
M8PFOS		**94.3**	50.0	150.0
M9-PFNA		**104.7**	50.0	150.0
MPFBA		**104.2**	50.0	150.0
MPFDoDA		**107.0**	50.0	150.0
d3N-MeFOSAA	*	**187.5**	50.0	150.0
d5EtFOSAA		**133.6**	50.0	150.0
MHFPO-DA		**79.7**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S50407.04

Sample Tag: Field Blank - 062723

Collected Date/Time: 06/27/2023 15:30

Matrix: Liquid

COC Reference: 153096

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK230714B, Run Date: 07/15/2023 09:22, Matrix: WW, Dilution: 1.91

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**114.2**	50.0	150.0
M2-6:2FTSA		**115.4**	50.0	150.0
M2-8:2FTSA		**119.6**	50.0	150.0
M2PFTeDA		**111.2**	12.0	218.0
M3PFBS		**101.4**	50.0	150.0
M3PFHxS		**106.6**	50.0	150.0
M4PFHpA		**99.5**	50.0	150.0
M5PFHxA		**100.9**	50.0	150.0
M5PFPeA		**98.6**	50.0	150.0
M6PFDA		**104.7**	50.0	150.0
M7PFUnDA		**105.3**	50.0	150.0
M8FOSA		**95.8**	50.0	150.0
M8PFOA		**92.8**	50.0	150.0
M8PFOS		**108.6**	50.0	150.0
M9-PFNA		**96.1**	50.0	150.0
MPFBA		**103.7**	50.0	150.0
MPFDoDA		**112.6**	50.0	150.0
d3N-MeFOSAA		**102.0**	50.0	150.0
d5EtFOSAA		**105.9**	50.0	150.0
MHFPO-DA		**97.9**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF230706W2

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

Blank (BLK)

Lab Sample ID: AK230714B.BLK230706

Run in Batch: AK230714B, Run Date: 07/15/2023 01:34, Prep Date: 07/06/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**96.5**	50.0	150.0
M2-6:2FTSA		**95.8**	50.0	150.0
M2-8:2FTSA		**107.7**	50.0	150.0
M2PFTeDA		**109.3**	12.0	218.0
M3PFBS		**93.2**	50.0	150.0
M3PFHxS		**97.5**	50.0	150.0
M4PFHpA		**93.3**	50.0	150.0
M5PFHxA		**97.6**	50.0	150.0
M5PFPeA		**96.8**	50.0	150.0
M6PFDA		**98.6**	50.0	150.0
M7PFUnDA		**101.8**	50.0	150.0
M8FOSA		**89.8**	50.0	150.0
M8PFOA		**88.2**	50.0	150.0
M8PFOS		**100.5**	50.0	150.0
M9-PFNA		**102.7**	50.0	150.0
MPFBA		**96.4**	50.0	150.0
MPFDoDA		**110.5**	50.0	150.0
d3N-MeFOSAA		**106.0**	50.0	150.0
d5EtFOSAA		**94.5**	50.0	150.0
MHFPO-DA		**95.0**	50.0	150.0

Laboratory Control Sample (LCS)

Lab Sample ID: AK230714B.LCS230706

Run in Batch: AK230714B, Run Date: 07/15/2023 00:55, Prep Date: 07/06/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**99.1**	50.0	150.0
M2-6:2FTSA		**84.3**	50.0	150.0
M2-8:2FTSA		**100.5**	50.0	150.0
M2PFTeDA		**95.9**	12.0	218.0
M3PFBS		**90.7**	50.0	150.0
M3PFHxS		**99.1**	50.0	150.0
M4PFHpA		**104.4**	50.0	150.0
M5PFHxA		**94.2**	50.0	150.0
M5PFPeA		**93.2**	50.0	150.0
M6PFDA		**86.8**	50.0	150.0
M7PFUnDA		**85.4**	50.0	150.0
M8FOSA		**87.9**	50.0	150.0
M8PFOA		**97.4**	50.0	150.0
M8PFOS		**93.3**	50.0	150.0
M9-PFNA		**104.8**	50.0	150.0
MPFBA		**91.4**	50.0	150.0
MPFDoDA		**102.9**	50.0	150.0
d3N-MeFOSAA		**90.3**	50.0	150.0
d5EtFOSAA		**89.7**	50.0	150.0
MHFPO-DA		**93.8**	50.0	150.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK230714B.LCSD230706, Parent Sample ID: AK230714B.LCS230706

Run in Batch: AK230714B, Run Date: 07/15/2023 01:15, Prep Date: 07/06/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**99.1**	50.0	150.0
M2-6:2FTSA		**98.9**	50.0	150.0
M2-8:2FTSA		**89.7**	50.0	150.0
M2PFTeDA		**100.8**	12.0	218.0
M3PFBS		**96.2**	50.0	150.0
M3PFHxS		**96.0**	50.0	150.0
M4PFHpA		**93.9**	50.0	150.0
M5PFHxA		**94.5**	50.0	150.0
M5PFPeA		**95.5**	50.0	150.0
M6PFDA		**101.6**	50.0	150.0
M7PFUnDA		**91.6**	50.0	150.0
M8FOSA		**88.7**	50.0	150.0
M8PFOA		**96.1**	50.0	150.0
M8PFOS		**93.2**	50.0	150.0
M9-PFNA		**94.9**	50.0	150.0
MPFBA		**88.7**	50.0	150.0
MPFDoDA		**101.2**	50.0	150.0
d3N-MeFOSAA		**101.1**	50.0	150.0
d5EtFOSAA		**86.7**	50.0	150.0
MHFPO-DA		**97.2**	50.0	150.0

Matrix Spike (MS)

Lab Sample ID: AK230714B.5033902M, Parent Sample ID: S50339.02

Run in Batch: AK230714B, Run Date: 07/15/2023 02:33, Prep Date: 07/06/2023, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**107.7**	50.0	150.0
M2-6:2FTSA		**96.0**	50.0	150.0
M2-8:2FTSA		**94.8**	50.0	150.0
M2PFTeDA		**112.1**	12.0	218.0
M3PFBS		**91.0**	50.0	150.0
M3PFHxS		**95.7**	50.0	150.0
M4PFHpA		**97.8**	50.0	150.0
M5PFHxA		**100.8**	50.0	150.0
M5PFPeA		**99.9**	50.0	150.0
M6PFDA		**95.7**	50.0	150.0
M7PFUnDA		**87.7**	50.0	150.0
M8FOSA		**87.7**	50.0	150.0
M8PFOA		**93.8**	50.0	150.0
M8PFOS		**102.5**	50.0	150.0
M9-PFNA		**97.9**	50.0	150.0
MPFBA		**101.5**	50.0	150.0
MPFDoDA		**113.1**	50.0	150.0
d3N-MeFOSAA		**106.6**	50.0	150.0
d5EtFOSAA		**99.2**	50.0	150.0
MHFPO-DA		**102.8**	50.0	150.0

Duplicate (DUP)

Lab Sample ID: AK230714B.5033903D, Parent Sample ID: S50339.03

Run in Batch: AK230714B, Run Date: 07/15/2023 03:12, Prep Date: 07/06/2023, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**92.3**	50.0	150.0
M2-6:2FTSA		**92.3**	50.0	150.0
M2-8:2FTSA		**83.9**	50.0	150.0
M2PFTeDA		**102.1**	12.0	218.0
M3PFBS		**94.1**	50.0	150.0
M3PFHxS		**105.6**	50.0	150.0
M4PFHpA		**100.5**	50.0	150.0
M5PFHxA		**101.9**	50.0	150.0
M5PFPeA		**93.1**	50.0	150.0
M6PFDA		**87.7**	50.0	150.0
M7PFUnDA		**93.5**	50.0	150.0
M8FOSA		**91.9**	50.0	150.0
M8PFOA		**97.0**	50.0	150.0
M8PFOS		**100.8**	50.0	150.0
M9-PFNA		**97.0**	50.0	150.0
MPFBA		**101.0**	50.0	150.0
MPFDoDA		**101.3**	50.0	150.0
d3N-MeFOSAA		**95.2**	50.0	150.0
d5EtFOSAA		**93.4**	50.0	150.0
MHFPO-DA		**92.3**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF230706W2

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

Blank (BLK)

Lab Sample ID: AK230714B.BLK230706

Run in Batch: AK230714B, Run Date: 07/15/2023 01:34, Prep Date: 07/06/2023, 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
PFPrS		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	2	ng/l
PFEESA		ND	2	ng/l
FPePA (5:3 FTCA)		ND	4	ng/l
PFHpA		ND	2	ng/l
PFPeS		ND	2	ng/l
ADONA		ND	2	ng/l
6:2 FTSA		ND	2	ng/l
PFOA		ND	2	ng/l
PFBSA		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
PFHpS		ND	2	ng/l
8:2 FTSA		ND	2	ng/l
N-MeFOSAA		ND	2	ng/l
PFDA		ND	2	ng/l
PFOS		ND	2	ng/l
PFOS-BR		ND	2	ng/l
EtFOSAA		ND	4	ng/l
PFOS-LN		ND	2	ng/l
PFUnDA		ND	2	ng/l
9CL-PF3ONS		ND	2	ng/l
PFNS		ND	2	ng/l
PFHxSA		ND	2	ng/l
PFDoDA		ND	2	ng/l
PFDS		ND	2	ng/l
PFTrDA		ND	2	ng/l
11CL-PF3OUdS		ND	2	ng/l
PFTeDA		ND	4	ng/l
FOSA		ND	2	ng/l

Organics - Volatiles, Prep Batch ID: PF230706W2 (continued)

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

Laboratory Control Sample (LCS)

Lab Sample ID: AK230714B.LCS230706

Run in Batch: AK230714B, Run Date: 07/15/2023 00:55, Prep Date: 07/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		109.0	70.0	130.0
PFMPA		119.0	70.0	130.0
FPrPA (3:3 FTCA)		106.8	70.0	130.0
PFPrS		76.6	70.0	130.0
PFPeA		99.8	70.0	130.0
PFMBA		109.0	70.0	130.0
4:2 FTSA		92.0	70.0	130.0
NFDHA		109.8	70.0	130.0
PFHxA		115.0	70.0	130.0
PFBS		113.2	70.0	130.0
HFPO-DA		108.4	70.0	130.0
PFEESA		96.4	70.0	130.0
FPePA (5:3 FTCA)		125.2	70.0	130.0
PFHpA		93.2	70.0	130.0
PFPeS		112.4	70.0	130.0
ADONA		95.8	70.0	130.0
6:2 FTSA		120.8	70.0	130.0
PFOA		96.4	70.0	130.0
PFBSA		107.2	70.0	130.0
PFHxS		104.2	70.0	130.0
PFNA		94.4	70.0	130.0
FHpPA (7:3 FTCA)		109.2	70.0	130.0
PFECHS		120.6	70.0	130.0
PFHpS		98.2	70.0	130.0
8:2 FTSA		97.0	70.0	130.0
N-MeFOSAA		104.6	70.0	130.0
PFDA		111.8	70.0	130.0
PFOS		99.6	70.0	130.0
EtFOSAA		94.2	70.0	130.0
PFUnDA		107.6	70.0	130.0
9CL-PF3ONS		102.2	70.0	130.0
PFNS		110.6	70.0	130.0
PFHxSA		94.2	70.0	130.0
PFDoDA		112.6	70.0	130.0
PFDS		121.0	70.0	130.0
PFTrDA		129.6	70.0	130.0
11CL-PF3OUdS		97.6	70.0	130.0
PFTeDA		106.2	70.0	130.0
FOSA		100.0	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK230714B.LCSD230706, Parent Sample ID: AK230714B.LCS230706

Run in Batch: AK230714B, Run Date: 07/15/2023 01:15, Prep Date: 07/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		106.8	70.0	130.0	2.0	30.0
PFMPA		118.8	70.0	130.0	0.2	30.0

Organics - Volatiles, Prep Batch ID: PF230706W2 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK230714B.LCSD230706, Parent Sample ID: AK230714B.LCS230706

Run in Batch: AK230714B, Run Date: 07/15/2023 01:15, Prep Date: 07/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
FPrPA (3:3 FTCA)		102.6	70.0	130.0	4.0	30.0
PFPrS		102.4	70.0	130.0	28.8	30.0
PFPeA		97.8	70.0	130.0	2.0	30.0
PFMBA		100.6	70.0	130.0	8.0	30.0
4:2 FTSA		99.8	70.0	130.0	8.1	30.0
NFDHA		100.0	70.0	130.0	9.3	30.0
PFHxA		115.8	70.0	130.0	0.7	30.0
PFBS		105.8	70.0	130.0	6.8	30.0
HFPO-DA		108.6	70.0	130.0	0.2	30.0
PFEESA		106.2	70.0	130.0	9.7	30.0
FPePA (5:3 FTCA)		110.4	70.0	130.0	12.6	30.0
PFHpA		97.4	70.0	130.0	4.4	30.0
PFPeS		106.6	70.0	130.0	5.3	30.0
ADONA		96.0	70.0	130.0	0.2	30.0
6:2 FTSA		94.0	70.0	130.0	25.0	30.0
PFOA		94.0	70.0	130.0	2.5	30.0
PFBSA		97.6	70.0	130.0	9.4	30.0
PFHxS		106.0	70.0	130.0	1.7	30.0
PFNA		97.6	70.0	130.0	3.3	30.0
FHpPA (7:3 FTCA)		100.8	70.0	130.0	8.0	30.0
PFECHS		107.8	70.0	130.0	11.2	30.0
PFHpS		106.8	70.0	130.0	8.4	30.0
8:2 FTSA		113.4	70.0	130.0	15.6	30.0
N-MeFOSAA		91.8	70.0	130.0	13.0	30.0
PFDA		86.4	70.0	130.0	25.6	30.0
PFOS		110.0	70.0	130.0	9.9	30.0
EtFOSAA		94.8	70.0	130.0	0.6	30.0
PFUnDA		99.6	70.0	130.0	7.7	30.0
9CL-PF3ONS		96.4	70.0	130.0	5.8	30.0
PFNS		100.8	70.0	130.0	9.3	30.0
PFHxSA		96.6	70.0	130.0	2.5	30.0
PFDoDA		106.6	70.0	130.0	5.5	30.0
PFDS		119.4	70.0	130.0	1.3	30.0
PFTrDA	*	136.0	70.0	130.0	4.8	30.0
11CL-PF3OUdS		94.4	70.0	130.0	3.3	30.0
PFTeDA		101.4	70.0	130.0	4.6	30.0
FOSA		99.2	70.0	130.0	0.8	30.0

Matrix Spike (MS)

Lab Sample ID: AK230714B.5033902M, Parent Sample ID: S50339.02

Run in Batch: AK230714B, Run Date: 07/15/2023 02:33, Prep Date: 07/06/2023, Matrix: WW, Dilution: 1.97

Analyte	Flags	% Rec	LCL	UCL
PFBA		101.5	70.0	130.0
FPrPA (3:3 FTCA)		111.7	70.0	130.0
PFPeA		93.5	70.0	130.0
4:2 FTSA		91.4	70.0	130.0

Organics - Volatiles, Prep Batch ID: PF230706W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: AK230714B.5033902M, Parent Sample ID: S50339.02

Run in Batch: AK230714B, Run Date: 07/15/2023 02:33, Prep Date: 07/06/2023, Matrix: WW, Dilution: 1.97

Analyte	Flags	% Rec	LCL	UCL
PFHxA		99.6	70.0	130.0
PFBS		117.5	70.0	130.0
HFPO-DA		95.4	70.0	130.0
FPePA (5:3 FTCA)		111.7	70.0	130.0
PFHpA		100.5	70.0	130.0
PFPeS		101.5	70.0	130.0
ADONA		98.5	70.0	130.0
6:2 FTSA		99.5	70.0	130.0
PFOA		98.3	70.0	130.0
PFBSA		110.5	70.0	130.0
PFHxS		111.7	70.0	130.0
PFNA		121.8	70.0	130.0
FHpPA (7:3 FTCA)		121.8	70.0	130.0
PFECHS		101.5	70.0	130.0
PFHpS		111.7	70.0	130.0
8:2 FTSA		111.7	70.0	130.0
N-MeFOSAA		97.5	70.0	130.0
PFDA		93.4	70.0	130.0
PFOS		105.6	70.0	130.0
EtFOSAA		84.3	70.0	130.0
PFUnDA		101.5	70.0	130.0
9CL-PF3ONS		96.4	70.0	130.0
PFNS		101.5	70.0	130.0
PFHxSA		101.5	70.0	130.0
PFDoDA		92.4	70.0	130.0
PFDS		101.5	70.0	130.0
PFTrDA		121.8	70.0	130.0
11CL-PF3OUdS		97.5	70.0	130.0
PFTeDA		101.5	70.0	130.0
FOSA		111.7	70.0	130.0

Duplicate (DUP)

Lab Sample ID: AK230714B.5033903D, Parent Sample ID: S50339.03

Run in Batch: AK230714B, Run Date: 07/15/2023 03:12, Prep Date: 07/06/2023, Matrix: WW, Dilution: 1.99

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
FPrPA (3:3 FTCA)		NC	30.0
PFPeA	J*	41.7	30.0
4:2 FTSA		NC	30.0
PFHxA		25.0	30.0
PFBS		22.2	30.0
HFPO-DA		NC	30.0
FPePA (5:3 FTCA)		NC	30.0
PFHpA	J	19.4	30.0
PFPeS		NC	30.0
ADONA		NC	30.0

Organics - Volatiles, Prep Batch ID: PF230706W2 (continued)

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

Duplicate (DUP) (continued)

Lab Sample ID: AK230714B.5033903D, Parent Sample ID: S50339.03

Run in Batch: AK230714B, Run Date: 07/15/2023 03:12, Prep Date: 07/06/2023, Matrix: WW, Dilution: 1.99

Analyte	Flags	RPD	RPD CL
6:2 FTSA		NC	30.0
PFOA		10.5	30.0
PFBSA	J	NC	30.0
PFHxS-BR		NC	30.0
PFHxS	J	NC	30.0
PFHxS-LN		NC	30.0
PFNA		NC	30.0
FHpPA (7:3 FTCA)		NC	30.0
PFECHS		5.1	30.0
PFHpS		NC	30.0
8:2 FTSA		NC	30.0
N-MeFOSAA		NC	30.0
PFDA		NC	30.0
PFOS		9.0	30.0
PFOS-BR		16.2	30.0
EtFOSAA		NC	30.0
PFOS-LN		8.3	30.0
PFUnDA		NC	30.0
9CL-PF3ONS		NC	30.0
PFNS		NC	30.0
PFHxSA		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTrDA		NC	30.0
11CL-PF3OUdS		NC	30.0
PFTeDA		NC	30.0
FOSA		NC	30.0

Merit Laboratories, Inc.

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www.meritlabs.com

C.O.C. PAGE # 1 OF 1

153096

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 2090 Commonwealth Blvd
CITY: Ann Arbor | STATE: MI | ZIP CODE: 48105
PHONE NO. | CELL NO.: 313-333-0211 | P.O. NO.: 1940006514 Task 37
E-MAIL ADDRESS: clifford.yantz@Ramboll.com | QUOTE NO.

INVOICE TO

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

PROJECT NO./NAME: RACER Coldwater Road
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	COLLECTION DATE	COLLECTION TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	PFAS (7179)
50407.01	6/27/23	1442	SAN-06	L	3	X							X
.02	↓	1456	SAN-12	L	3	X							X
.03		1504	SAN-14	L	3	X							X
.04		1530	Field Blank - 062723	L	1	X							X

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	X Sampler	6/28/23	17:45
RECEIVED BY: SIGNATURE/ORGANIZATION	Ramboll	6/28/23	17:46
RELINQUISHED BY: SIGNATURE/ORGANIZATION	Ramboll	6/28/23	14:20
RECEIVED BY: SIGNATURE/ORGANIZATION	M Abbott	6/28/23	1440

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME

SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS
SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS

NOTES: TEMP. ON ARRIVAL 4.9

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

Rev. 1.26.22