RAMBOLL

ENVIRONMENT
& HEALTH

Ms. Tiffany Minder
Environmental Compliance Supervisor
City of Flint Water Pollution
Water Pollution Control Facilities
G4652 Beecher Rd.
Flint, MI, 48532

RE: ***Discharge Permit Submittal– October 2024 through December 2024***
Permit No.: 6-08-04-04-GML1
FILE: 1088190/1940107203/Docs

Dear **Ms. Minder:**

January 17, 2025

In accordance with requirements of the above referenced discharge permit, we are providing you with the following discharge information for the period October 1, 2024 to December 30, 2024 for the Coldwater Road Landfill facility, located at 6220 Horton Avenue, Mount Morris, Michigan. In addition, we are reporting the performance of the per- and polyfluoroalkyl substances (PFAS) pretreatment system in this letter. This report includes the following information:

- Periodic Report on Continued Compliance, certification.
- Periodic Report on Continued Compliance Sample (Table 1).
- Daily Discharge Summary Table (Table 2).
- PFAS Sampling Results Table (Table 3).
- Analytical Reports provided by Merit Laboratories, Inc. for samples from the on-Site, above ground collection tank collected on December 3, 2024.
- Analytical Reports provided by Merit Laboratories, Inc. for samples from the on-Site, PFAS pretreatment system collected on December 18, 2024, and December 20, 2024, during the discharge of the liquids from the on-Site, above ground collection tank through the system.
- Copy of Chain-of-Custody forms.

The laboratory analytical results indicate concentrations in the effluent were below the Sewer Use Permit limits for the required monitoring parameters during the discharge period.

In addition, the PFAS analytical results for the effluent sample were below the Sewer Use Permit limits and were below the current EGLE Part 4, Water Quality Standards, Rule 57 Water Quality Values. Therefore, the PFAS pretreatment system is operating as designed.

Influent and post-GAC vessel samples were collected from the four in-line GAC vessels on December 18, 2024 and December 20, 2024 during the accumulation tank discharge. The influent sample had a detection of 2,600 ng/l for perfluorooctane sulfonic acid (PFOS).

Ramboll
2090 Commonwealth Blvd.
Ann Arbor, MI 48105
USA

T 734-761-4000
F 734-761-2050
https://ramboll.com

PFOS was detected at a concentration 13 ng/l from the primary GAC vessel sample collected at the start of the discharge on December 18, 2024. In the samples collected just before discharge was discontinued, PFOS was detected at a concentration of 25 ng/l in the primary GAC vessel, at a concentration of 3.0 ng/l in the secondary GAC vessel, at a concentration of 1.8 ng/l in the tertiary (third) GAC vessel, and at a concentration of 1.2 ng/l in the quaternary (fourth) GAC vessel.

Based on these data, the GAC vessels will continue to be utilized for the next discharge event, and we will evaluate whether changing out the GAC in the primary vessel will be necessary following that discharge event. If it is determined that the primary GAC vessel should be changed out, then new GAC would be placed in the primary vessel and the system components would be changed so that the existing quaternary (fourth), tertiary (third), and secondary GAC vessels would be moved up in position making the primary vessel the new quaternary vessel (last vessel before discharge) for the approved four-vessel pretreatment system.

Please call me at 313-333-0211 if you have any questions.

Yours sincerely,
RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

Clifford S. Yantz
Project Manager

M 313.333.0211
Clifford.yantz@ramboll.com

cc: Mr. Kevin Forbes – Beecher Metropolitan District, Flint, MI
Ms. Nicole Sanabria – EGLE (via email)
Ms. Christina Hebert – EGLE (via email)
Mr. Brendan Mullen – RACER Trust (via email)
Mr. David Favero – RACER Trust (via email)
Mr. Kevin Schneider – Ramboll (via email)

City of Flint
Industrial Pretreatment Program

Periodic Report on Continued Compliance

Company Name: RACER Trust, Coldwater Road
Street Address: 6220 Horton Avenue, Flint, Michigan
Permit Number: 6-08-04-04-GML1
Outfall Number: 001

Reporting Period: October 1, 2024 through December 31, 2024

Average Volume of Daily Discharge (during reporting period): 2,333 gallons
(Three One Day Events)

Complete the following:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name of Authorized Representative: Clifford Yantz

Title of Authorized Representative: Project Manager, Ramboll Americas Engineering Solutions, Inc., As agent for the RACER Trust

Signature of Authorized Representative: Clifford Scott Yantz, as agent for RACER Trust

Date Signed by Authorized Representative: 1/17/2025

If required to implement a Toxic Organics Management Plan (TOMP), complete the following:

"Based on my inquiry of the person or persons directly responsible for managing compliance with the pretreatment standard for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last Periodic Report on Continued Compliance. I further certify that, this facility is implementing the toxic organic management plan submitted to the control authority."

Name of Authorized Representative: N/A

Title of Authorized Representative: N/A

Signature of Authorized Representative: N/A

Date Signed by Authorized Representative: N/A

Table 1
Periodic Report on Continued Compliance
City of Flint Sewer User Self-Monitoring Report
Fourth Quarter - 2024 - GSWVR Sample

RACER Trust - Coldwater Road Landfill Facility Permit Number 6-08-04-04-GML1 6220 Horton Avenue						
Analytical Parameter	**Ammonia-N**	**BOD5**	**HEM**	**pH @ 25°C**	**Phosphorus**	**TSS**
Units	**mg/L**	**mg/L**	**mg/L**	**SU**	**mg/L**	**mg/L**
Sampling Frequency	**Per Batch**	**Per Batch**	**Per Batch**	**Per Batch**	**Per Batch**	**Per Batch**
Sampling Procedure	**Grab sample**	**Grab sample**	**Grab sample**	**Grab sample**	**Grab sample**	**Grab sample**
Daily Maximum Limit	**110**	**1196**	**100**	NA	**14**	**570**
Maximum Limit	NA	NA	NA	**10.5**	NA	NA
Minimum Limit	NA	NA	NA	**6**	NA	NA
Test Result	**5.2**	**8.8**	**<2**	**7.56**	**0.04**	**40.2**
Test Method	4500-NH3 G	10360	1664A	4500-H+ B	4500-PE	2540 D
Test Date	12/5/2024	12/4/2024	12/4/2024	12/3/2024	12/8/2024	12/6/2024
Sample Date	12/3/2024	12/3/2024	12/3/2024	12/3/2024	12/3/2024	12/3/2024
Sample Type	wastewater	wastewater	wastewater	wastewater	wastewater	wastewater
Test Result						
Test Method						
Test Date						
Sample Date						
Sample Type						
Test Result						
Test Method						
Test Date						
Sample Date						
Sample Type						
Average Daily Conc.						
No. of Samples						
Number of Limit Exceedances						

Table 1
Periodic Report on Continued Compliance
City of Flint Sewer User Self-Monitoring Report
Fourth Quarter - 2024 - GSWVR Sample

RACER Trust - Coldwater Road Landfill Facility
Permit Number 6-08-04-04-GML1
6220 Horton Avenue

Analytical Parameter	Arsenic	Chromium	Copper	Mercury	Nickel	Zinc	Cyanide, available
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sampling Frequency	Per Batch	Per Batch	Per Batch	Per Batch	Per Batch	Per Batch	Per Batch
Sampling Procedure	Grab sample	Grab sample	Grab sample	Grab sample	Grab sample	Grab sample	Grab sample
Daily Maximum Limit	0.051	1.273	1.714	0.000012	0.543	2.626	0.165
Maximum Limit	NA	NA	NA	NA	NA	NA	NA
Minimum Limit	NA	NA	NA	NA	NA	NA	NA
Test Result	0.005	0.033	0.393	<0.0002	0.115	0.048	<0.0020
Test Method	E200.8	200.8	200.8	245.1	200.8	200.8	1677
Test Date	12/4/2024	12/4/2024	12/4/2024	12/4/2024	12/4/2024	12/4/2024	12/13/2024
Sample Date	12/3/2024	12/3/2024	12/3/2024	12/3/2024	12/3/2024	12/3/2024	12/3/2024
Sample Type	wastewater	wastewater	wastewater	wastewater	wastewater	wastewater	wastewater
Test Result							
Test Method							
Test Date							
Sample Date							
Sample Type							
Test Result							
Test Method							
Test Date							
Sample Date							
Sample Type							
Average Daily Conc.							
No. of Samples							
Number of Limit Exceedances							

Table 1
Periodic Report on Continued Compliance
City of Flint Sewer User Self-Monitoring Report
Fourth Quarter - 2024 - GSWVR Sample

RACER Trust - Coldwater Road Landfill Facility Permit Number 6-08-04-04-GML1 6220 Horton Avenue							
Analytical Parameter	**PFBS**	**PFHxS**	**PFHxA**	**PFNA**	**PFOA**	**PFOS**	**HFPO-DA**
Units	**ng/L**	**ng/L**	**ng/L**	**ng/L**	**ng/L**	**ng/L**	**ng/L**
Sampling Frequency	**Per Batch**	**Per Batch**	**Per Batch**	**Per Batch**	**Per Batch**	**Per Batch**	**Per Batch**
Sampling Procedure	**Grab Sample**	**Grab Sample**	**Grab Sample**	**Grab Sample**	**Grab Sample**	**Grab Sample**	**Grab Sample**
Daily Maximum Limit	**420**	**51**	**400000**	**6**	**8**	**16**	**370**
Maximum Limit	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Minimum Limit	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Test Result	**<2.0**	**<2.0**	**<2.0**	**<2.0**	**<2.0**	**1.2**	**<10**
Test Method	ASTMD7979-19M	ASTMD7979-19M	ASTMD7979-19M	ASTMD7979-19M	ASTMD7979-19M	ASTMD7979-19M	ASTMD7979-19M
Test Date	12/26/2024	12/26/2024	12/26/2024	12/26/2024	12/26/2024	12/26/2024	12/26/2024
Sample Date	12/20/2024	12/20/2024	12/20/2024	12/20/2024	12/20/2024	12/20/2024	12/20/2024
Sample Type	wastewater	wastewater	wastewater	wastewater	wastewater	wastewater	wastewater
Test Result							
Test Method							
Test Date							
Sample Date							
Sample Type							
Test Result							
Test Method							
Test Date							
Sample Date							
Sample Type							
Average Daily Conc.							
No. of Samples							
Number of Limit Exceedances							

TABLE 2
RACER Trust - Coldwater Road
Daily Discharge Summary Table
Fourth Quarter 2024
6-08-04-04-GML1

Date	Beginning Flow Meter Reading	End Flow Meter Reading	Gallons Discharged	Begin Time of Discharge	End Time of Discharge	Average Flow (gal/min)	Temperature at Discharge (C)	(F)	pH
12/18/2024	0	--	--	2:30 p.m. (12/18/2024)	--	3.30	8.5	47.3	7.66
12/20/2024	--	6,998	**6,998**	--	3:00 a.m. (12/20/2024)	3.00	8.6	47.5	7.48

Total Discharge Volume: **6,998**
Average Discharge Volume (3 Days): **2,333**

NOTES : Accumulation tank discharged continuously from 2:30 p.m. on December 18, 2024 to 3:00 a.m. on December 20, 2024 (36 hours, 45 minutes).

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TABLE 3
RACER Trust - Coldwater Road
Pre-and Polyfluroalkyl Substances (PFAS) Sampling Results - December 2024

Coldwater Road - PFAS Pretreatment System Samples

Perfluorinated Compound	Well/Sample ID: / Sample Date:	Beecher Metropolitan District Sewer Use Permit - Discharge Pollutant Limitations and Monitoring Requirements	04-PRCC-24-INF-20241218 (Influent Sample) 12/18/2024	04-PRCC-24-PRIM-20241218 (Primary GAC Vessel Sample) 12/18/2024	04-PRCC-24-PRIM-155-20241220 (Primary GAC Vessel Sample after 155 Bed Volumes) 12/20/2024	04-PRCC-24-MID-1-155-20241220 (Secondary GAC Vessel Sample after 155 Bed Volumes) 12/20/2024	04-PRCC-24-MID-2-155-20241220 (Tertiary GAC Vessel Sample after 155 Bed Volumes) 12/20/2024	04-PRCC-24-EFF-155-20241220 (Effluent Sample after 155 Bed Volumes) 12/20/2024
Perfluorobutanoic Acid (PFBA)		--	<54 X	<9.6	<9.7	<11	<9.9	<10
Perfluoropentanoic Acid (PFPeA)		--	<3.8	<3.8	<3.9	<4.2	<4.0	<4.0
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	<1.9	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluorohexanoic Acid (PFHxA)		**400,000**	**47**	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluorobutane Sulfonic Acid (PFBS)		**420**	**38**	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluoroheptanoic Acid (PFHpA)		--	**13**	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)		--	**72**	<1.9	<1.9	<2.1	<2.0	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	<1.9	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluorooctanoic Acid (**PFOA**)		**8**	**37**	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)		**51**	**200**	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	**160**	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	**32**	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluorononanoic Acid (PFNA)		**6**	**1.4 J**	<1.9	<1.9	<2.1	<2.0	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	<1.9	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)		--	**45**	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluorodecanoic Acid (PFDA)		--	<1.9	<1.9	<1.9	<2.1	<2.0	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	<1.9	<1.9	<1.9	<2.1	<2.0	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	<3.8	<3.8	<3.9	<4.2	<4.0	<4.0
Perfluorooctane Sulfonic Acid (**PFOS**)		**16**	**2,600**	**13**	**25**	**3.0**	**1.8 J**	**1.2 J**
Perfluorooctane Sulfonic Acid (**PFOS**-LN)		--	**1,500**	**9.8**	**21**	**2.1 J**	**1.4 J**	<2.0
Perfluorooctane Sulfonic Acid (**PFOS**-BR)		--	**1,000**	**2.0**	**2.2**	<2.1	<2.0	<2.0
Perfluoroundecanoic Acid (PFUnDA)		--	<1.9	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluorononane Sulfonic Acid (PFNS)		--	**1.2 J**	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluorododecanoic Acid (PFDoDA)		--	<1.9	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluorodecane Sulfonic Acid (PFDS)		--	<1.9	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluorotridecanoic Acid (PFTrDA)		--	<1.9	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluorooctane Sulfonamide (FOSA)		--	**1.7 J**	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluorotetradecanoic Acid (PFTeDA)		--	<3.8	<3.8	<3.9	<4.2	<4.0	<4.0
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	<1.9	<1.9	<1.9	<2.1	<2.0	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)		--	<1.9	<1.9	<1.9	<2.1	<2.0	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	<1.9	<1.9	<1.9	<2.1	<2.0	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)		--	<9.6	<9.6	<9.7	<11	<9.9	<10
3-Perfluoroheptyl propanoic acid (FHpPA (7:3 FTCA))		--	<9.6	<9.6	<9.7	<11	<9.9	<10
3-Perfluoroheptyl propanoic acid (FPePA (5:3 FTCA))		--	<9.6	<9.6	<9.7	<11	<9.9	<10
3-Perfluoroheptyl propanoic acid (FPrPA (3:3 FTCA))		--	<9.6	<9.6	<9.7	<11	<9.9	<10
Perfluorobutanesulfonamide (PFBSA)		--	**0.79 J**	<1.9	<1.9	<2.1	<2.0	<2.0
Perfluoro-4-ethylcyclohexanesulfonate (PFECHS)		--	**4,800**	**5.1**	**4.7**	<2.1	<2.0	<2.0
Perfluorohexanesulfonamide (PFHxSA)		--	<1.9	<1.9	<1.9	<2.1	<2.0	<2.0
Total Per-and Polyfluoroalkyl Substances		--	**7,857.1**	**18.1**	**29.7**	**3.0**	**1.8**	**1.2**

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) Beecher Metropolitan District Sewer Use Permit
Discharge Pollutant Limitations and Monitoring Requirements - October 15, 2021.
7) Concentrations above the discharge limit are highlighted in yellow.
8) Number after Prim (Primary GAC vessel), Mid (Secondary GAC vessel), and Eff (Effluent sample after tertiary GAC vessel) samples equals number of GAC Bed volumes discharged through the pretreatment system at the time of sample collection. One bed volume equals 45 gallons.
9) Branched and linear values for perfluorohexane sulfonic acid (PFHxS) and perfluorooctane sulfonic acid (PFOS) are reported in the table but are not inculded in the Total Per-and Polyfluoroalkyl Substances.
9) I - Matrix interference with internal standard.
10) J - Estimated value less than reporting limit, but greater than MDL.
11) X - Elevated reporting limit due to matrix interference.
12) QA/QC Samples were either not detected above the reporting limit or below the Beecher Metropolitan District Sewer Use Permit Discharge Limits.

Analytical Laboratory Report

Report ID: S69130.01(01)
Generated on 12/13/2024

Report to

Attention: Clifford Yantz
Ramboll
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): S69130.01
Project: RACER Coldwater Road
Collected Date(s): 12/03/2024
Submitted Date/Time: 12/03/2024 14:40
Sampled by: Lee Trumbull
P.O. #: 1940008845

Table of Contents

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.
Starred (*) analytes are not NY 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.
All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.
For a specific list of accredited analytes, please feel free to contact the laboratory or visit https://www.meritlabs.com/certifications.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
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
o	Associated EIS outside of control limits
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
q	Qualifier ion ratio outside of control limits
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
E1664A	EPA Method 1664 Revision A February 1999
E200.8	EPA Method 200.8 Revision 5.4
E245.1	EPA Method 245.1 Revision 3.0
OIA-1677	EPA Method OIA-1677-09
SM2540D	Standard Method 2540 D 2020
SM2550B	Standard Method 2550 B 2010
SM4500-H+ B	Standard Method 4500 H + B 2021
SM4500-NH3 G	Standard Method 4500 NH3 G 2021
SM4500-PE	Standard Method 4500 P E 2021 / 4500 P B(5) 2021
SM5210B/HACH1036	Standard Method 5210 B 2016 / HACH 10360
SW3015A	SW 846 Method 3015A Revision 1 February 2007

Analytical Laboratory Report

Sample Summary (1 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S69130.01	04-PRCC-24-20241203	Wastewater	12/03/24 10:33

Analytical Laboratory Report

Lab Sample ID: S69130.01
Sample Tag: 04-PRCC-24-20241203
Collected Date/Time: 12/03/2024 10:33
Matrix: Wastewater
COC Reference: 172712

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	3.9	IR
1	125mL Plastic	HNO3	Yes	3.9	IR
1	500mL Plastic	None	Yes	3.9	IR
1	125mL Amber	PbCO3/NaOH	Yes	3.9	IR
1	32oz Glass	HCL	Yes	3.9	IR
1	250mL Plastic	H2SO4	Yes	3.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Mercury Digestion	Completed	E245.1	12/04/24 12:52	CTV	
TBOD5 - Set*	Completed	SM5210B/HACH1036	12/04/24 10:00	SSM	
Metal Digestion	Completed	SW3015A	12/04/24 10:45	CCM	

Inorganics

Method: E1664A, Run Date: 12/04/24 09:00, Analyst: JW

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Oil & Grease n-Hexane Extract.	Not detected	2		mg/L	1		

Method: SM2540D, Run Date: 12/06/24 16:46, Analyst: SRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	40.2	6		mg/L	2.5		

Method: SM2550B, Run Date: 12/03/24 10:33, Analyst: LT

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Field Temperature*	49	1		oF	1		

Method: SM4500-H+ B, Run Date: 12/03/24 10:33, Analyst: LT

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Field pH*	7.56	0.01		STD Units	1		

Method: SM4500-NH3 G, Run Date: 12/05/24 18:15, Analyst: MJC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Ammonia-N (Undistilled)*	5.2	0.1		mg/L	5	7664-41-7	

Method: SM4500-PE, Run Date: 12/08/24 16:26, Analyst: MJC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Phosphorus*	0.04	0.01	0.009	mg/L	1	7723-14-0	

Method: SM5210B/HACH1036, Run Date: 12/09/24 15:59, Analyst: SSM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TBOD5*	8.8	3		mg/L	3		

Metals

Method: E200.8, Run Date: 12/04/24 12:15, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.005	0.002		mg/L	5	7440-38-2	

Lab Sample ID: S69130.01 (continued)

Sample Tag: 04-PRCC-24-20241203

Method: E200.8, Run Date: 12/04/24 12:15, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium	0.033	0.005		mg/L	5	7440-47-3	
Copper	0.393	0.005		mg/L	5	7440-50-8	
Nickel	0.115	0.005		mg/L	5	7440-02-0	
Zinc	0.048	0.005		mg/L	5	7440-66-6	

Method: E245.1, Run Date: 12/04/24 16:05, Analyst: CTV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury	Not detected	0.0002		mg/L	1	7439-97-6	

Other / Misc.

Method: OIA-1677, Run Date: 12/13/24 08:24, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Available Cyanide	Not detected	0.0020		mg/L	1	57-12-5	

Merit Laboratories Login Checklist

Lab Set ID: S69130
Client: RAMBOLL (Ramboll Americas)
Project: RACER Coldwater Road
Submitted: 12/03/2024 14:40 Login User: MMC

Attention: Clifford Yantz
Address: Ramboll
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 3.9
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.	[X] Yes	[ ] No	[ ] 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, TOX, DO or Alkalinity bottles contain	

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

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S69130 Submitted: 12/03/2024 14:40

Client: RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Initial Preservation Check: 12/03/2024 16:25 MMC

Preservation Recheck (E200.8): N/A

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

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

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S69130.01	125mL Amber PbCO3/NaOH	>12			
S69130.01	125mL Plastic HNO3	<2			
S69130.01	250mL Plastic H2SO4	<2			
S69130.01	32oz Glass HCL	<2			

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

172712

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.: 303-333-0211 P.O. NO.:
E-MAIL ADDRESS: Clifford.Yantz@ramboll.com Kevin.Schneider@ramboll.com QUOTE NO.:

INVOICE TO

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

PROJECT NO./NAME: Racer Coldwater Road
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Lee Trumbull Lee Trumbull

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

DELIVERABLES REQUIRED ☒ 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	Total Metals	Available Cyanide	BOD	TSS	Ammonia-Nitrogen	Total Phosphorus	FOG (Hex-Ext)
6913001	12/3/24	1033	04-PRCC-24-20241203	WW	6	0	1	1	1			1	X	X	X	X	X	X	X

Metals Are: As, Cr, Cu, Hg, Ni, Zn

Analysis per City of Flint, including QC Report

Field Temp 9.4
Field pH 7.56

LRT

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	☐ Sampler	12/3/24	11:40
RECEIVED BY: SIGNATURE/ORGANIZATION		12/3/24	11:40
RELINQUISHED BY: SIGNATURE/ORGANIZATION		12/3/24	14:40
RECEIVED BY: SIGNATURE/ORGANIZATION		12/3/24	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 3.9

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

Rev. 05/24

Quality Control Report

Report ID: QC-S69130-01
Generated on 12/16/2024

Report to

Attention: Clifford Yantz
Ramboll
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): S69130.01
Project: RACER Coldwater Road
Submitted Date/Time: 12/03/2024 14:40
Sampled by: Lee Trumbull
P.O. #: 1940008845

QC Report Sections

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: S69130.01
Sample Tag: 04-PRCC-24-20241203
Collected Date/Time: 12/03/2024 10:33
Matrix: Wastewater
COC Reference: 172712

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Ammonia-N (Undistilled)	SM4500-NH3 G	12/05/24 18:15	AMN241205B	AMN241205B	No	BLK/LCS/MS/DUP
Oil & Grease n-Hexane Extract.	E1664A	12/04/24 09:00	OGHEX241204W1	OGHEX241204W1	No	BLK/LCS
TBOD5	SM5210B/HACH10360	12/09/24 15:59	BOD241204A	BOD241204A	No	BLK/LCS/DUP
Total Phosphorus	SM4500-PE	12/08/24 16:26	PHS241208QC	PHS241208QC	No	BLK/LCS/MS/DUP
Total Suspended Solids	SM2540D	12/06/24 16:46	TSS241206A	TSS241206A	No	BLK/LCS/DUP
Metals						
Arsenic	E200.8	12/04/24 12:15	MT4-24-1204A	MTD-120424-3	No	BLK/LCS/MS/MSD
Chromium	E200.8	12/04/24 12:15	MT4-24-1204A	MTD-120424-3	No	BLK/LCS/MS/MSD
Copper	E200.8	12/04/24 12:15	MT4-24-1204A	MTD-120424-3	No	BLK/LCS/MS/MSD
Mercury	E245.1	12/04/24 16:05	HG-24-1204A	HGD-120424-2	No	BLK/LCS/MS/MSD
Nickel	E200.8	12/04/24 12:15	MT4-24-1204A	MTD-120424-3	No	BLK/LCS/MS/MSD
Zinc	E200.8	12/04/24 12:15	MT4-24-1204A	MTD-120424-3	No	BLK/LCS/MS/MSD
Other / Misc.						
Available Cyanide	OIA-1677	12/13/24 08:24	ACN241213-W1A	ACN241213-W1A	No	BLK/LCS/MS/DUP

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: AMN241205B

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69130.01	Ammonia-N (Undistilled)	SM4500-NH3 G	12/05/24 18:15	AMN241205B

Inorganics, Prep Batch ID: BOD241204A

Surrogates: No, QC Types: BLK/LCS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69130.01	TBOD5	SM5210B/HACH1036	12/09/24 15:59	BOD241204A

Inorganics, Prep Batch ID: OGHEX241204W1

Surrogates: No, QC Types: BLK/LCS

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69130.01	Oil & Grease n-Hexane Extract.	E1664A	12/04/24 09:00	OGHEX241204W1

Inorganics, Prep Batch ID: PHS241208QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69130.01	Total Phosphorus	SM4500-PE	12/08/24 16:26	PHS241208QC

Inorganics, Prep Batch ID: TSS241206A

Surrogates: No, QC Types: BLK/LCS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69130.01	Total Suspended Solids	SM2540D	12/06/24 16:46	TSS241206A

Metals, Prep Batch ID: HGD-120424-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69130.01	Mercury	E245.1	12/04/24 16:05	HG-24-1204A

Metals, Prep Batch ID: MTD-120424-3

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69130.01	Arsenic	E200.8	12/04/24 12:15	MT4-24-1204A
S69130.01	Chromium	E200.8	12/04/24 12:15	MT4-24-1204A
S69130.01	Copper	E200.8	12/04/24 12:15	MT4-24-1204A
S69130.01	Nickel	E200.8	12/04/24 12:15	MT4-24-1204A
S69130.01	Zinc	E200.8	12/04/24 12:15	MT4-24-1204A

Other / Misc., Prep Batch ID: ACN241213-W1A

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69130.01	Available Cyanide	OIA-1677	12/13/24 08:24	ACN241213-W1A

Inorganics, Prep Batch ID: AMN241205B

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: AMN241205B.LRB1

Run in Batch: AMN241205B, Run Date: 12/05/2024 16:11, Prep Date: 12/05/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Ammonia-N (Undistilled)		ND	0.02	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: AMN241205B.LCS1

Run in Batch: AMN241205B, Run Date: 12/05/2024 16:15, Prep Date: 12/05/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ammonia-N (Undistilled)		104.0	90	110

Matrix Spike (MS)

Lab Sample ID: AMN241205B.MS1, Parent Sample ID: S69170.01

Run in Batch: AMN241205B, Run Date: 12/05/2024 16:43, Prep Date: 12/05/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ammonia-N (Undistilled)		101.0	80	120

Duplicate (DUP)

Lab Sample ID: AMN241205B.DP1, Parent Sample ID: S69136.01

Run in Batch: AMN241205B, Run Date: 12/05/2024 17:11, Prep Date: 12/05/2024, Matrix: Liquid, Dilution: 50

Analyte	Flags	RPD	RPD CL
Ammonia-N (Undistilled)		8.6	20

Inorganics, Prep Batch ID: BOD241204A

Surrogates: No, QC Types: BLK/LCS/DUP

Blank (BLK)

Lab Sample ID: BOD241204A.LRB1

Run in Batch: BOD241204A, Run Date: 12/09/2024 15:59, Prep Date: 12/09/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
TBOD5		ND	3	mg/L

Blank (BLK)

Lab Sample ID: BOD241204A.LRB2

Run in Batch: BOD241204A, Run Date: 12/09/2024 15:59, Prep Date: 12/09/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
TBOD5		ND	3	mg/L

Blank (BLK)

Lab Sample ID: BOD241204A.LRB3

Run in Batch: BOD241204A, Run Date: 12/09/2024 15:59, Prep Date: 12/09/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
TBOD5		ND	3	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: BOD241204A.LCS1

Run in Batch: BOD241204A, Run Date: 12/09/2024 15:59, Prep Date: 12/09/2024, Matrix: Liquid, Dilution: 30

Analyte	Flags	% Rec	LCL	UCL
TBOD5		112.8	51	166

Laboratory Control Sample (LCS)

Lab Sample ID: BOD241204A.LCS2

Run in Batch: BOD241204A, Run Date: 12/09/2024 15:59, Prep Date: 12/09/2024, Matrix: Liquid, Dilution: 30

Analyte	Flags	% Rec	LCL	UCL
TBOD5		103.5	51	166

Laboratory Control Sample (LCS)

Lab Sample ID: BOD241204A.LCS3

Run in Batch: BOD241204A, Run Date: 12/09/2024 15:59, Prep Date: 12/09/2024, Matrix: Liquid, Dilution: 30

Analyte	Flags	% Rec	LCL	UCL
TBOD5		112.0	51	166

Duplicate (DUP)

Lab Sample ID: BOD241204A.DP1, Parent Sample ID: S69136.01

Run in Batch: BOD241204A, Run Date: 12/09/2024 15:59, Prep Date: 12/09/2024, Matrix: Liquid, Dilution: 60

Analyte	Flags	RPD	RPD CL
TBOD5		9.2	20

Inorganics, Prep Batch ID: OGHEX241204W1

Surrogates: No, QC Types: BLK/LCS

Blank (BLK)

Lab Sample ID: OGHEX241204W1.LRB1

Run in Batch: OGHEX241204W1, Run Date: 12/04/2024 09:00, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Oil & Grease n-Hexane Extract.		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: OGHEX241204W1.LCS1

Run in Batch: OGHEX241204W1, Run Date: 12/04/2024 09:00, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Oil & Grease n-Hexane Extract.		83	78	114

Laboratory Control Sample (LCS)

Lab Sample ID: OGHEX241204W1.LCS2

Run in Batch: OGHEX241204W1, Run Date: 12/04/2024 09:00, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Oil & Grease n-Hexane Extract.		85	78	114

Inorganics, Prep Batch ID: PHS241208QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: PHS241208QC.LRB1

Run in Batch: PHS241208QC, Run Date: 12/08/2024 10:33, Prep Date: 12/08/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Phosphorus		ND	0.01	mg/L

Blank (BLK)

Lab Sample ID: PHS241208QC.LRB2

Run in Batch: PHS241208QC, Run Date: 12/08/2024 10:42, Prep Date: 12/08/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Phosphorus		ND	0.01	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: PHS241208QC.LCS1

Run in Batch: PHS241208QC, Run Date: 12/08/2024 10:51, Prep Date: 12/08/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Total Phosphorus		99	90	110

Matrix Spike (MS)

Lab Sample ID: PHS241208QC.MS1, Parent Sample ID: S69110.22

Run in Batch: PHS241208QC, Run Date: 12/08/2024 17:00, Prep Date: 12/08/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Total Phosphorus		84	80	120

Duplicate (DUP)

Lab Sample ID: PHS241208QC.DP1, Parent Sample ID: S69080.01

Run in Batch: PHS241208QC, Run Date: 12/08/2024 16:57, Prep Date: 12/08/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Total Phosphorus		11.4	20

Inorganics, Prep Batch ID: TSS241206A

Surrogates: No, QC Types: BLK/LCS/DUP

Blank (BLK)

Lab Sample ID: TSS241206A.LRB1

Run in Batch: TSS241206A, Run Date: 12/06/2024 16:46, Prep Date: 12/06/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Suspended Solids		ND	3	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: TSS241206A.LCS1

Run in Batch: TSS241206A, Run Date: 12/06/2024 16:46, Prep Date: 12/06/2024, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Total Suspended Solids		98.3	73.3	118

Duplicate (DUP)

Lab Sample ID: TSS241206A.DP1, Parent Sample ID: S69140.02

Run in Batch: TSS241206A, Run Date: 12/06/2024 16:46, Prep Date: 12/06/2024, Matrix: Liquid, Dilution: 6.7

Analyte	Flags	RPD	RPD CL
Total Suspended Solids		5.2	10

Metals, Prep Batch ID: HGD-120424-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Blank (BLK)

Lab Sample ID: HG-24-1204A.047.LRB

Run in Batch: HG-24-1204A, Run Date: 12/04/2024 15:55, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Mercury		ND	0.05	ug/L

Laboratory Control Sample (LCS)

Lab Sample ID: HG-24-1204A.046.LCS

Run in Batch: HG-24-1204A, Run Date: 12/04/2024 15:51, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Mercury		99	85	115

Matrix Spike (MS)

Lab Sample ID: HG-24-1204A.051.MS, Parent Sample ID: S69130.01

Run in Batch: HG-24-1204A, Run Date: 12/04/2024 16:08, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Mercury		103	80	120

Matrix Spike (MS)

Lab Sample ID: HG-24-1204A.066.MS, Parent Sample ID: S69078.01

Run in Batch: HG-24-1204A, Run Date: 12/04/2024 16:57, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 2

Analyte	Flags	% Rec	LCL	UCL
Mercury		103	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-24-1204A.052.MSD, Parent Sample ID: HG-24-1204A.051.MS

Run in Batch: HG-24-1204A, Run Date: 12/04/2024 16:11, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Mercury		104	80	120	1	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-24-1204A.067.MSD, Parent Sample ID: HG-24-1204A.066.MS

Run in Batch: HG-24-1204A, Run Date: 12/04/2024 17:01, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 2

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Mercury		102	80	120	1	20

Metals, Prep Batch ID: MTD-120424-3

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Blank (BLK)

Lab Sample ID: MT4-24-1204A.019.LRB

Run in Batch: MT4-24-1204A, Run Date: 12/04/2024 12:07, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Arsenic		ND	0.0004	mg/L
Chromium		ND	0.001	mg/L
Copper		ND	0.001	mg/L
Nickel		ND	0.001	mg/L
Zinc		ND	0.001	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-24-1204A.018.LCS

Run in Batch: MT4-24-1204A, Run Date: 12/04/2024 12:03, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		100	85	115
Chromium		99	85	115
Copper		103	85	115
Nickel		101	85	115
Zinc		102	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-24-1204A.039.MS, Parent Sample ID: S68956.01

Run in Batch: MT4-24-1204A, Run Date: 12/04/2024 12:40, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 25

Analyte	Flags	% Rec	LCL	UCL
Arsenic		110	75	125
Chromium		105	75	125
Copper		102	75	125
Nickel		106	75	125
Zinc		105	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-24-1204A.057.MS, Parent Sample ID: S68996.01

Run in Batch: MT4-24-1204A, Run Date: 12/04/2024 13:08, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 25

Analyte	Flags	% Rec	LCL	UCL
Arsenic		113	75	125
Chromium		106	75	125
Copper		101	75	125
Nickel		107	75	125
Zinc		105	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-24-1204A.040.MSD, Parent Sample ID: MT4-24-1204A.039.MS

Run in Batch: MT4-24-1204A, Run Date: 12/04/2024 12:42, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 25

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		110	75	125	1	20
Chromium		106	75	125	2	20
Copper		102	75	125	0	20
Nickel		107	75	125	2	20
Zinc		105	75	125	0	20

Metals, Prep Batch ID: MTD-120424-3 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-24-1204A.058.MSD, Parent Sample ID: MT4-24-1204A.057.MS

Run in Batch: MT4-24-1204A, Run Date: 12/04/2024 13:09, Prep Date: 12/04/2024, Matrix: Liquid, Dilution: 25

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		111	75	125	1	20
Chromium		106	75	125	0	20
Copper		102	75	125	2	20
Nickel		109	75	125	1	20
Zinc		110	75	125	4	20

Other / Misc., Prep Batch ID: ACN241213-W1A

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: ACN241213-W1A.LRB1

Run in Batch: ACN241213-W1A, Run Date: 12/13/2024 08:02, Prep Date: 12/13/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Available Cyanide		ND	0.002	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: ACN241213-W1A.LCS1

Run in Batch: ACN241213-W1A, Run Date: 12/13/2024 08:06, Prep Date: 12/13/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Available Cyanide		95	88	109

Laboratory Control Sample (LCS)

Lab Sample ID: ACN241213-W1A.LCS2

Run in Batch: ACN241213-W1A, Run Date: 12/13/2024 08:08, Prep Date: 12/13/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Available Cyanide		108	88	109

Matrix Spike (MS)

Lab Sample ID: ACN241213-W1A.MS1, Parent Sample ID: S69510.01

Run in Batch: ACN241213-W1A, Run Date: 12/13/2024 08:20, Prep Date: 12/13/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Available Cyanide	*	138	82	130

Duplicate (DUP)

Lab Sample ID: ACN241213-W1A.DP1, Parent Sample ID: S69510.01

Run in Batch: ACN241213-W1A, Run Date: 12/13/2024 08:18, Prep Date: 12/13/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Available Cyanide	*	24	15

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

172712

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.: 303-333-0211 P.O. NO.:
E-MAIL ADDRESS: Clifford.Yantz@ramboll.com Kevin.Schneider@ramboll.com QUOTE NO.:

INVOICE TO

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

PROJECT NO./NAME: Racer Coldwater Road
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Lee Trumbull Lee Trumbull

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

DELIVERABLES REQUIRED ☒ 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	Total Metals	Available Cyanide	BOD	TSS	Ammonia-Nitrogen	Total Phosphorus	FOG (Hex-Ext)
6913001	12/3/24	1033	04-PRCC-24-20241203	WW	6	0	1	1	1			1	X	X	X	X	X	X	X

Metals Are: As, Cr, Cu, Hg, Ni, Zn

Analysis per City of Flint, including QC Report

Field Temp 9.4
Field pH 7.56

LRT

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	☐ Sampler	12/3/24	11:40
RECEIVED BY: SIGNATURE/ORGANIZATION		12/3/24	11:40
RELINQUISHED BY: SIGNATURE/ORGANIZATION		12/3/24	14:40
RECEIVED BY: SIGNATURE/ORGANIZATION		12/3/24	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 3.9

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

Rev. 05/24

Analytical Laboratory Report

Report ID: S69828.01(01)
Generated on 12/30/2024

Report to

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

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

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)

Addtional Contacts: Kevin Schneider, Nicole Pitkorchemny

Report Summary

Lab Sample ID(s): S69828.01-S69828.02
Project: RACER Coldwater Road
Collected Date(s): 12/18/2024
Submitted Date/Time: 12/19/2024 13:10
Sampled by: Kevin Schneider
P.O. #: 1940008845 TASK37

Table of Contents

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.
Starred (*) analytes are not NY 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.
All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.
For a specific list of accredited analytes, please feel free to contact the laboratory or visit https://www.meritlabs.com/certifications.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
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
o	Associated EIS outside of control limits
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
q	Qualifier ion ratio outside of control limits
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 (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S69828.01	04-PRCC-24-INF-20241218	Wastewater	12/18/24 14:32
S69828.02	04-PRCC-24-PRIM-20241218	Wastewater	12/18/24 14:42

Analytical Laboratory Report

Lab Sample ID: S69828.01
Sample Tag: 04-PRCC-24-INF-20241218
Collected Date/Time: 12/18/2024 14:32
Matrix: Wastewater
COC Reference: 172713

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.21/6.48/11	ASTMD7979-19M	12/23/24 11:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/23/24 18:05, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	54	1.9	ng/L	1.92	375-22-4	X
PFPeA*	Not detected	3.8	1.2	ng/L	1.92	2706-90-3	
4:2 FTSA*	Not detected	1.9	0.19	ng/L	1.92	757124-72-4	
PFHxA*	47	1.9	1.2	ng/L	1.92	307-24-4	
PFBS*	38	1.9	0.58	ng/L	1.92	375-73-5	
PFHpA*	13	1.9	0.77	ng/L	1.92	375-85-9	
PFPeS*	72	1.9	1.7	ng/L	1.92	2706-91-4	
6:2 FTSA*	Not detected	1.9	0.96	ng/L	1.92	27619-97-2	
PFOA*	37	1.9	0.77	ng/L	1.92	335-67-1	
PFHxS*	200	1.9	0.96	ng/L	1.92	355-46-4	
PFHxS-LN*	160	1.9	0.96	ng/L	1.92	355-46-4-LN	
PFHxS-BR*	32	1.9	0.96	ng/L	1.92	355-46-4-BR	
PFNA*	1.4	1.9	0.96	ng/L	1.92	375-95-1	J
8:2 FTSA*	Not detected	1.9	1.2	ng/L	1.92	39108-34-4	
PFHpS*	45	1.9	0.77	ng/L	1.92	375-92-8	
PFDA*	Not detected	1.9	1.2	ng/L	1.92	335-76-2	
N-MeFOSAA*	Not detected	1.9	0.96	ng/L	1.92	2355-31-9	
EtFOSAA*	Not detected	3.8	0.96	ng/L	1.92	2991-50-6	
PFOS*	2,600	1.9	0.77	ng/L	1.92	1763-23-1	
PFOS-LN*	1,500	1.9	0.77	ng/L	1.92	1763-23-1-LN	
PFOS-BR*	1,000	1.9	0.77	ng/L	1.92	1763-23-1-BR	
PFUnDA*	Not detected	1.9	0.77	ng/L	1.92	2058-94-8	
PFNS*	1.2	1.9	0.96	ng/L	1.92	68259-12-1	J
PFDoDA*	Not detected	1.9	0.58	ng/L	1.92	307-55-1	
PFDS*	Not detected	1.9	0.96	ng/L	1.92	335-77-3	
PFTrDA*	Not detected	1.9	0.77	ng/L	1.92	72629-94-8	
FOSA*	1.7	1.9	0.77	ng/L	1.92	754-91-6	J
PFTeDA*	Not detected	3.8	0.58	ng/L	1.92	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	0.96	ng/L	1.92	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	0.96	ng/L	1.92	756426-58-1	
ADONA*	Not detected	1.9	0.58	ng/L	1.92	919005-14-4	
HFPO-DA*	Not detected	9.6	1.9	ng/L	1.92	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	9.6	7.7	ng/L	1.92	812-70-4	
FPePA (5:3 FTCA)*	Not detected	9.6	3.8	ng/L	1.92	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	9.6	3.8	ng/L	1.92	356-02-5	

X-Elevated reporting limit due to matrix interference
J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S69828.01 (continued)
Sample Tag: 04-PRCC-24-INF-20241218

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/23/24 18:05, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBSA*	0.79	1.9	0.58	ng/L	1.92	30334-69-1	J
PFECHS*	4,800	1.9	0.77	ng/L	1.92	67584-42-3	
PFHxSA*	Not detected	1.9	0.58	ng/L	1.92	41997-13-1	

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

Analytical Laboratory Report

Lab Sample ID: S69828.02
Sample Tag: 04-PRCC-24-PRIM-20241218
Collected Date/Time: 12/18/2024 14:42
Matrix: Wastewater
COC Reference: 172713

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.22/6.48/11	ASTMD7979-19M	12/23/24 11:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/23/24 18:45, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.6	1.9	ng/L	1.92	375-22-4	
PFPeA*	Not detected	3.8	1.2	ng/L	1.92	2706-90-3	
4:2 FTSA*	Not detected	1.9	0.19	ng/L	1.92	757124-72-4	
PFHxA*	Not detected	1.9	1.2	ng/L	1.92	307-24-4	
PFBS*	Not detected	1.9	0.58	ng/L	1.92	375-73-5	
PFHpA*	Not detected	1.9	0.77	ng/L	1.92	375-85-9	
PFPeS*	Not detected	1.9	1.7	ng/L	1.92	2706-91-4	
6:2 FTSA*	Not detected	1.9	0.96	ng/L	1.92	27619-97-2	
PFOA*	Not detected	1.9	0.77	ng/L	1.92	335-67-1	
PFHxS*	Not detected	1.9	0.96	ng/L	1.92	355-46-4	
PFHxS-LN*	Not detected	1.9	0.96	ng/L	1.92	355-46-4-LN	
PFHxS-BR*	Not detected	1.9	0.96	ng/L	1.92	355-46-4-BR	
PFNA*	Not detected	1.9	0.96	ng/L	1.92	375-95-1	
8:2 FTSA*	Not detected	1.9	1.2	ng/L	1.92	39108-34-4	
PFHpS*	Not detected	1.9	0.77	ng/L	1.92	375-92-8	
PFDA*	Not detected	1.9	1.2	ng/L	1.92	335-76-2	
N-MeFOSAA*	Not detected	1.9	0.96	ng/L	1.92	2355-31-9	
EtFOSAA*	Not detected	3.8	0.96	ng/L	1.92	2991-50-6	
PFOS*	13	1.9	0.77	ng/L	1.92	1763-23-1	
PFOS-LN*	9.8	1.9	0.77	ng/L	1.92	1763-23-1-LN	
PFOS-BR*	2.0	1.9	0.77	ng/L	1.92	1763-23-1-BR	
PFUnDA*	Not detected	1.9	0.77	ng/L	1.92	2058-94-8	
PFNS*	Not detected	1.9	0.96	ng/L	1.92	68259-12-1	
PFDoDA*	Not detected	1.9	0.58	ng/L	1.92	307-55-1	
PFDS*	Not detected	1.9	0.96	ng/L	1.92	335-77-3	
PFTrDA*	Not detected	1.9	0.77	ng/L	1.92	72629-94-8	
FOSA*	Not detected	1.9	0.77	ng/L	1.92	754-91-6	
PFTeDA*	Not detected	3.8	0.58	ng/L	1.92	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	0.96	ng/L	1.92	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	0.96	ng/L	1.92	756426-58-1	
ADONA*	Not detected	1.9	0.58	ng/L	1.92	919005-14-4	
HFPO-DA*	Not detected	9.6	1.9	ng/L	1.92	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	9.6	7.7	ng/L	1.92	812-70-4	
FPePA (5:3 FTCA)*	Not detected	9.6	3.8	ng/L	1.92	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	9.6	3.8	ng/L	1.92	356-02-5	
PFBSA*	Not detected	1.9	0.58	ng/L	1.92	30334-69-1	
PFECHS*	5.1	1.9	0.77	ng/L	1.92	67584-42-3	

Lab Sample ID: S69828.02 (continued)
Sample Tag: 04-PRCC-24-PRIM-20241218

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/23/24 18:45, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	1.9	0.58	ng/L	1.92	41997-13-1	

Merit Laboratories Login Checklist

Lab Set ID: S69828
Client: RAMBOLL (Ramboll Americas)
Project: RACER Coldwater Road
Submitted: 12/19/2024 13:10 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.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 4.2
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, TOX, DO or Alkalinity bottles contain	

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

172713

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.: 1940008845
E-MAIL ADDRESS: Clifford.Yantz@Ramboll.com; Kevin.Schneider@Ramboll.com | QUOTE NO.

INVOICE TO

CONTACT NAME | ☒ 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 ☒ 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 (3479)	Special Instructions
698278.01	12/18/24	1437	04-PRCC-24-INF-20241218	WW	3	X							X	Low level Reporting
.02	12/18/24	1442	04-PRCC-24-PRIM-20241218	WW	3	X							X	with estimated values
														34 PFAS List
														Please Provide EDD

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☐ Sampler	DATE 12/19/24	TIME 1725
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/19/24	TIME 1842
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 12/19/24	TIME 1:N
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/19/24	TIME 1310

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 4.2

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

Rev. 05/24

Quality Control Report

Report ID: QC-S69828-01
Generated on 01/02/2025

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): S69828.01-S69828.02
Project: RACER Coldwater Road
Submitted Date/Time: 12/19/2024 13:10
Sampled by: Kevin Schneider
P.O. #: 1940008845 TASK37

QC Report Sections

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: S69828.01
Sample Tag: 04-PRCC-24-INF-20241218
Collected Date/Time: 12/18/2024 14:32
Matrix: Wastewater
COC Reference: 172713

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	12/23/24 18:05	AK241223W1	PF241223W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S69828.02
Sample Tag: 04-PRCC-24-PRIM-20241218
Collected Date/Time: 12/18/2024 14:42
Matrix: Wastewater
COC Reference: 172713

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	12/23/24 18:45	AK241223W1	PF241223W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF241223W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69828.01	34 PFAs	ASTMD7979-19M	12/23/24 18:05	AK241223W1
S69828.02	34 PFAs	ASTMD7979-19M	12/23/24 18:45	AK241223W1

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S69828.01

Sample Tag: 04-PRCC-24-INF-20241218

Collected Date/Time: 12/18/2024 14:32

Matrix: Wastewater

COC Reference: 172713

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK241223W1, Run Date: 12/23/2024 18:05, Matrix: WW, Dilution: 1.92

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**121.7**	50.0	150.0
M2-6:2FTSA		**122.2**	50.0	150.0
M2-8:2FTSA		**87.6**	50.0	150.0
M2PFTeDA		**105.5**	12.0	218.0
M3PFBS		**104.4**	50.0	150.0
M3PFHxS		**97.6**	50.0	150.0
M4PFHpA		**91.7**	50.0	150.0
M5PFHxA		**94.8**	50.0	150.0
M5PFPeA		**99.0**	50.0	150.0
M6PFDA		**99.8**	50.0	150.0
M7PFUnDA		**99.4**	50.0	150.0
M8FOSA		**102.2**	50.0	150.0
M8PFOA		**87.4**	50.0	150.0
M8PFOS		**109.4**	50.0	150.0
M9-PFNA		**105.5**	50.0	150.0
MPFBA		**92.7**	50.0	150.0
MPFDoDA		**97.3**	50.0	150.0
d3N-MeFOSAA		**97.3**	50.0	150.0
d5EtFOSAA		**101.4**	50.0	150.0
MHFPO-DA		**101.3**	50.0	150.0
d-N-EtFOSA-M		**98.8**	50.0	150.0
d-N-MeFOSA-M		**98.9**	50.0	150.0
d7-N-MeFOSE-M		**105.6**	50.0	150.0
d9-N-EtFOSE-M		**110.3**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S69828.02

Sample Tag: 04-PRCC-24-PRIM-20241218

Collected Date/Time: 12/18/2024 14:42

Matrix: Wastewater

COC Reference: 172713

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK241223W1, Run Date: 12/23/2024 18:45, Matrix: WW, Dilution: 1.92

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**106.5**	50.0	150.0
M2-6:2FTSA		**100.8**	50.0	150.0
M2-8:2FTSA		**108.8**	50.0	150.0
M2PFTeDA		**110.3**	12.0	218.0
M3PFBS		**102.3**	50.0	150.0
M3PFHxS		**107.4**	50.0	150.0
M4PFHpA		**98.4**	50.0	150.0
M5PFHxA		**108.6**	50.0	150.0
M5PFPeA		**100.7**	50.0	150.0
M6PFDA		**104.6**	50.0	150.0
M7PFUnDA		**106.6**	50.0	150.0
M8FOSA		**105.8**	50.0	150.0
M8PFOA		**97.9**	50.0	150.0
M8PFOS		**107.6**	50.0	150.0
M9-PFNA		**108.3**	50.0	150.0
MPFBA		**94.4**	50.0	150.0
MPFDoDA		**103.4**	50.0	150.0
d3N-MeFOSAA		**97.0**	50.0	150.0
d5EtFOSAA		**100.3**	50.0	150.0
MHFPO-DA		**117.9**	50.0	150.0
d-N-EtFOSA-M		**107.8**	50.0	150.0
d-N-MeFOSA-M		**100.6**	50.0	150.0
d7-N-MeFOSE-M		**108.8**	50.0	150.0
d9-N-EtFOSE-M		**96.3**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF241223W1

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

Blank (BLK)

Lab Sample ID: AK241223W1.BLK241223

Run in Batch: AK241223W1, Run Date: 12/23/2024 15:05, Prep Date: 12/23/2024, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**105.0**	50.0	150.0
M2-6:2FTSA		**111.0**	50.0	150.0
M2-8:2FTSA		**116.5**	50.0	150.0
M2PFTeDA		**83.5**	12.0	218.0
M3PFBS		**105.6**	50.0	150.0
M3PFHxS		**100.3**	50.0	150.0
M4PFHpA		**97.1**	50.0	150.0
M5PFHxA		**105.3**	50.0	150.0
M5PFPeA		**100.5**	50.0	150.0
M6PFDA		**100.8**	50.0	150.0
M7PFUnDA		**100.4**	50.0	150.0
M8FOSA		**96.6**	50.0	150.0
M8PFOA		**97.8**	50.0	150.0
M8PFOS		**117.5**	50.0	150.0
M9-PFNA		**93.4**	50.0	150.0
MPFBA		**103.2**	50.0	150.0
MPFDoDA		**93.7**	50.0	150.0
d3N-MeFOSAA		**101.3**	50.0	150.0
d5EtFOSAA		**103.8**	50.0	150.0
MHFPO-DA		**108.7**	50.0	150.0
d-N-EtFOSA-M		**92.1**	50.0	150.0
d-N-MeFOSA-M		**88.5**	50.0	150.0
d7-N-MeFOSE-M		**101.0**	50.0	150.0
d9-N-EtFOSE-M		**88.6**	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample (LCS)

Lab Sample ID: AK241223W1.LCS241223

Run in Batch: AK241223W1, Run Date: 12/23/2024 14:25, Prep Date: 12/23/2024, Matrix: WW, Dilution: 1

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**106.8**	50.0	150.0
M2-6:2FTSA		**112.9**	50.0	150.0
M2-8:2FTSA		**105.7**	50.0	150.0
M2PFTeDA		**90.9**	12.0	218.0
M3PFBS		**108.7**	50.0	150.0
M3PFHxS		**105.3**	50.0	150.0
M4PFHpA		**100.9**	50.0	150.0
M5PFHxA		**111.4**	50.0	150.0
M5PFPeA		**107.9**	50.0	150.0
M6PFDA		**104.4**	50.0	150.0
M7PFUnDA		**109.8**	50.0	150.0
M8FOSA		**102.1**	50.0	150.0
M8PFOA		**102.1**	50.0	150.0
M8PFOS		**107.3**	50.0	150.0
M9-PFNA		**104.8**	50.0	150.0
MPFBA		**102.6**	50.0	150.0
MPFDoDA		**96.8**	50.0	150.0
d3N-MeFOSAA		**108.9**	50.0	150.0
d5EtFOSAA		**110.5**	50.0	150.0
MHFPO-DA		**107.9**	50.0	150.0
d-N-EtFOSA-M		**103.0**	50.0	150.0
d-N-MeFOSA-M		**91.9**	50.0	150.0
d7-N-MeFOSE-M		**104.9**	50.0	150.0
d9-N-EtFOSE-M		**87.3**	50.0	150.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK241223W1.LCSD241223, Parent Sample ID: AK241223W1.LCS241223

Run in Batch: AK241223W1, Run Date: 12/23/2024 14:45, Prep Date: 12/23/2024, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**100.8**	50.0	150.0
M2-6:2FTSA		**107.8**	50.0	150.0
M2-8:2FTSA		**115.0**	50.0	150.0
M2PFTeDA		**98.0**	12.0	218.0
M3PFBS		**106.0**	50.0	150.0
M3PFHxS		**104.1**	50.0	150.0
M4PFHpA		**103.7**	50.0	150.0
M5PFHxA		**112.0**	50.0	150.0
M5PFPeA		**105.6**	50.0	150.0
M6PFDA		**101.2**	50.0	150.0
M7PFUnDA		**98.9**	50.0	150.0
M8FOSA		**102.8**	50.0	150.0
M8PFOA		**106.2**	50.0	150.0
M8PFOS		**115.5**	50.0	150.0
M9-PFNA		**99.8**	50.0	150.0
MPFBA		**104.4**	50.0	150.0
MPFDoDA		**93.1**	50.0	150.0
d3N-MeFOSAA		**100.6**	50.0	150.0
d5EtFOSAA		**102.3**	50.0	150.0
MHFPO-DA		**104.1**	50.0	150.0
d-N-EtFOSA-M		**100.3**	50.0	150.0
d-N-MeFOSA-M		**100.5**	50.0	150.0
d7-N-MeFOSE-M		**97.7**	50.0	150.0
d9-N-EtFOSE-M		**91.8**	50.0	150.0

QC Report - Internal Standards per QC Sample

Matrix Spike (MS)

Lab Sample ID: AK241223W1.6982801M, Parent Sample ID: S69828.01

Run in Batch: AK241223W1, Run Date: 12/23/2024 18:25, Prep Date: 12/23/2024, Matrix: WW, Dilution: 1.92

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**126.2**	50.0	150.0
M2-6:2FTSA		**112.7**	50.0	150.0
M2-8:2FTSA		**98.7**	50.0	150.0
M2PFTeDA		**111.6**	12.0	218.0
M3PFBS		**106.2**	50.0	150.0
M3PFHxS		**109.0**	50.0	150.0
M4PFHpA		**96.0**	50.0	150.0
M5PFHxA		**109.3**	50.0	150.0
M5PFPeA		**100.6**	50.0	150.0
M6PFDA		**110.4**	50.0	150.0
M7PFUnDA		**94.8**	50.0	150.0
M8FOSA		**106.5**	50.0	150.0
M8PFOA		**100.2**	50.0	150.0
M8PFOS		**113.1**	50.0	150.0
M9-PFNA		**110.1**	50.0	150.0
MPFBA		**96.9**	50.0	150.0
MPFDoDA		**98.9**	50.0	150.0
d3N-MeFOSAA		**102.4**	50.0	150.0
d5EtFOSAA		**91.5**	50.0	150.0
MHFPO-DA		**103.5**	50.0	150.0
d-N-EtFOSA-M		**101.0**	50.0	150.0
d-N-MeFOSA-M		**99.9**	50.0	150.0
d7-N-MeFOSE-M		**104.2**	50.0	150.0
d9-N-EtFOSE-M		**100.1**	50.0	150.0

Duplicate (DUP)

Lab Sample ID: AK241223W1.6982802D, Parent Sample ID: S69828.02

Run in Batch: AK241223W1, Run Date: 12/23/2024 19:05, Prep Date: 12/23/2024, Matrix: WW, Dilution: 1.92

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**94.9**	50.0	150.0
M2-6:2FTSA		**114.2**	50.0	150.0
M2-8:2FTSA		**109.3**	50.0	150.0
M2PFTeDA		**104.9**	12.0	218.0
M3PFBS		**101.6**	50.0	150.0
M3PFHxS		**103.3**	50.0	150.0
M4PFHpA		**98.0**	50.0	150.0
M5PFHxA		**113.7**	50.0	150.0
M5PFPeA		**102.9**	50.0	150.0
M6PFDA		**101.5**	50.0	150.0
M7PFUnDA		**112.8**	50.0	150.0
M8FOSA		**107.5**	50.0	150.0
M8PFOA		**105.0**	50.0	150.0
M8PFOS		**119.4**	50.0	150.0
M9-PFNA		**101.0**	50.0	150.0
MPFBA		**100.0**	50.0	150.0
MPFDoDA		**106.7**	50.0	150.0
d3N-MeFOSAA		**90.2**	50.0	150.0
d5EtFOSAA		**102.5**	50.0	150.0
MHFPO-DA		**119.0**	50.0	150.0
d-N-EtFOSA-M		**106.8**	50.0	150.0
d-N-MeFOSA-M		**100.2**	50.0	150.0
d7-N-MeFOSE-M		**105.9**	50.0	150.0
d9-N-EtFOSE-M		**102.6**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF241223W1

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

Blank (BLK)

Lab Sample ID: AK241223W1.BLK241223

Run in Batch: AK241223W1, Run Date: 12/23/2024 15:05, Prep Date: 12/23/2024, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/l
PFMPA		ND	2	ng/l
FPrPA (3:3 FTCA)		ND	10	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	10	ng/l
FPePA (5:3 FTCA)		ND	10	ng/l
PFEESA		ND	2	ng/l
PFHpA		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	10	ng/l
PFNA		ND	2	ng/l
8:2 FTSA		ND	2	ng/l
PFECHS		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
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
PFTrDA		ND	2	ng/l
11CL-PF3OUdS		ND	2	ng/l
FOSA		ND	2	ng/l
PFTeDA		ND	4	ng/l
PFDOS		ND	6	ng/l
NMeFOSE		ND	4	ng/l
NMeFOSAM		ND	2	ng/l

Organics - Volatiles, Prep Batch ID: PF241223W1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: AK241223W1.BLK241223

Run in Batch: AK241223W1, Run Date: 12/23/2024 15:05, Prep Date: 12/23/2024, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
NEtFOSE		ND	4	ng/l
NEtFOSAM		ND	2	ng/l

Laboratory Control Sample (LCS)

Lab Sample ID: AK241223W1.LCS241223

Run in Batch: AK241223W1, Run Date: 12/23/2024 14:25, Prep Date: 12/23/2024, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		96.2	70.0	130.0
PFMPA		88.0	70.0	130.0
FPrPA (3:3 FTCA)		87.4	70.0	130.0
PFPrS		97.8	70.0	130.0
PFPeA		89.8	70.0	130.0
PFMBA		88.6	70.0	130.0
4:2 FTSA		107.8	70.0	130.0
NFDHA		83.0	70.0	130.0
PFHxA		91.6	70.0	130.0
PFBS		87.6	70.0	130.0
HFPO-DA		102.0	70.0	130.0
FPePA (5:3 FTCA)		84.4	70.0	130.0
PFEESA		83.6	70.0	130.0
PFHpA		80.2	70.0	130.0
PFPeS		95.8	70.0	130.0
ADONA		81.4	70.0	130.0
6:2 FTSA		77.6	70.0	130.0
PFBSA		92.6	70.0	130.0
PFOA		78.8	70.0	130.0
PFHxS		88.8	70.0	130.0
FHpPA (7:3 FTCA)		71.0	70.0	130.0
PFNA		91.2	70.0	130.0
8:2 FTSA		94.2	70.0	130.0
PFECHS		95.8	70.0	130.0
PFHpS		82.8	70.0	130.0
N-MeFOSAA		95.4	70.0	130.0
PFDA		94.2	70.0	130.0
EtFOSAA		86.0	70.0	130.0
PFOS		93.2	70.0	130.0
PFHxSA		98.8	70.0	130.0
PFUnDA		102.2	70.0	130.0
9CL-PF3ONS		101.8	70.0	130.0
PFNS		103.0	70.0	130.0
PFDoDA		94.2	70.0	130.0
PFDS		107.8	70.0	130.0
PFTrDA		98.6	70.0	130.0
11CL-PF3OUdS		99.8	70.0	130.0
FOSA		96.6	70.0	130.0
PFTeDA		110.2	70.0	130.0

Organics - Volatiles, Prep Batch ID: PF241223W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: AK241223W1.LCS241223

Run in Batch: AK241223W1, Run Date: 12/23/2024 14:25, Prep Date: 12/23/2024, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFDOS		103.6	70.0	130.0
NMeFOSE		81.2	70.0	130.0
NMeFOSAM		84.4	70.0	130.0
NEtFOSE		101.2	70.0	130.0
NEtFOSAM		101.2	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK241223W1.LCSD241223, Parent Sample ID: AK241223W1.LCS241223

Run in Batch: AK241223W1, Run Date: 12/23/2024 14:45, Prep Date: 12/23/2024, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		95.8	70.0	130.0	0.4	30.0
PFMPA		87.0	70.0	130.0	1.1	30.0
FPrPA (3:3 FTCA)		90.8	70.0	130.0	3.8	30.0
PFPrS		98.2	70.0	130.0	0.4	30.0
PFPeA		94.6	70.0	130.0	5.2	30.0
PFMBA		88.6	70.0	130.0	0.0	30.0
4:2 FTSA		110.8	70.0	130.0	2.7	30.0
NFDHA		78.6	70.0	130.0	5.4	30.0
PFHxA		91.2	70.0	130.0	0.4	30.0
PFBS		95.0	70.0	130.0	8.1	30.0
HFPO-DA		102.8	70.0	130.0	0.8	30.0
FPePA (5:3 FTCA)		92.2	70.0	130.0	8.8	30.0
PFEESA		81.0	70.0	130.0	3.2	30.0
PFHpA		94.4	70.0	130.0	16.3	30.0
PFPeS		92.0	70.0	130.0	4.0	30.0
ADONA		81.2	70.0	130.0	0.2	30.0
6:2 FTSA		93.0	70.0	130.0	18.1	30.0
PFBSA		93.4	70.0	130.0	0.9	30.0
PFOA		88.6	70.0	130.0	11.7	30.0
PFHxS		89.8	70.0	130.0	1.1	30.0
FHpPA (7:3 FTCA)		84.6	70.0	130.0	17.5	30.0
PFNA		85.2	70.0	130.0	6.8	30.0
8:2 FTSA		85.6	70.0	130.0	9.6	30.0
PFECHS		98.8	70.0	130.0	3.1	30.0
PFHpS		87.6	70.0	130.0	5.6	30.0
N-MeFOSAA		96.6	70.0	130.0	1.2	30.0
PFDA		99.2	70.0	130.0	5.2	30.0
EtFOSAA		103.4	70.0	130.0	18.4	30.0
PFOS		84.2	70.0	130.0	10.1	30.0
PFHxSA		98.6	70.0	130.0	0.2	30.0
PFUnDA		116.2	70.0	130.0	12.8	30.0
9CL-PF3ONS		97.2	70.0	130.0	4.6	30.0
PFNS		99.2	70.0	130.0	3.8	30.0
PFDoDA		102.0	70.0	130.0	8.0	30.0
PFDS		105.8	70.0	130.0	1.9	30.0
PFTrDA		105.6	70.0	130.0	6.9	30.0

Organics - Volatiles, Prep Batch ID: PF241223W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK241223W1.LCSD241223, Parent Sample ID: AK241223W1.LCS241223

Run in Batch: AK241223W1, Run Date: 12/23/2024 14:45, Prep Date: 12/23/2024, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
11CL-PF3OUdS		102.2	70.0	130.0	2.4	30.0
FOSA		95.8	70.0	130.0	0.8	30.0
PFTeDA		110.6	70.0	130.0	0.4	30.0
PFDOS		96.6	70.0	130.0	7.0	30.0
NMeFOSE		89.0	70.0	130.0	9.2	30.0
NMeFOSAM		85.0	70.0	130.0	0.7	30.0
NEtFOSE		100.8	70.0	130.0	0.4	30.0
NEtFOSAM		105.8	70.0	130.0	4.4	30.0

Matrix Spike (MS)

Lab Sample ID: AK241223W1.6982801M, Parent Sample ID: S69828.01

Run in Batch: AK241223W1, Run Date: 12/23/2024 18:25, Prep Date: 12/23/2024, Matrix: WW, Dilution: 1.92

Analyte	Flags	% Rec	LCL	UCL
PFBA		80.2	70.0	130.0
PFPeA	*	145.8	70.0	130.0
4:2 FTSA		104.2	70.0	130.0
PFHxA		96.9	70.0	130.0
PFBS		95.8	70.0	130.0
PFHpA		89.6	70.0	130.0
PFPeS		102.1	70.0	130.0
6:2 FTSA		93.8	70.0	130.0
PFOA		76.0	70.0	130.0
PFHxS	*	52.1	70.0	130.0
PFNA		80.1	70.0	130.0
8:2 FTSA		93.8	70.0	130.0
PFHpS		78.1	70.0	130.0
PFDA		95.8	70.0	130.0
N-MeFOSAA		92.7	70.0	130.0
EtFOSAA		103.1	70.0	130.0
PFOS	*	-104.2	70.0	130.0
PFUnDA	*	135.4	70.0	130.0
PFNS		102.9	70.0	130.0
PFDoDA		96.9	70.0	130.0
PFDS		114.6	70.0	130.0
PFTrDA		114.6	70.0	130.0
FOSA		101.4	70.0	130.0
PFTeDA		114.6	70.0	130.0
11CL-PF3OUdS		100.0	70.0	130.0
9CL-PF3ONS		96.9	70.0	130.0
ADONA		84.4	70.0	130.0
HFPO-DA		104.2	70.0	130.0
FHpPA (7:3 FTCA)		88.5	70.0	130.0
FPePA (5:3 FTCA)		103.1	70.0	130.0
FPrPA (3:3 FTCA)		85.4	70.0	130.0
PFBSA		100.2	70.0	130.0
PFECHS	*	-416.7	70.0	130.0

Organics - Volatiles, Prep Batch ID: PF241223W1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: AK241223W1.6982801M, Parent Sample ID: S69828.01

Run in Batch: AK241223W1, Run Date: 12/23/2024 18:25, Prep Date: 12/23/2024, Matrix: WW, Dilution: 1.92

Analyte	Flags	% Rec	LCL	UCL
PFHxSA		99.0	70.0	130.0

Duplicate (DUP)

Lab Sample ID: AK241223W1.6982802D, Parent Sample ID: S69828.02

Run in Batch: AK241223W1, Run Date: 12/23/2024 19:05, Prep Date: 12/23/2024, Matrix: WW, Dilution: 1.92

Analyte	Flags	RPD	RPD CL
PFBA	J	21.3	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
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		16.7	30.0
PFOS-LN		17.8	30.0
PFOS-BR		14.0	30.0
PFUnDA		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTrDA		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		9.3	30.0
PFHxSA		NC	30.0

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

172713

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.: 1940008845
E-MAIL ADDRESS: Clifford.Yantz@Ramboll.com; Kevin.Schneider@Ramboll.com | QUOTE NO.

INVOICE TO

CONTACT NAME | ☒ 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 ☒ 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 (3479)	Special Instructions
698278.01	12/18/24	1437	04-PRCC-24-INF-20241218	WW	3	X							X	Low level Reporting
.02	12/18/24	1442	04-PRCC-24-PRIM-20241218	WW	3	X							X	with estimated values
														34 PFAS List
														Please Provide EDD

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☐ Sampler	DATE 12/19/24	TIME 1725
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/19/24	TIME 1842
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 12/19/24	TIME 1:N
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/19/24	TIME 1310

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 4.2

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

Rev. 05/24

Analytical Laboratory Report

Report ID: S69907.01(01)
Generated on 01/10/2025

Report to

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

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

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)

Addtional Contacts: Kevin Schneider, Nicole Pitkorchemny

Report Summary

Lab Sample ID(s): S69907.01-S69907.05
Project: RACER Coldwater Road
Collected Date(s): 12/20/2024
Submitted Date/Time: 12/20/2024 14:30
Sampled by: Kevin Schneider
P.O. #: 1940008845 TASK37

Table of Contents

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.
Starred (*) analytes are not NY 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.
All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.
For a specific list of accredited analytes, please feel free to contact the laboratory or visit https://www.meritlabs.com/certifications.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
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
o	Associated EIS outside of control limits
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
q	Qualifier ion ratio outside of control limits
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

Sample Summary (5 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S69907.01	04-PRCC-24-EFF-155-20241220	Wastewater	12/20/24 09:38
S69907.02	04-PRCC-24-MID-2-155-20241220	Wastewater	12/20/24 09:40
S69907.03	04-PRCC-24-MID-1-155-20241220	Wastewater	12/20/24 09:42
S69907.04	04-PRCC-24-PRIM-155-20241220	Wastewater	12/20/24 09:44
S69907.05	FIELD Blank-20241220	Wastewater	12/20/24 09:46

Analytical Laboratory Report

Lab Sample ID: S69907.01
Sample Tag: 04-PRCC-24-EFF-155-20241220
Collected Date/Time: 12/20/2024 09:38
Matrix: Wastewater
COC Reference: 172719

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.43/6.48/10	ASTMD7979-19M	12/26/24 11:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/26/24 22:07, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	2.0	ng/L	2.02	375-22-4	
PFPeA*	Not detected	4.0	1.2	ng/L	2.02	2706-90-3	
4:2 FTSA*	Not detected	2.0	0.20	ng/L	2.02	757124-72-4	
PFHxA*	Not detected	2.0	1.2	ng/L	2.02	307-24-4	
PFBS*	Not detected	2.0	0.61	ng/L	2.02	375-73-5	
PFHpA*	Not detected	2.0	0.81	ng/L	2.02	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	2.02	2706-91-4	
6:2 FTSA*	Not detected	2.0	1.0	ng/L	2.02	27619-97-2	
PFOA*	Not detected	2.0	0.81	ng/L	2.02	335-67-1	
PFHxS*	Not detected	2.0	1.0	ng/L	2.02	355-46-4	
PFHxS-LN*	Not detected	2.0	1.0	ng/L	2.02	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.0	ng/L	2.02	355-46-4-BR	
PFNA*	Not detected	2.0	1.0	ng/L	2.02	375-95-1	
8:2 FTSA*	Not detected	2.0	1.2	ng/L	2.02	39108-34-4	
PFHpS*	Not detected	2.0	0.81	ng/L	2.02	375-92-8	
PFDA*	Not detected	2.0	1.2	ng/L	2.02	335-76-2	
N-MeFOSAA*	Not detected	2.0	1.0	ng/L	2.02	2355-31-9	
EtFOSAA*	Not detected	4.0	1.0	ng/L	2.02	2991-50-6	
PFOS*	1.2	2.0	0.81	ng/L	2.02	1763-23-1	J
PFOS-LN*	Not detected	2.0	0.81	ng/L	2.02	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	0.81	ng/L	2.02	1763-23-1-BR	
PFUnDA*	Not detected	2.0	0.81	ng/L	2.02	2058-94-8	
PFNS*	Not detected	2.0	1.0	ng/L	2.02	68259-12-1	
PFDoDA*	Not detected	2.0	0.61	ng/L	2.02	307-55-1	
PFDS*	Not detected	2.0	1.0	ng/L	2.02	335-77-3	
PFTrDA*	Not detected	2.0	0.81	ng/L	2.02	72629-94-8	
FOSA*	Not detected	2.0	0.81	ng/L	2.02	754-91-6	
PFTeDA*	Not detected	4.0	0.61	ng/L	2.02	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.0	ng/L	2.02	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.0	ng/L	2.02	756426-58-1	
ADONA*	Not detected	2.0	0.61	ng/L	2.02	919005-14-4	
HFPO-DA*	Not detected	10	2.0	ng/L	2.02	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	10	8.1	ng/L	2.02	812-70-4	
FPePA (5:3 FTCA)*	Not detected	10	4.0	ng/L	2.02	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	10	4.0	ng/L	2.02	356-02-5	
PFBSA*	Not detected	2.0	0.61	ng/L	2.02	30334-69-1	

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

Lab Sample ID: S69907.01 (continued)

Sample Tag: 04-PRCC-24-EFF-155-20241220

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/26/24 22:07, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFECHS*	Not detected	2.0	0.81	ng/L	2.02	67584-42-3	
PFHxSA*	Not detected	2.0	0.61	ng/L	2.02	41997-13-1	

Analytical Laboratory Report

Lab Sample ID: S69907.02
Sample Tag: 04-PRCC-24-MID-2-155-20241220
Collected Date/Time: 12/20/2024 09:40
Matrix: Wastewater
COC Reference: 172719

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.52/6.48/10	ASTMD7979-19M	12/26/24 11:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/26/24 22:47, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.9	2.0	ng/L	1.98	375-22-4	
PFPeA*	Not detected	4.0	1.2	ng/L	1.98	2706-90-3	
4:2 FTSA*	Not detected	2.0	0.20	ng/L	1.98	757124-72-4	
PFHxA*	Not detected	2.0	1.2	ng/L	1.98	307-24-4	
PFBS*	Not detected	2.0	0.59	ng/L	1.98	375-73-5	
PFHpA*	Not detected	2.0	0.79	ng/L	1.98	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.98	2706-91-4	
6:2 FTSA*	Not detected	2.0	0.99	ng/L	1.98	27619-97-2	
PFOA*	Not detected	2.0	0.79	ng/L	1.98	335-67-1	
PFHxS*	Not detected	2.0	0.99	ng/L	1.98	355-46-4	
PFHxS-LN*	Not detected	2.0	0.99	ng/L	1.98	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	0.99	ng/L	1.98	355-46-4-BR	
PFNA*	Not detected	2.0	0.99	ng/L	1.98	375-95-1	
8:2 FTSA*	Not detected	2.0	1.2	ng/L	1.98	39108-34-4	
PFHpS*	Not detected	2.0	0.79	ng/L	1.98	375-92-8	
PFDA*	Not detected	2.0	1.2	ng/L	1.98	335-76-2	
N-MeFOSAA*	Not detected	2.0	0.99	ng/L	1.98	2355-31-9	
EtFOSAA*	Not detected	4.0	0.99	ng/L	1.98	2991-50-6	
PFOS*	1.8	2.0	0.79	ng/L	1.98	1763-23-1	J
PFOS-LN*	1.4	2.0	0.79	ng/L	1.98	1763-23-1-LN	J
PFOS-BR*	Not detected	2.0	0.79	ng/L	1.98	1763-23-1-BR	
PFUnDA*	Not detected	2.0	0.79	ng/L	1.98	2058-94-8	
PFNS*	Not detected	2.0	0.99	ng/L	1.98	68259-12-1	
PFDoDA*	Not detected	2.0	0.59	ng/L	1.98	307-55-1	
PFDS*	Not detected	2.0	0.99	ng/L	1.98	335-77-3	
PFTrDA*	Not detected	2.0	0.79	ng/L	1.98	72629-94-8	
FOSA*	Not detected	2.0	0.79	ng/L	1.98	754-91-6	
PFTeDA*	Not detected	4.0	0.59	ng/L	1.98	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	0.99	ng/L	1.98	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	0.99	ng/L	1.98	756426-58-1	
ADONA*	Not detected	2.0	0.59	ng/L	1.98	919005-14-4	
HFPO-DA*	Not detected	9.9	2.0	ng/L	1.98	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	9.9	7.9	ng/L	1.98	812-70-4	
FPePA (5:3 FTCA)*	Not detected	9.9	4.0	ng/L	1.98	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	9.9	4.0	ng/L	1.98	356-02-5	
PFBSA*	Not detected	2.0	0.59	ng/L	1.98	30334-69-1	

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

Lab Sample ID: S69907.02 (continued)

Sample Tag: 04-PRCC-24-MID-2-155-20241220

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/26/24 22:47, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFECHS*	Not detected	2.0	0.79	ng/L	1.98	67584-42-3	
PFHxSA*	Not detected	2.0	0.59	ng/L	1.98	41997-13-1	

Analytical Laboratory Report

Lab Sample ID: S69907.03
Sample Tag: 04-PRCC-24-MID-1-155-20241220
Collected Date/Time: 12/20/2024 09:42
Matrix: Wastewater
COC Reference: 172719

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.20/6.48/10	ASTMD7979-19M	12/26/24 11:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/26/24 23:07, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	11	2.1	ng/L	2.12	375-22-4	
PFPeA*	Not detected	4.2	1.3	ng/L	2.12	2706-90-3	
4:2 FTSA*	Not detected	2.1	0.21	ng/L	2.12	757124-72-4	
PFHxA*	Not detected	2.1	1.3	ng/L	2.12	307-24-4	
PFBS*	Not detected	2.1	0.64	ng/L	2.12	375-73-5	
PFHpA*	Not detected	2.1	0.85	ng/L	2.12	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.12	2706-91-4	
6:2 FTSA*	Not detected	2.1	1.1	ng/L	2.12	27619-97-2	
PFOA*	Not detected	2.1	0.85	ng/L	2.12	335-67-1	
PFHxS*	Not detected	2.1	1.1	ng/L	2.12	355-46-4	
PFHxS-LN*	Not detected	2.1	1.1	ng/L	2.12	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.1	ng/L	2.12	355-46-4-BR	
PFNA*	Not detected	2.1	1.1	ng/L	2.12	375-95-1	
8:2 FTSA*	Not detected	2.1	1.3	ng/L	2.12	39108-34-4	
PFHpS*	Not detected	2.1	0.85	ng/L	2.12	375-92-8	
PFDA*	Not detected	2.1	1.3	ng/L	2.12	335-76-2	
N-MeFOSAA*	Not detected	2.1	1.1	ng/L	2.12	2355-31-9	
EtFOSAA*	Not detected	4.2	1.1	ng/L	2.12	2991-50-6	
PFOS*	3.0	2.1	0.85	ng/L	2.12	1763-23-1	
PFOS-LN*	2.1	2.1	0.85	ng/L	2.12	1763-23-1-LN	J
PFOS-BR*	Not detected	2.1	0.85	ng/L	2.12	1763-23-1-BR	
PFUnDA*	Not detected	2.1	0.85	ng/L	2.12	2058-94-8	
PFNS*	Not detected	2.1	1.1	ng/L	2.12	68259-12-1	
PFDoDA*	Not detected	2.1	0.64	ng/L	2.12	307-55-1	
PFDS*	Not detected	2.1	1.1	ng/L	2.12	335-77-3	
PFTrDA*	Not detected	2.1	0.85	ng/L	2.12	72629-94-8	
FOSA*	Not detected	2.1	0.85	ng/L	2.12	754-91-6	
PFTeDA*	Not detected	4.2	0.64	ng/L	2.12	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.1	ng/L	2.12	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.1	ng/L	2.12	756426-58-1	
ADONA*	Not detected	2.1	0.64	ng/L	2.12	919005-14-4	
HFPO-DA*	Not detected	11	2.1	ng/L	2.12	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	11	8.5	ng/L	2.12	812-70-4	
FPePA (5:3 FTCA)*	Not detected	11	4.2	ng/L	2.12	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	11	4.2	ng/L	2.12	356-02-5	
PFBSA*	Not detected	2.1	0.64	ng/L	2.12	30334-69-1	

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

Lab Sample ID: S69907.03 (continued)

Sample Tag: 04-PRCC-24-MID-1-155-20241220

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/26/24 23:07, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFECHS*	Not detected	2.1	0.85	ng/L	2.12	67584-42-3	
PFHxSA*	Not detected	2.1	0.64	ng/L	2.12	41997-13-1	

Lab Sample ID: S69907.04
Sample Tag: 04-PRCC-24-PRIM-155-20241220
Collected Date/Time: 12/20/2024 09:44
Matrix: Wastewater
COC Reference: 172719

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.19/6.48/11	ASTMD7979-19M	12/26/24 11:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/26/24 23:27, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.7	1.9	ng/L	1.93	375-22-4	
PFPeA*	Not detected	3.9	1.2	ng/L	1.93	2706-90-3	
4:2 FTSA*	Not detected	1.9	0.19	ng/L	1.93	757124-72-4	
PFHxA*	Not detected	1.9	1.2	ng/L	1.93	307-24-4	
PFBS*	Not detected	1.9	0.58	ng/L	1.93	375-73-5	
PFHpA*	Not detected	1.9	0.77	ng/L	1.93	375-85-9	
PFPeS*	Not detected	1.9	1.7	ng/L	1.93	2706-91-4	
6:2 FTSA*	Not detected	1.9	0.97	ng/L	1.93	27619-97-2	
PFOA*	Not detected	1.9	0.77	ng/L	1.93	335-67-1	
PFHxS*	Not detected	1.9	0.97	ng/L	1.93	355-46-4	
PFHxS-LN*	Not detected	1.9	0.97	ng/L	1.93	355-46-4-LN	
PFHxS-BR*	Not detected	1.9	0.97	ng/L	1.93	355-46-4-BR	
PFNA*	Not detected	1.9	0.97	ng/L	1.93	375-95-1	
8:2 FTSA*	Not detected	1.9	1.2	ng/L	1.93	39108-34-4	
PFHpS*	Not detected	1.9	0.77	ng/L	1.93	375-92-8	
PFDA*	Not detected	1.9	1.2	ng/L	1.93	335-76-2	
N-MeFOSAA*	Not detected	1.9	0.97	ng/L	1.93	2355-31-9	
EtFOSAA*	Not detected	3.9	0.97	ng/L	1.93	2991-50-6	
PFOS*	25	1.9	0.77	ng/L	1.93	1763-23-1	
PFOS-LN*	21	1.9	0.77	ng/L	1.93	1763-23-1-LN	
PFOS-BR*	2.2	1.9	0.77	ng/L	1.93	1763-23-1-BR	
PFUnDA*	Not detected	1.9	0.77	ng/L	1.93	2058-94-8	
PFNS*	Not detected	1.9	0.97	ng/L	1.93	68259-12-1	
PFDoDA*	Not detected	1.9	0.58	ng/L	1.93	307-55-1	
PFDS*	Not detected	1.9	0.97	ng/L	1.93	335-77-3	
PFTrDA*	Not detected	1.9	0.77	ng/L	1.93	72629-94-8	
FOSA*	Not detected	1.9	0.77	ng/L	1.93	754-91-6	
PFTeDA*	Not detected	3.9	0.58	ng/L	1.93	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	0.97	ng/L	1.93	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	0.97	ng/L	1.93	756426-58-1	
ADONA*	Not detected	1.9	0.58	ng/L	1.93	919005-14-4	
HFPO-DA*	Not detected	9.7	1.9	ng/L	1.93	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	9.7	7.7	ng/L	1.93	812-70-4	
FPePA (5:3 FTCA)*	Not detected	9.7	3.9	ng/L	1.93	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	9.7	3.9	ng/L	1.93	356-02-5	
PFBSA*	Not detected	1.9	0.58	ng/L	1.93	30334-69-1	
PFECHS*	4.7	1.9	0.77	ng/L	1.93	67584-42-3	

Lab Sample ID: S69907.04 (continued)

Sample Tag: 04-PRCC-24-PRIM-155-20241220

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/26/24 23:27, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	1.9	0.58	ng/L	1.93	41997-13-1	

Analytical Laboratory Report

Lab Sample ID: S69907.05
Sample Tag: FIELD Blank-20241220
Collected Date/Time: 12/20/2024 09:46
Matrix: Wastewater
COC Reference: 172719

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15mL Centrifuge Tube	None	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.33/6.46/10	ASTMD7979-19M	12/26/24 11:00	CED	

Organics

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/27/24 00:07, Analyst: CED

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	2.1	ng/L	2.05	375-22-4	
PFPeA*	Not detected	4.1	1.2	ng/L	2.05	2706-90-3	
4:2 FTSA*	Not detected	2.1	0.21	ng/L	2.05	757124-72-4	
PFHxA*	Not detected	2.1	1.2	ng/L	2.05	307-24-4	
PFBS*	Not detected	2.1	0.62	ng/L	2.05	375-73-5	
PFHpA*	Not detected	2.1	0.82	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	1.0	ng/L	2.05	27619-97-2	
PFOA*	Not detected	2.1	0.82	ng/L	2.05	335-67-1	
PFHxS*	Not detected	2.1	1.0	ng/L	2.05	355-46-4	
PFHxS-LN*	Not detected	2.1	1.0	ng/L	2.05	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.0	ng/L	2.05	355-46-4-BR	
PFNA*	Not detected	2.1	1.0	ng/L	2.05	375-95-1	
8:2 FTSA*	Not detected	2.1	1.2	ng/L	2.05	39108-34-4	
PFHpS*	Not detected	2.1	0.82	ng/L	2.05	375-92-8	
PFDA*	Not detected	2.1	1.2	ng/L	2.05	335-76-2	
N-MeFOSAA*	Not detected	2.1	1.0	ng/L	2.05	2355-31-9	
EtFOSAA*	Not detected	4.1	1.0	ng/L	2.05	2991-50-6	
PFOS*	Not detected	2.1	0.82	ng/L	2.05	1763-23-1	
PFOS-LN*	Not detected	2.1	0.82	ng/L	2.05	1763-23-1-LN	
PFOS-BR*	Not detected	2.1	0.82	ng/L	2.05	1763-23-1-BR	
PFUnDA*	Not detected	2.1	0.82	ng/L	2.05	2058-94-8	
PFNS*	Not detected	2.1	1.0	ng/L	2.05	68259-12-1	
PFDoDA*	Not detected	2.1	0.62	ng/L	2.05	307-55-1	
PFDS*	Not detected	2.1	1.0	ng/L	2.05	335-77-3	
PFTrDA*	Not detected	2.1	0.82	ng/L	2.05	72629-94-8	
FOSA*	Not detected	2.1	0.82	ng/L	2.05	754-91-6	
PFTeDA*	Not detected	4.1	0.62	ng/L	2.05	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.0	ng/L	2.05	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.0	ng/L	2.05	756426-58-1	
ADONA*	Not detected	2.1	0.62	ng/L	2.05	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.05	13252-13-6	
FHpPA (7:3 FTCA)*	Not detected	10	8.2	ng/L	2.05	812-70-4	
FPePA (5:3 FTCA)*	Not detected	10	4.1	ng/L	2.05	914637-49-3	
FPrPA (3:3 FTCA)*	Not detected	10	4.1	ng/L	2.05	356-02-5	
PFBSA*	Not detected	2.1	0.62	ng/L	2.05	30334-69-1	
PFECHS*	Not detected	2.1	0.82	ng/L	2.05	67584-42-3	

Lab Sample ID: S69907.05 (continued)

Sample Tag: FIELD Blank-20241220

34 PFAs, Method: ASTMD7979-19M, Run Date: 12/27/24 00:07, Analyst: CED (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxSA*	Not detected	2.1	0.62	ng/L	2.05	41997-13-1	

Merit Laboratories Login Checklist

Lab Set ID: S69907
Client: RAMBOLL (Ramboll Americas)
Project: RACER Coldwater Road
Submitted: 12/20/2024 14:30 Login User: PFD

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

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

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 2.8
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, TOX, DO or Alkalinity bottles contain	

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

172719

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
E-MAIL ADDRESS: Kevin.Schneider@Ramboll.com; Clifford.Yantz@Ramboll.com
P.O. NO.: 1940008845 TASK 37
QUOTE NO.:

INVOICE TO

CONTACT NAME: ☒ 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 ☒ 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

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 (3775)	Special Instructions
69907.01	12/20/24	938	04-PRCC-24-EFF-155-20241220	WW	3	X							X	Low level reporting with estimated values
.02		940	04-PRCC-24-MID-2-155-20241220	WW	3	X							X	
.03		942	04-PRCC-24-MID-1-155-20241220	WW	3	X							X	
.04		944	04-PRCC-24-PRIM-155-20241220	WW	3	X							X	34 PFAS List
.05		946	Field Blank-20241220	L	1	X							X	
														Please provide EDD
					18?1									

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☒ Sampler	DATE 12/20/24	TIME 1105
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/20/24	TIME 1120
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 12/20/24	TIME 1430
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/20/24	TIME 1430

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 2.8

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

Rev. 05/24

Quality Control Report

Report ID: QC-S69907-01
Generated on 01/13/2025

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): S69907.01-S69907.05
Project: RACER Coldwater Road
Submitted Date/Time: 12/20/2024 14:30
Sampled by: Kevin Schneider
P.O. #: 1940008845 TASK37

QC Report Sections

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: S69907.01

Sample Tag: 04-PRCC-24-EFF-155-20241220

Collected Date/Time: 12/20/2024 09:38

Matrix: Wastewater

COC Reference: 172719

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	12/26/24 22:07	AK241226W1	PF241226W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S69907.02

Sample Tag: 04-PRCC-24-MID-2-155-20241220

Collected Date/Time: 12/20/2024 09:40

Matrix: Wastewater

COC Reference: 172719

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	12/26/24 22:47	AK241226W1	PF241226W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S69907.03

Sample Tag: 04-PRCC-24-MID-1-155-20241220

Collected Date/Time: 12/20/2024 09:42

Matrix: Wastewater

COC Reference: 172719

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	12/26/24 23:07	AK241226W1	PF241226W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S69907.04

Sample Tag: 04-PRCC-24-PRIM-155-20241220

Collected Date/Time: 12/20/2024 09:44

Matrix: Wastewater

COC Reference: 172719

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	12/26/24 23:27	AK241226W1	PF241226W1	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S69907.05

Sample Tag: FIELD Blank-20241220

Collected Date/Time: 12/20/2024 09:46

Matrix: Wastewater

COC Reference: 172719

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
34 PFAs	ASTMD7979-19M	12/27/24 00:07	AK241226W1	PF241226W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF241226W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69907.01	34 PFAs	ASTMD7979-19M	12/26/24 22:07	AK241226W1
S69907.02	34 PFAs	ASTMD7979-19M	12/26/24 22:47	AK241226W1
S69907.03	34 PFAs	ASTMD7979-19M	12/26/24 23:07	AK241226W1
S69907.04	34 PFAs	ASTMD7979-19M	12/26/24 23:27	AK241226W1
S69907.05	34 PFAs	ASTMD7979-19M	12/27/24 00:07	AK241226W1

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S69907.01

Sample Tag: 04-PRCC-24-EFF-155-20241220

Collected Date/Time: 12/20/2024 09:38

Matrix: Wastewater

COC Reference: 172719

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK241226W1, Run Date: 12/26/2024 22:07, Matrix: WW, Dilution: 2.02

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**101.8**	50.0	150.0
M2-6:2FTSA		**86.7**	50.0	150.0
M2-8:2FTSA		**80.2**	50.0	150.0
M2PFTeDA		**175.3**	12.0	218.0
M3PFBS		**115.4**	50.0	150.0
M3PFHxS		**100.6**	50.0	150.0
M4PFHpA		**100.4**	50.0	150.0
M5PFHxA		**106.3**	50.0	150.0
M5PFPeA		**104.7**	50.0	150.0
M6PFDA		**117.0**	50.0	150.0
M7PFUnDA		**102.6**	50.0	150.0
M8FOSA		**109.9**	50.0	150.0
M8PFOA		**104.2**	50.0	150.0
M8PFOS		**106.7**	50.0	150.0
M9-PFNA		**104.1**	50.0	150.0
MPFBA		**85.0**	50.0	150.0
MPFDoDA		**109.1**	50.0	150.0
d3N-MeFOSAA		**90.7**	50.0	150.0
d5EtFOSAA		**93.2**	50.0	150.0
MHFPO-DA		**107.3**	50.0	150.0
d-N-EtFOSA-M		**121.4**	50.0	150.0
d-N-MeFOSA-M		**111.6**	50.0	150.0
d7-N-MeFOSE-M		**113.3**	50.0	150.0
d9-N-EtFOSE-M		**109.1**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S69907.02

Sample Tag: 04-PRCC-24-MID-2-155-20241220

Collected Date/Time: 12/20/2024 09:40

Matrix: Wastewater

COC Reference: 172719

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK241226W1, Run Date: 12/26/2024 22:47, Matrix: WW, Dilution: 1.98

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**98.6**	50.0	150.0
M2-6:2FTSA		**94.8**	50.0	150.0
M2-8:2FTSA		**83.5**	50.0	150.0
M2PFTeDA		**168.9**	12.0	218.0
M3PFBS		**105.6**	50.0	150.0
M3PFHxS		**107.8**	50.0	150.0
M4PFHpA		**104.3**	50.0	150.0
M5PFHxA		**111.3**	50.0	150.0
M5PFPeA		**91.1**	50.0	150.0
M6PFDA		**101.5**	50.0	150.0
M7PFUnDA		**101.5**	50.0	150.0
M8FOSA		**106.6**	50.0	150.0
M8PFOA		**101.5**	50.0	150.0
M8PFOS		**110.3**	50.0	150.0
M9-PFNA		**99.7**	50.0	150.0
MPFBA		**82.7**	50.0	150.0
MPFDoDA		**107.8**	50.0	150.0
d3N-MeFOSAA		**83.8**	50.0	150.0
d5EtFOSAA		**84.2**	50.0	150.0
MHFPO-DA		**106.7**	50.0	150.0
d-N-EtFOSA-M		**125.4**	50.0	150.0
d-N-MeFOSA-M		**112.0**	50.0	150.0
d7-N-MeFOSE-M		**105.4**	50.0	150.0
d9-N-EtFOSE-M		**104.0**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S69907.03

Sample Tag: 04-PRCC-24-MID-1-155-20241220

Collected Date/Time: 12/20/2024 09:42

Matrix: Wastewater

COC Reference: 172719

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK241226W1, Run Date: 12/26/2024 23:07, Matrix: WW, Dilution: 2.12

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**109.1**	50.0	150.0
M2-6:2FTSA		**89.5**	50.0	150.0
M2-8:2FTSA		**101.7**	50.0	150.0
M2PFTeDA		**187.6**	12.0	218.0
M3PFBS		**112.2**	50.0	150.0
M3PFHxS		**113.5**	50.0	150.0
M4PFHpA		**110.5**	50.0	150.0
M5PFHxA		**116.4**	50.0	150.0
M5PFPeA		**102.7**	50.0	150.0
M6PFDA		**120.2**	50.0	150.0
M7PFUnDA		**110.8**	50.0	150.0
M8FOSA		**119.1**	50.0	150.0
M8PFOA		**112.5**	50.0	150.0
M8PFOS		**101.6**	50.0	150.0
M9-PFNA		**103.7**	50.0	150.0
MPFBA		**91.1**	50.0	150.0
MPFDoDA		**113.7**	50.0	150.0
d3N-MeFOSAA		**101.6**	50.0	150.0
d5EtFOSAA		**90.3**	50.0	150.0
MHFPO-DA		**111.1**	50.0	150.0
d-N-EtFOSA-M		**135.3**	50.0	150.0
d-N-MeFOSA-M		**122.3**	50.0	150.0
d7-N-MeFOSE-M		**106.4**	50.0	150.0
d9-N-EtFOSE-M		**118.3**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S69907.04

Sample Tag: 04-PRCC-24-PRIM-155-20241220

Collected Date/Time: 12/20/2024 09:44

Matrix: Wastewater

COC Reference: 172719

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK241226W1, Run Date: 12/26/2024 23:27, Matrix: WW, Dilution: 1.93

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**101.9**	50.0	150.0
M2-6:2FTSA		**86.7**	50.0	150.0
M2-8:2FTSA		**81.6**	50.0	150.0
M2PFTeDA		**140.8**	12.0	218.0
M3PFBS		**117.5**	50.0	150.0
M3PFHxS		**111.4**	50.0	150.0
M4PFHpA		**103.1**	50.0	150.0
M5PFHxA		**115.7**	50.0	150.0
M5PFPeA		**103.1**	50.0	150.0
M6PFDA		**113.5**	50.0	150.0
M7PFUnDA		**103.6**	50.0	150.0
M8FOSA		**107.2**	50.0	150.0
M8PFOA		**100.8**	50.0	150.0
M8PFOS		**116.0**	50.0	150.0
M9-PFNA		**109.5**	50.0	150.0
MPFBA		**84.9**	50.0	150.0
MPFDoDA		**103.2**	50.0	150.0
d3N-MeFOSAA		**97.9**	50.0	150.0
d5EtFOSAA		**82.3**	50.0	150.0
MHFPO-DA		**119.9**	50.0	150.0
d-N-EtFOSA-M		**114.0**	50.0	150.0
d-N-MeFOSA-M		**113.2**	50.0	150.0
d7-N-MeFOSE-M		**109.0**	50.0	150.0
d9-N-EtFOSE-M		**110.8**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S69907.05

Sample Tag: FIELD Blank-20241220

Collected Date/Time: 12/20/2024 09:46

Matrix: Wastewater

COC Reference: 172719

Organics - Volatiles, Analysis: 34 PFAs

Run in Batch: AK241226W1, Run Date: 12/27/2024 00:07, Matrix: WW, Dilution: 2.05

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**87.9**	50.0	150.0
M2-6:2FTSA		**100.3**	50.0	150.0
M2-8:2FTSA		**109.0**	50.0	150.0
M2PFTeDA		**174.9**	12.0	218.0
M3PFBS		**115.3**	50.0	150.0
M3PFHxS		**105.1**	50.0	150.0
M4PFHpA		**102.5**	50.0	150.0
M5PFHxA		**112.9**	50.0	150.0
M5PFPeA		**99.8**	50.0	150.0
M6PFDA		**111.1**	50.0	150.0
M7PFUnDA		**109.0**	50.0	150.0
M8FOSA		**106.5**	50.0	150.0
M8PFOA		**109.7**	50.0	150.0
M8PFOS		**109.3**	50.0	150.0
M9-PFNA		**111.2**	50.0	150.0
MPFBA		**81.9**	50.0	150.0
MPFDoDA		**116.8**	50.0	150.0
d3N-MeFOSAA		**105.8**	50.0	150.0
d5EtFOSAA		**100.3**	50.0	150.0
MHFPO-DA		**110.4**	50.0	150.0
d-N-EtFOSA-M		**130.5**	50.0	150.0
d-N-MeFOSA-M		**112.4**	50.0	150.0
d7-N-MeFOSE-M		**106.7**	50.0	150.0
d9-N-EtFOSE-M		**109.8**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF241226W1

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

Blank (BLK)

Lab Sample ID: AK241226W1.BLK241226

Run in Batch: AK241226W1, Run Date: 12/26/2024 16:06, Prep Date: 12/26/2024, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**94.7**	50.0	150.0
M2-6:2FTSA		**100.4**	50.0	150.0
M2-8:2FTSA		**101.4**	50.0	150.0
M2PFTeDA		**146.9**	12.0	218.0
M3PFBS		**111.1**	50.0	150.0
M3PFHxS		**95.8**	50.0	150.0
M4PFHpA		**97.0**	50.0	150.0
M5PFHxA		**104.6**	50.0	150.0
M5PFPeA		**94.1**	50.0	150.0
M6PFDA		**105.8**	50.0	150.0
M7PFUnDA		**101.3**	50.0	150.0
M8FOSA		**103.5**	50.0	150.0
M8PFOA		**106.5**	50.0	150.0
M8PFOS		**102.6**	50.0	150.0
M9-PFNA		**99.6**	50.0	150.0
MPFBA		**100.5**	50.0	150.0
MPFDoDA		**108.9**	50.0	150.0
d3N-MeFOSAA		**103.5**	50.0	150.0
d5EtFOSAA		**95.5**	50.0	150.0
MHFPO-DA		**100.7**	50.0	150.0
d-N-EtFOSA-M		**113.6**	50.0	150.0
d-N-MeFOSA-M		**99.1**	50.0	150.0
d7-N-MeFOSE-M		**101.5**	50.0	150.0
d9-N-EtFOSE-M		**101.6**	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample (LCS)

Lab Sample ID: AK241226W1.LCS241226

Run in Batch: AK241226W1, Run Date: 12/26/2024 15:26, Prep Date: 12/26/2024, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**101.1**	50.0	150.0
M2-6:2FTSA		**100.1**	50.0	150.0
M2-8:2FTSA		**92.4**	50.0	150.0
M2PFTeDA		**130.5**	12.0	218.0
M3PFBS		**99.9**	50.0	150.0
M3PFHxS		**98.6**	50.0	150.0
M4PFHpA		**93.7**	50.0	150.0
M5PFHxA		**103.0**	50.0	150.0
M5PFPeA		**91.2**	50.0	150.0
M6PFDA		**106.9**	50.0	150.0
M7PFUnDA		**91.0**	50.0	150.0
M8FOSA		**97.9**	50.0	150.0
M8PFOA		**92.9**	50.0	150.0
M8PFOS		**97.7**	50.0	150.0
M9-PFNA		**95.9**	50.0	150.0
MPFBA		**98.7**	50.0	150.0
MPFDoDA		**95.2**	50.0	150.0
d3N-MeFOSAA		**93.6**	50.0	150.0
d5EtFOSAA		**89.4**	50.0	150.0
MHFPO-DA		**98.4**	50.0	150.0
d-N-EtFOSA-M		**103.4**	50.0	150.0
d-N-MeFOSA-M		**96.3**	50.0	150.0
d7-N-MeFOSE-M		**100.6**	50.0	150.0
d9-N-EtFOSE-M		**97.1**	50.0	150.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK241226W1.LCSD241226, Parent Sample ID: AK241226W1.LCS241226

Run in Batch: AK241226W1, Run Date: 12/26/2024 15:46, Prep Date: 12/26/2024, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**103.6**	50.0	150.0
M2-6:2FTSA		**96.9**	50.0	150.0
M2-8:2FTSA		**90.3**	50.0	150.0
M2PFTeDA		**146.0**	12.0	218.0
M3PFBS		**105.3**	50.0	150.0
M3PFHxS		**98.8**	50.0	150.0
M4PFHpA		**94.7**	50.0	150.0
M5PFHxA		**100.2**	50.0	150.0
M5PFPeA		**97.1**	50.0	150.0
M6PFDA		**97.3**	50.0	150.0
M7PFUnDA		**91.1**	50.0	150.0
M8FOSA		**107.7**	50.0	150.0
M8PFOA		**97.4**	50.0	150.0
M8PFOS		**100.9**	50.0	150.0
M9-PFNA		**98.4**	50.0	150.0
MPFBA		**101.1**	50.0	150.0
MPFDoDA		**105.3**	50.0	150.0
d3N-MeFOSAA		**93.6**	50.0	150.0
d5EtFOSAA		**92.3**	50.0	150.0
MHFPO-DA		**93.4**	50.0	150.0
d-N-EtFOSA-M		**105.4**	50.0	150.0
d-N-MeFOSA-M		**97.9**	50.0	150.0
d7-N-MeFOSE-M		**100.0**	50.0	150.0
d9-N-EtFOSE-M		**95.1**	50.0	150.0

QC Report - Internal Standards per QC Sample

Matrix Spike (MS)

Lab Sample ID: AK241226W1.6990701M, Parent Sample ID: S69907.01

Run in Batch: AK241226W1, Run Date: 12/26/2024 22:27, Prep Date: 12/26/2024, Matrix: WW, Dilution: 2.02

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**107.8**	50.0	150.0
M2-6:2FTSA		**90.1**	50.0	150.0
M2-8:2FTSA		**90.8**	50.0	150.0
M2PFTeDA		**172.3**	12.0	218.0
M3PFBS		**105.7**	50.0	150.0
M3PFHxS		**100.6**	50.0	150.0
M4PFHpA		**94.3**	50.0	150.0
M5PFHxA		**99.4**	50.0	150.0
M5PFPeA		**94.9**	50.0	150.0
M6PFDA		**99.4**	50.0	150.0
M7PFUnDA		**102.2**	50.0	150.0
M8FOSA		**107.0**	50.0	150.0
M8PFOA		**101.5**	50.0	150.0
M8PFOS		**117.0**	50.0	150.0
M9-PFNA		**111.4**	50.0	150.0
MPFBA		**83.2**	50.0	150.0
MPFDoDA		**108.1**	50.0	150.0
d3N-MeFOSAA		**96.8**	50.0	150.0
d5EtFOSAA		**91.1**	50.0	150.0
MHFPO-DA		**112.0**	50.0	150.0
d-N-EtFOSA-M		**117.6**	50.0	150.0
d-N-MeFOSA-M		**107.3**	50.0	150.0
d7-N-MeFOSE-M		**104.5**	50.0	150.0
d9-N-EtFOSE-M		**117.6**	50.0	150.0

Duplicate (DUP)

Lab Sample ID: AK241226W1.6990704D, Parent Sample ID: S69907.04

Run in Batch: AK241226W1, Run Date: 12/26/2024 23:47, Prep Date: 12/26/2024, Matrix: WW, Dilution: 1.93

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**108.3**	50.0	150.0
M2-6:2FTSA		**98.3**	50.0	150.0
M2-8:2FTSA		**78.7**	50.0	150.0
M2PFTeDA		**168.6**	12.0	218.0
M3PFBS		**117.6**	50.0	150.0
M3PFHxS		**96.9**	50.0	150.0
M4PFHpA		**109.4**	50.0	150.0
M5PFHxA		**111.9**	50.0	150.0
M5PFPeA		**101.9**	50.0	150.0
M6PFDA		**110.6**	50.0	150.0
M7PFUnDA		**105.2**	50.0	150.0
M8FOSA		**109.0**	50.0	150.0
M8PFOA		**103.2**	50.0	150.0
M8PFOS		**107.9**	50.0	150.0
M9-PFNA		**105.9**	50.0	150.0
MPFBA		**90.1**	50.0	150.0
MPFDoDA		**108.3**	50.0	150.0
d3N-MeFOSAA		**84.7**	50.0	150.0
d5EtFOSAA		**95.1**	50.0	150.0
MHFPO-DA		**94.6**	50.0	150.0
d-N-EtFOSA-M		**123.8**	50.0	150.0
d-N-MeFOSA-M		**112.9**	50.0	150.0
d7-N-MeFOSE-M		**117.5**	50.0	150.0
d9-N-EtFOSE-M		**114.3**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF241226W1

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

Blank (BLK)

Lab Sample ID: AK241226W1.BLK241226

Run in Batch: AK241226W1, Run Date: 12/26/2024 16:06, Prep Date: 12/26/2024, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/l
PFMPA		ND	2	ng/l
FPrPA (3:3 FTCA)		ND	10	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	10	ng/l
FPePA (5:3 FTCA)		ND	10	ng/l
PFEESA		ND	2	ng/l
PFHpA		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	10	ng/l
PFNA		ND	2	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
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
PFTrDA		ND	2	ng/l
11CL-PF3OUdS		ND	2	ng/l
FOSA		ND	2	ng/l
PFTeDA		ND	4	ng/l
PFDOS		ND	6	ng/l
NMeFOSE		ND	4	ng/l
NMeFOSAM		ND	2	ng/l

Organics - Volatiles, Prep Batch ID: PF241226W1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: AK241226W1.BLK241226

Run in Batch: AK241226W1, Run Date: 12/26/2024 16:06, Prep Date: 12/26/2024, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
NEtFOSE		ND	4	ng/l
NEtFOSAM		ND	2	ng/l

Laboratory Control Sample (LCS)

Lab Sample ID: AK241226W1.LCS241226

Run in Batch: AK241226W1, Run Date: 12/26/2024 15:26, Prep Date: 12/26/2024, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		99.6	70.0	130.0
PFMPA		104.2	70.0	130.0
FPrPA (3:3 FTCA)		117.0	70.0	130.0
PFPrS		106.2	70.0	130.0
PFPeA		103.8	70.0	130.0
PFMBA		91.6	70.0	130.0
4:2 FTSA		101.4	70.0	130.0
NFDHA		85.6	70.0	130.0
PFHxA		91.0	70.0	130.0
PFBS		102.6	70.0	130.0
HFPO-DA		105.2	70.0	130.0
FPePA (5:3 FTCA)		115.8	70.0	130.0
PFEESA		86.4	70.0	130.0
PFHpA		94.0	70.0	130.0
PFPeS		110.0	70.0	130.0
ADONA		90.6	70.0	130.0
6:2 FTSA		79.8	70.0	130.0
PFBSA		103.8	70.0	130.0
PFOA		102.0	70.0	130.0
PFHxS		96.8	70.0	130.0
FHpPA (7:3 FTCA)		111.2	70.0	130.0
PFNA		83.6	70.0	130.0
PFECHS		105.2	70.0	130.0
8:2 FTSA		106.4	70.0	130.0
PFHpS		82.8	70.0	130.0
N-MeFOSAA		98.8	70.0	130.0
PFDA		100.6	70.0	130.0
EtFOSAA		102.8	70.0	130.0
PFOS		95.4	70.0	130.0
PFHxSA		104.4	70.0	130.0
PFUnDA		112.6	70.0	130.0
9CL-PF3ONS		99.2	70.0	130.0
PFNS		99.8	70.0	130.0
PFDoDA		102.4	70.0	130.0
PFDS		110.8	70.0	130.0
PFTrDA		101.4	70.0	130.0
11CL-PF3OUdS		103.4	70.0	130.0
FOSA		99.0	70.0	130.0
PFTeDA		108.6	70.0	130.0

Organics - Volatiles, Prep Batch ID: PF241226W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: AK241226W1.LCS241226

Run in Batch: AK241226W1, Run Date: 12/26/2024 15:26, Prep Date: 12/26/2024, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFDOS		103.2	70.0	130.0
NMeFOSE		87.4	70.0	130.0
NMeFOSAM		92.4	70.0	130.0
NEtFOSE		102.4	70.0	130.0
NEtFOSAM		112.0	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK241226W1.LCSD241226, Parent Sample ID: AK241226W1.LCS241226

Run in Batch: AK241226W1, Run Date: 12/26/2024 15:46, Prep Date: 12/26/2024, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		94.0	70.0	130.0	5.8	30.0
PFMPA		95.6	70.0	130.0	8.6	30.0
FPrPA (3:3 FTCA)		116.8	70.0	130.0	0.2	30.0
PFPrS		102.0	70.0	130.0	4.0	30.0
PFPeA		96.8	70.0	130.0	7.0	30.0
PFMBA		88.2	70.0	130.0	3.8	30.0
4:2 FTSA		93.8	70.0	130.0	7.8	30.0
NFDHA		86.6	70.0	130.0	1.2	30.0
PFHxA		99.4	70.0	130.0	8.8	30.0
PFBS		97.0	70.0	130.0	5.6	30.0
HFPO-DA		96.8	70.0	130.0	8.3	30.0
FPePA (5:3 FTCA)	*	133.6	70.0	130.0	14.3	30.0
PFEESA		83.6	70.0	130.0	3.3	30.0
PFHpA		99.4	70.0	130.0	5.6	30.0
PFPeS		99.6	70.0	130.0	9.9	30.0
ADONA		82.0	70.0	130.0	10.0	30.0
6:2 FTSA		87.8	70.0	130.0	9.5	30.0
PFBSA		94.4	70.0	130.0	9.5	30.0
PFOA		80.2	70.0	130.0	23.9	30.0
PFHxS		90.4	70.0	130.0	6.8	30.0
FHpPA (7:3 FTCA)		108.2	70.0	130.0	2.7	30.0
PFNA		86.2	70.0	130.0	3.1	30.0
PFECHS		94.0	70.0	130.0	11.2	30.0
8:2 FTSA		103.2	70.0	130.0	3.1	30.0
PFHpS		85.8	70.0	130.0	3.6	30.0
N-MeFOSAA		96.6	70.0	130.0	2.3	30.0
PFDA		105.4	70.0	130.0	4.7	30.0
EtFOSAA		99.4	70.0	130.0	3.4	30.0
PFOS		86.4	70.0	130.0	9.9	30.0
PFHxSA		92.4	70.0	130.0	12.2	30.0
PFUnDA		113.0	70.0	130.0	0.4	30.0
9CL-PF3ONS		92.0	70.0	130.0	7.5	30.0
PFNS		100.4	70.0	130.0	0.6	30.0
PFDoDA		93.6	70.0	130.0	9.0	30.0
PFDS		103.6	70.0	130.0	6.7	30.0
PFTrDA		89.6	70.0	130.0	12.4	30.0

Organics - Volatiles, Prep Batch ID: PF241226W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK241226W1.LCSD241226, Parent Sample ID: AK241226W1.LCS241226

Run in Batch: AK241226W1, Run Date: 12/26/2024 15:46, Prep Date: 12/26/2024, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
11CL-PF3OUdS		95.4	70.0	130.0	8.0	30.0
FOSA		85.4	70.0	130.0	14.8	30.0
PFTeDA		102.4	70.0	130.0	5.9	30.0
PFDOS		98.0	70.0	130.0	5.2	30.0
NMeFOSE		85.2	70.0	130.0	2.5	30.0
NMeFOSAM		92.2	70.0	130.0	0.2	30.0
NEtFOSE		103.2	70.0	130.0	0.8	30.0
NEtFOSAM		110.2	70.0	130.0	1.6	30.0

Matrix Spike (MS)

Lab Sample ID: AK241226W1.6990701M, Parent Sample ID: S69907.01

Run in Batch: AK241226W1, Run Date: 12/26/2024 22:27, Prep Date: 12/26/2024, Matrix: WW, Dilution: 2.02

Analyte	Flags	% Rec	LCL	UCL
PFBA		97.0	70.0	130.0
FPrPA (3:3 FTCA)		99.0	70.0	130.0
PFPeA		99.0	70.0	130.0
4:2 FTSA		90.1	70.0	130.0
PFHxA		108.9	70.0	130.0
PFBS		93.1	70.0	130.0
HFPO-DA		96.0	70.0	130.0
FPePA (5:3 FTCA)	*	138.6	70.0	130.0
PFHpA		92.1	70.0	130.0
PFPeS		108.9	70.0	130.0
ADONA		87.1	70.0	130.0
6:2 FTSA		91.1	70.0	130.0
PFBSA		90.1	70.0	130.0
PFOA		88.1	70.0	130.0
PFHxS		99.0	70.0	130.0
FHpPA (7:3 FTCA)		118.8	70.0	130.0
PFNA		85.1	70.0	130.0
PFECHS		94.1	70.0	130.0
8:2 FTSA		97.0	70.0	130.0
PFHpS		96.0	70.0	130.0
N-MeFOSAA		87.1	70.0	130.0
PFDA		118.8	70.0	130.0
EtFOSAA		99.0	70.0	130.0
PFOS		85.1	70.0	130.0
PFHxSA		98.0	70.0	130.0
PFUnDA		108.9	70.0	130.0
9CL-PF3ONS		86.1	70.0	130.0
PFNS		90.1	70.0	130.0
PFDoDA		90.1	70.0	130.0
PFDS		99.0	70.0	130.0
PFTrDA		108.9	70.0	130.0
11CL-PF3OUdS		93.1	70.0	130.0
FOSA		93.1	70.0	130.0

Organics - Volatiles, Prep Batch ID: PF241226W1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: AK241226W1.6990701M, Parent Sample ID: S69907.01

Run in Batch: AK241226W1, Run Date: 12/26/2024 22:27, Prep Date: 12/26/2024, Matrix: WW, Dilution: 2.02

Analyte	Flags	% Rec	LCL	UCL
PFTeDA		108.9	70.0	130.0

Duplicate (DUP)

Lab Sample ID: AK241226W1.6990704D, Parent Sample ID: S69907.04

Run in Batch: AK241226W1, Run Date: 12/26/2024 23:47, Prep Date: 12/26/2024, Matrix: WW, Dilution: 1.93

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
FPrPA (3:3 FTCA)		NC	30.0
PFPeA		NC	30.0
4:2 FTSA		NC	30.0
PFHxA		NC	30.0
PFBS		NC	30.0
HFPO-DA		NC	30.0
FPePA (5:3 FTCA)		NC	30.0
PFHpA		NC	30.0
PFPeS		NC	30.0
ADONA		NC	30.0
6:2 FTSA		NC	30.0
PFBSA		NC	30.0
PFOA		NC	30.0
PFHxS-BR		NC	30.0
PFHxS		NC	30.0
PFHxS-LN		NC	30.0
FHpPA (7:3 FTCA)		NC	30.0
PFNA		NC	30.0
PFECHS	*	56.5	30.0
8:2 FTSA		NC	30.0
PFHpS		NC	30.0
N-MeFOSAA		NC	30.0
PFDA		NC	30.0
PFOS-BR	*	42.9	30.0
EtFOSAA		NC	30.0
PFOS		18.2	30.0
PFOS-LN		13.3	30.0
PFHxSA		NC	30.0
PFUnDA		NC	30.0
9CL-PF3ONS		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTrDA		NC	30.0
11CL-PF3OUdS		NC	30.0
FOSA		NC	30.0
PFTeDA		NC	30.0

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

172719

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
E-MAIL ADDRESS: Kevin.Schneider@Ramboll.com; Clifford.Yantz@Ramboll.com
P.O. NO.: 1940008845 TASK 37
QUOTE NO.:

INVOICE TO

CONTACT NAME: ☒ 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 ☒ 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

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 (3775)	Special Instructions
69907.01	12/20/24	938	04-PRCC-24-EFF-155-20241220	WW	3	X							X	Low level reporting with estimated values
.02		940	04-PRCC-24-MID-2-155-20241220	WW	3	X							X	
.03		942	04-PRCC-24-MID-1-155-20241220	WW	3	X							X	
.04		944	04-PRCC-24-PRIM-155-20241220	WW	3	X							X	34 PFAS List
.05		946	Field Blank-20241220	L	1	X							X	
														Please provide EDD
					18?1									

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☒ Sampler	DATE 12/20/24	TIME 1105
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/20/24	TIME 1120
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 12/20/24	TIME 1430
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/20/24	TIME 1430

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 2.8

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

Rev. 05/24