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ANALYTICAL REPORT

PREPARED FOR

Attn: Justin Huntley
Union County Water
500 N Main St.
Monroe, North Carolina 28112

Generated 5/12/2024 11:43:35 PM

JOB DESCRIPTION

PFAS - 533

JOB NUMBER

810-103147-1

Eurofins Eaton Analytical South Bend
110 S Hill Street
South Bend IN 46617

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Eaton Analytical, LLC Project Manager.

Authorization

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Table of Contents

Definitions/Glossary

Client: Union County Water
Project/Site: PFAS - 533

Job ID: 810-103147-1

Qualifiers

LCMS

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

Glossary

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

Job ID: 810-103147-1 — Eurofins Eaton Analytical South Bend

Job Narrative
810-103147-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 5/3/2024 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.8°C.

PFAS
Method 533: The pH of the following sample was adjusted to pH 7 in the laboratory.

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

Detection Summary

Client: Union County Water
Project/Site: PFAS - 533

Job ID: 810-103147-1

Client Sample ID: J18 - Rehoboth ARV — Lab Sample ID: 810-103147-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.2		1.9		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	5.7		1.9		ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	5.8		1.9		ng/L	1		533	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.2		1.9		ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	3.5		1.9		ng/L	1		533	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.1		1.9		ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.9		1.9		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.8		1.9		ng/L	1		533	Total/NA

Client Sample ID: 401 - Yadkin Finished Water — Lab Sample ID: 810-103147-2

No Detections.

Client Sample ID: 402 - Yadkin Raw Water — Lab Sample ID: 810-103147-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	2.3		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.4		2.0		ng/L	1		533	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Union County Water
Project/Site: PFAS - 533

Job ID: 810-103147-1

Client Sample ID: J18 - Rehoboth ARV
Date Collected: 05/02/24 14:10
Date Received: 05/03/24 09:00

Lab Sample ID: 810-103147-1
Matrix: Drinking Water

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.2**		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluoropentanoic acid (PFPeA)	**5.7**		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluorohexanoic acid (PFHxA)	**5.8**		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluoroheptanoic acid (PFHpA)	**2.2**		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluorooctanoic acid (PFOA)	**3.5**		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluorobutanesulfonic acid (PFBS)	**2.1**		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluorohexanesulfonic acid (PFHxS)	**1.9**		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluorooctanesulfonic acid (PFOS)	**2.8**		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluoro(4-methoxybutanoic acid)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1
Perfluoro-3,6-dioxaheptanoic acid	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*
13C5 PFPeA	*101*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*
13C5 PFHxA	*98*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*
13C4 PFHpA	*93*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*
13C8 PFOA	*92*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*
13C9 PFNA	*86*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*
13C6 PFDA	*82*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*
13C7 PFUnA	*81*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*
13C2 PFDoA	*80*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*
13C3 HFPO-DA	*95*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*
13C3 PFBS	*102*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*
13C8 PFOS	*102*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*
13C2-4:2-FTS	*113*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*

Client Sample ID: J18 - Rehoboth ARV

Lab Sample ID: 810-103147-1

Date Collected: 05/02/24 14:10

Matrix: Drinking Water

Date Received: 05/03/24 09:00

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-6:2-FTS	*106*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*
13C2-8:2-FTS	*106*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*
13C3 PFHxS	*100*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:03*	*1*

Client Sample ID: 401 - Yadkin Finished Water

Lab Sample ID: 810-103147-2

Date Collected: 05/02/24 15:10

Matrix: Drinking Water

Date Received: 05/03/24 09:00

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluoropentanoic acid (PFPeA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluoro(4-methoxybutanoic acid)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1
Perfluoro-3,6-dioxaheptanoic acid	<1.9		1.9		ng/L		05/08/24 07:45	05/10/24 01:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*
13C5 PFPeA	*100*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*
13C5 PFHxA	*98*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*
13C4 PFHpA	*96*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*
13C8 PFOA	*97*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*

Client Sample ID: 401 - Yadkin Finished Water

Lab Sample ID: 810-103147-2

Date Collected: 05/02/24 15:10

Matrix: Drinking Water

Date Received: 05/03/24 09:00

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C9 PFNA	*96*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*
13C6 PFDA	*88*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*
13C7 PFUnA	*91*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*
13C2 PFDoA	*90*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*
13C3 HFPO-DA	*92*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*
13C3 PFBS	*103*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*
13C8 PFOS	*108*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*
13C2-4:2-FTS	*103*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*
13C2-6:2-FTS	*103*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*
13C2-8:2-FTS	*106*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*
13C3 PFHxS	*101*		*50 - 200*	*05/08/24 07:45*	*05/10/24 01:16*	*1*

Client Sample ID: 402 - Yadkin Raw Water

Lab Sample ID: 810-103147-3

Date Collected: 05/02/24 15:15

Matrix: Drinking Water

Date Received: 05/03/24 09:00

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluorooctanoic acid (PFOA)	**2.3**		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluorooctanesulfonic acid (PFOS)	**3.4**		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluoro(4-methoxybutanoic acid)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1

Client: Union County Water
Project/Site: PFAS - 533

Job ID: 810-103147-1

Client Sample ID: 402 - Yadkin Raw Water
Date Collected: 05/02/24 15:15
Date Received: 05/03/24 09:00

Lab Sample ID: 810-103147-3
Matrix: Drinking Water

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1
Perfluoro-3,6-dioxaheptanoic acid	<2.0		2.0		ng/L		05/08/24 07:45	05/09/24 23:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*104*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C5 PFPeA	*103*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C5 PFHxA	*99*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C4 PFHpA	*97*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C8 PFOA	*92*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C9 PFNA	*94*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C6 PFDA	*83*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C7 PFUnA	*89*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C2 PFDoA	*87*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C3 HFPO-DA	*94*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C3 PFBS	*104*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C8 PFOS	*106*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C2-4:2-FTS	*117*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C2-6:2-FTS	*106*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C2-8:2-FTS	*105*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*
13C3 PFHxS	*102*		*50 - 200*	*05/08/24 07:45*	*05/09/24 23:28*	*1*

Isotope Dilution Summary

Client: Union County Water
Project/Site: PFAS - 533

Job ID: 810-103147-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Matrix: Drinking Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)
810-103147-1	J18 - Rehoboth ARV	101	101	98	93	92	86	82	81
810-103147-2	401 - Yadkin Finished Water	102	100	98	96	97	96	88	91
810-103147-3	402 - Yadkin Raw Water	104	103	99	97	92	94	83	89
810-103147-3 DU	402 - Yadkin Raw Water	98	99	99	97	94	93	85	84
LCS 810-98061/3-A	Lab Control Sample	80	82	83	86	86	86	88	90
LLCS 810-98061/2-A	Lab Control Sample	85	85	85	87	89	93	93	96
MBL 810-98061/1-A	Method Blank	85	86	86	85	86	83	81	85

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	HFPODA	C3PFBS	C8PFOS	42FTS	62FTS	82FTS	C3PFHS
Lab Sample ID	Client Sample ID	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)
810-103147-1	J18 - Rehoboth ARV	80	95	102	102	113	106	106	100
810-103147-2	401 - Yadkin Finished Water	90	92	103	108	103	103	106	101
810-103147-3	402 - Yadkin Raw Water	87	94	104	106	117	106	105	102
810-103147-3 DU	402 - Yadkin Raw Water	86	91	99	100	114	107	106	101
LCS 810-98061/3-A	Lab Control Sample	87	81	103	105	110	121	110	102
LLCS 810-98061/2-A	Lab Control Sample	95	82	101	101	95	104	105	103
MBL 810-98061/1-A	Method Blank	89	80	100	103	95	102	102	101

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
HFPODA = 13C3 HFPO-DA
C3PFBS = 13C3 PFBS
C8PFOS = 13C8 PFOS
42FTS = 13C2-4:2-FTS
62FTS = 13C2-6:2-FTS
82FTS = 13C2-8:2-FTS
C3PFHS = 13C3 PFHxS

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Lab Sample ID: MBL 810-98061/1-A
Matrix: Drinking Water
Analysis Batch: 98235

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 98061

Analyte	MBL Result	MBL Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<0.52		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluorohexanoic acid (PFHxA)	<0.42		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluoroheptanoic acid (PFHpA)	<0.40		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluorononanoic acid (PFNA)	<0.38		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluorodecanoic acid (PFDA)	<0.36		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluoroundecanoic acid (PFUnA)	<0.38		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluorododecanoic acid (PFDoA)	<0.35		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluorobutanesulfonic acid (PFBS)	<0.42		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluoropentanesulfonic acid (PFPeS)	<0.37		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluorohexanesulfonic acid (PFHxS)	<0.39		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.44		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluorooctanesulfonic acid (PFOS)	<0.39		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.45		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.56		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.68		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.57		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.53		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.40		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<0.45		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<0.51		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluoro(4-methoxybutanoic acid)	<0.35		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.32		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1
Perfluoro-3,6-dioxaheptanoic acid	<0.93		2.0		ng/L		05/08/24 07:45	05/09/24 22:20	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85*		*50 - 200*	*05/08/24 07:45*	*05/09/24 22:20*	*1*
13C5 PFPeA	*86*		*50 - 200*	*05/08/24 07:45*	*05/09/24 22:20*	*1*
13C5 PFHxA	*86*		*50 - 200*	*05/08/24 07:45*	*05/09/24 22:20*	*1*
13C4 PFHpA	*85*		*50 - 200*	*05/08/24 07:45*	*05/09/24 22:20*	*1*
13C8 PFOA	*86*		*50 - 200*	*05/08/24 07:45*	*05/09/24 22:20*	*1*
13C9 PFNA	*83*		*50 - 200*	*05/08/24 07:45*	*05/09/24 22:20*	*1*
13C6 PFDA	*81*		*50 - 200*	*05/08/24 07:45*	*05/09/24 22:20*	*1*
13C7 PFUnA	*85*		*50 - 200*	*05/08/24 07:45*	*05/09/24 22:20*	*1*
13C2 PFDoA	*89*		*50 - 200*	*05/08/24 07:45*	*05/09/24 22:20*	*1*
13C3 HFPO-DA	*80*		*50 - 200*	*05/08/24 07:45*	*05/09/24 22:20*	*1*
13C3 PFBS	*100*		*50 - 200*	*05/08/24 07:45*	*05/09/24 22:20*	*1*
13C8 PFOS	*103*		*50 - 200*	*05/08/24 07:45*	*05/09/24 22:20*	*1*
13C2-4:2-FTS	*95*		*50 - 200*	*05/08/24 07:45*	*05/09/24 22:20*	*1*

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: MBL 810-98061/1-A
Matrix: Drinking Water
Analysis Batch: 98235

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 98061

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-6:2-FTS	102		50 - 200	05/08/24 07:45	05/09/24 22:20	1
13C2-8:2-FTS	102		50 - 200	05/08/24 07:45	05/09/24 22:20	1
13C3 PFHxS	101		50 - 200	05/08/24 07:45	05/09/24 22:20	1

Lab Sample ID: LCS 810-98061/3-A
Matrix: Drinking Water
Analysis Batch: 98235

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 98061

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	400	393		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	400	397		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	400	401		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	400	399		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	400	411		ng/L		103	70 - 130
Perfluorononanoic acid (PFNA)	400	394		ng/L		98	70 - 130
Perfluorodecanoic acid (PFDA)	400	401		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	400	398		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	400	390		ng/L		98	70 - 130
Perfluorobutanesulfonic acid (PFBS)	355	359		ng/L		101	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	376	370		ng/L		99	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	365	364		ng/L		100	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	382	351		ng/L		92	70 - 130
Perfluorooctanesulfonic acid (PFOS)	371	349		ng/L		94	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	357	335		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	375	369		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	381	358		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	384	369		ng/L		96	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	400	391		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	378	339		ng/L		90	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	374	340		ng/L		91	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	378	338		ng/L		89	70 - 130
Perfluoro(4-methoxybutanoic acid)	400	374		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	400	362		ng/L		90	70 - 130
Perfluoro-3,6-dioxaheptanoic acid	400	349		ng/L		87	70 - 130

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	80		50 - 200
13C5 PFPeA	82		50 - 200
13C5 PFHxA	83		50 - 200
13C4 PFHpA	86		50 - 200
13C8 PFOA	86		50 - 200
13C9 PFNA	86		50 - 200
13C6 PFDA	88		50 - 200
13C7 PFUnA	90		50 - 200
13C2 PFDoA	87		50 - 200
13C3 HFPO-DA	81		50 - 200
13C3 PFBS	103		50 - 200
13C8 PFOS	105		50 - 200
13C2-4:2-FTS	110		50 - 200
13C2-6:2-FTS	121		50 - 200
13C2-8:2-FTS	110		50 - 200
13C3 PFHxS	102		50 - 200

Lab Sample ID: LLCS 810-98061/2-A
Matrix: Drinking Water
Analysis Batch: 98235

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 98061

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	2.00	1.67	J	ng/L		83	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	1.91	J	ng/L		96	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.90	J	ng/L		95	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.86	J	ng/L		93	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.87	J	ng/L		93	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.91	J	ng/L		96	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.90	J	ng/L		95	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.92	J	ng/L		96	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.81	J	ng/L		90	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.78	1.54	J	ng/L		87	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.63	J	ng/L		87	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	1.64	J	ng/L		90	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.91	1.70	J	ng/L		89	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	1.73	J	ng/L		93	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	1.78	1.63	J	ng/L		91	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.88	1.90	J	ng/L		101	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.90	1.95	J	ng/L		102	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.92	2.06		ng/L		107	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	2.00	1.81	J	ng/L		91	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.71	J	ng/L		91	50 - 150

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: LLCS 810-98061/2-A
Matrix: Drinking Water
Analysis Batch: 98235

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 98061

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid			1.87	1.67	J	ng/L		89	50 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid			1.89	1.72	J	ng/L		91	50 - 150		
Perfluoro(4-methoxybutanoic acid)			2.00	1.73	J	ng/L		87	50 - 150		
Perfluoro-3-methoxypropanoic acid (PFMPA)			2.00	1.75	J	ng/L		87	50 - 150		
Perfluoro-3,6-dioxaheptanoic acid			2.00	1.75	J	ng/L		87	50 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*85*		*50 - 200*
13C5 PFPeA	*85*		*50 - 200*
13C5 PFHxA	*85*		*50 - 200*
13C4 PFHpA	*87*		*50 - 200*
13C8 PFOA	*89*		*50 - 200*
13C9 PFNA	*93*		*50 - 200*
13C6 PFDA	*93*		*50 - 200*
13C7 PFUnA	*96*		*50 - 200*
13C2 PFDoA	*95*		*50 - 200*
13C3 HFPO-DA	*82*		*50 - 200*
13C3 PFBS	*101*		*50 - 200*
13C8 PFOS	*101*		*50 - 200*
13C2-4:2-FTS	*95*		*50 - 200*
13C2-6:2-FTS	*104*		*50 - 200*
13C2-8:2-FTS	*105*		*50 - 200*
13C3 PFHxS	*103*		*50 - 200*

Lab Sample ID: 810-103147-3 DU
Matrix: Drinking Water
Analysis Batch: 98235

Client Sample ID: 402 - Yadkin Raw Water
Prep Type: Total/NA
Prep Batch: 98061

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	<2.0			<1.9		ng/L				NC	30
Perfluoropentanoic acid (PFPeA)	<2.0			<1.9		ng/L				NC	30
Perfluorohexanoic acid (PFHxA)	<2.0			2.09		ng/L				NC	30
Perfluoroheptanoic acid (PFHpA)	<2.0			<1.9		ng/L				NC	30
Perfluorooctanoic acid (PFOA)	2.3			2.44		ng/L				4	30
Perfluorononanoic acid (PFNA)	<2.0			<1.9		ng/L				NC	30
Perfluorodecanoic acid (PFDA)	<2.0			<1.9		ng/L				NC	30
Perfluoroundecanoic acid (PFUnA)	<2.0			<1.9		ng/L				NC	30
Perfluorododecanoic acid (PFDoA)	<2.0			<1.9		ng/L				NC	30
Perfluorobutanesulfonic acid (PFBS)	<2.0			<1.9		ng/L				NC	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0			<1.9		ng/L				NC	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0			<1.9		ng/L				NC	30

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: 810-103147-3 DU
Matrix: Drinking Water
Analysis Batch: 98235

Client Sample ID: 402 - Yadkin Raw Water
Prep Type: Total/NA
Prep Batch: 98061

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Perfluoroheptanesulfonic acid (PFHpS)	<2.0			<1.9		ng/L				NC	30
Perfluorooctanesulfonic acid (PFOS)	3.4			3.55		ng/L				6	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0			<1.9		ng/L				NC	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0			<1.9		ng/L				NC	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0			<1.9		ng/L				NC	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0			<1.9		ng/L				NC	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<2.0			<1.9		ng/L				NC	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0			<1.9		ng/L				NC	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<2.0			<1.9		ng/L				NC	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<2.0			<1.9		ng/L				NC	30
Perfluoro(4-methoxybutanoic acid)	<2.0			<1.9		ng/L				NC	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0			<1.9		ng/L				NC	30
Perfluoro-3,6-dioxaheptanoic acid	<2.0			<1.9		ng/L				NC	30

Isotope Dilution	*DU %Recovery*	*DU Qualifier*	*Limits*
13C4 PFBA	*98*		*50 - 200*
13C5 PFPeA	*99*		*50 - 200*
13C5 PFHxA	*99*		*50 - 200*
13C4 PFHpA	*97*		*50 - 200*
13C8 PFOA	*94*		*50 - 200*
13C9 PFNA	*93*		*50 - 200*
13C6 PFDA	*85*		*50 - 200*
13C7 PFUnA	*84*		*50 - 200*
13C2 PFDoA	*86*		*50 - 200*
13C3 HFPO-DA	*91*		*50 - 200*
13C3 PFBS	*99*		*50 - 200*
13C8 PFOS	*100*		*50 - 200*
13C2-4:2-FTS	*114*		*50 - 200*
13C2-6:2-FTS	*107*		*50 - 200*
13C2-8:2-FTS	*106*		*50 - 200*
13C3 PFHxS	*101*		*50 - 200*

QC Association Summary

Client: Union County Water
Project/Site: PFAS - 533

Job ID: 810-103147-1

LCMS

Prep Batch: 98061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-103147-1	J18 - Rehoboth ARV	Total/NA	Drinking Water	533	
810-103147-2	401 - Yadkin Finished Water	Total/NA	Drinking Water	533	
810-103147-3	402 - Yadkin Raw Water	Total/NA	Drinking Water	533	
MBL 810-98061/1-A	Method Blank	Total/NA	Drinking Water	533	
LCS 810-98061/3-A	Lab Control Sample	Total/NA	Drinking Water	533	
LLCS 810-98061/2-A	Lab Control Sample	Total/NA	Drinking Water	533	
810-103147-3 DU	402 - Yadkin Raw Water	Total/NA	Drinking Water	533	

Analysis Batch: 98235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-103147-1	J18 - Rehoboth ARV	Total/NA	Drinking Water	533	98061
810-103147-2	401 - Yadkin Finished Water	Total/NA	Drinking Water	533	98061
810-103147-3	402 - Yadkin Raw Water	Total/NA	Drinking Water	533	98061
MBL 810-98061/1-A	Method Blank	Total/NA	Drinking Water	533	98061
LCS 810-98061/3-A	Lab Control Sample	Total/NA	Drinking Water	533	98061
LLCS 810-98061/2-A	Lab Control Sample	Total/NA	Drinking Water	533	98061
810-103147-3 DU	402 - Yadkin Raw Water	Total/NA	Drinking Water	533	98061

Lab Chronicle

Client: Union County Water
Project/Site: PFAS - 533

Job ID: 810-103147-1

Client Sample ID: J18 - Rehoboth ARV

Lab Sample ID: 810-103147-1

Date Collected: 05/02/24 14:10

Matrix: Drinking Water

Date Received: 05/03/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			98061	AH	EA SB	05/08/24 07:45
Total/NA	Analysis	533		1	98235	MH	EA SB	05/10/24 01:03

Client Sample ID: 401 - Yadkin Finished Water

Lab Sample ID: 810-103147-2

Date Collected: 05/02/24 15:10

Matrix: Drinking Water

Date Received: 05/03/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			98061	AH	EA SB	05/08/24 07:45
Total/NA	Analysis	533		1	98235	MH	EA SB	05/10/24 01:16

Client Sample ID: 402 - Yadkin Raw Water

Lab Sample ID: 810-103147-3

Date Collected: 05/02/24 15:15

Matrix: Drinking Water

Date Received: 05/03/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			98061	AH	EA SB	05/08/24 07:45
Total/NA	Analysis	533		1	98235	MH	EA SB	05/09/24 23:28

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Accreditation/Certification Summary

Client: Union County Water
Project/Site: PFAS - 533

Job ID: 810-103147-1

Laboratory: Eurofins Eaton Analytical South Bend

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
North Carolina (DW)	State	18700	07-31-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
533	533	Drinking Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
533	533	Drinking Water	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)
533	533	Drinking Water	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)
533	533	Drinking Water	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)
533	533	Drinking Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
533	533	Drinking Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid
533	533	Drinking Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)
533	533	Drinking Water	Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)
533	533	Drinking Water	Perfluoro(4-methoxybutanoic acid)
533	533	Drinking Water	Perfluoro-3,6-dioxaheptanoic acid
533	533	Drinking Water	Perfluoro-3-methoxypropanoic acid (PFMPA)
533	533	Drinking Water	Perfluorobutanesulfonic acid (PFBS)
533	533	Drinking Water	Perfluorobutanoic acid (PFBA)
533	533	Drinking Water	Perfluorodecanoic acid (PFDA)
533	533	Drinking Water	Perfluorododecanoic acid (PFDoA)
533	533	Drinking Water	Perfluoroheptanesulfonic acid (PFHpS)
533	533	Drinking Water	Perfluoroheptanoic acid (PFHpA)
533	533	Drinking Water	Perfluorohexanesulfonic acid (PFHxS)
533	533	Drinking Water	Perfluorohexanoic acid (PFHxA)
533	533	Drinking Water	Perfluorononanoic acid (PFNA)
533	533	Drinking Water	Perfluorooctanesulfonic acid (PFOS)
533	533	Drinking Water	Perfluorooctanoic acid (PFOA)
533	533	Drinking Water	Perfluoropentanesulfonic acid (PFPeS)
533	533	Drinking Water	Perfluoropentanoic acid (PFPeA)
533	533	Drinking Water	Perfluoroundecanoic acid (PFUnA)

Method Summary

Client: Union County Water
Project/Site: PFAS - 533

Job ID: 810-103147-1

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA SB
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA SB

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Sample Summary

Client: Union County Water
Project/Site: PFAS - 533

Job ID: 810-103147-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
810-103147-1	J18 - Rehoboth ARV	Drinking Water	05/02/24 14:10	05/03/24 09:00
810-103147-2	401 - Yadkin Finished Water	Drinking Water	05/02/24 15:10	05/03/24 09:00
810-103147-3	402 - Yadkin Raw Water	Drinking Water	05/02/24 15:15	05/03/24 09:00

810-103147 Chain of Custody

Chain of Custody Record

eurofins Environment Testing

Client Information: Justin Huntley	Sampler: Jordan Helms Phone: 980-269-7728	Lab PM: Mattheis, Joe E-Mail: Joe.Mattheis@et.eurofinsus.com	Carrier Tracking No(s): State of Origin:	COC No: 810-34243-6174.1 Page: Page 1 of 1
Company: Union County Water	PWSID:	Analysis Requested		Job #:
Address: 500 N Main St.	Due Date Requested:			Preservation Codes: I - NH4 Acetate
City: Monroe	TAT Requested (days):			
State, Zip: NC, 28112	Compliance Project: Δ Yes Δ No			
Phone: 704-289-3307(Tel)	PO #: Purchase Order not required			
Email: Justin.Huntley@UnionCountyNC.gov	WO #:			
Project Name: PFAS - 533	Project #: 81004979			
Site:	SSOW#:			Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	533 - (MOD) Local Method	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	I	X	
J18- Rehobeth ARV	5/2/24	2:10P	G	Drinking Water			✓		
Y01 - Yadkin Finished Water	5/2/24	3:10P	G	Drinking Water			✓		
Y02- Yadkin Raw Water	5/2/24	3:15P	G	Drinking Water			✓		PPW 05/03/24

Initial Temp: 0.6
Corrected Temp: 0.8
IR Gun #: 28 wet

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:		Time:		Method of Shipment:	
Relinquished by: Jordan Helms	Date/Time: 5/2/24 3:45P	Company:	Received by: Perry Pehley Wright	Date/Time: 05/03/24 0900	Company: EETA	
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:			

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Union County Water

Job Number: 810-103147-1

Login Number: 103147

List Source: Eurofins Eaton Analytical South Bend

List Number: 1

Creator: Pehling-Wright, Penny

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	