eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 1/12/2025 10:28:38 PM

JOB DESCRIPTION

PFAS - 533

JOB NUMBER

810-133630-1

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

Generated
1/12/2025 10:28:38 PM

Authorized for release by
Joe Mattheis, Project Manager I
Joe.Mattheis@et.eurofinsus.com
(574)233-4777

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Detection Summary 6
Client Sample Results 7
Isotope Dilution Summary 11
QC Sample Results 12
QC Association Summary 17
Lab Chronicle 18
Certification Summary 19
Method Summary 20
Sample Summary 21
Chain of Custody 22
Receipt Checklists 23

Definitions/Glossary

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

Job ID: 810-133630-1

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: 810-133630-1 — Eurofins Eaton Analytical South Bend

Job Narrative
810-133630-1

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 and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided 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 1/8/2025 9:30 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 0.2°C.

PFAS
Method 533: The pH of the following samples were adjusted to pH 7.5 in the laboratory: J18 - Rehobeth ARV (810-133630-1), Y01 - Yadkin Finished Water (810-133630-2) and Y02 - Yadkin Raw Water (810-133630-3)

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: 810-133630-1

Client Sample ID: J18 - Rehobeth ARV

Lab Sample ID: 810-133630-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.1		1.9		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	5.7		1.9		ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	5.3		1.9		ng/L	1		533	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.9		1.9		ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	3.3		1.9		ng/L	1		533	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.9		1.9		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.9		1.9		ng/L	1		533	Total/NA

Client Sample ID: Y01 - Yadkin Finished Water

Lab Sample ID: 810-133630-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.1		1.9		ng/L	1		533	Total/NA

Client Sample ID: Y02 - Yadkin Raw Water

Lab Sample ID: 810-133630-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.4		1.9		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.1		1.9		ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1		1.9		ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	2.1		1.9		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		1.9		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: 810-133630-1

Client Sample ID: J18 - Rehobeth ARV
Date Collected: 01/07/25 12:30
Date Received: 01/08/25 09:30

Lab Sample ID: 810-133630-1
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)	**3.1**		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluoropentanoic acid (PFPeA)	**5.7**		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluorohexanoic acid (PFHxA)	**5.3**		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluoroheptanoic acid (PFHpA)	**1.9**		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluorooctanoic acid (PFOA)	**3.3**		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluorobutanesulfonic acid (PFBS)	**1.9**		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluorooctanesulfonic acid (PFOS)	**2.9**		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluoro(4-methoxybutanoic acid)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1
Perfluoro-3,6-dioxaheptanoic acid	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 05:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89*		*50 - 200*	*01/09/25 09:25*	*01/10/25 05:18*	*1*
13C5 PFPeA	*103*		*50 - 200*	*01/09/25 09:25*	*01/10/25 05:18*	*1*
13C5 PFHxA	*85*		*50 - 200*	*01/09/25 09:25*	*01/10/25 05:18*	*1*
13C4 PFHpA	*85*		*50 - 200*	*01/09/25 09:25*	*01/10/25 05:18*	*1*
13C8 PFOA	*83*		*50 - 200*	*01/09/25 09:25*	*01/10/25 05:18*	*1*
13C9 PFNA	*85*		*50 - 200*	*01/09/25 09:25*	*01/10/25 05:18*	*1*
13C6 PFDA	*82*		*50 - 200*	*01/09/25 09:25*	*01/10/25 05:18*	*1*
13C7 PFUnA	*83*		*50 - 200*	*01/09/25 09:25*	*01/10/25 05:18*	*1*
13C2 PFDoA	*83*		*50 - 200*	*01/09/25 09:25*	*01/10/25 05:18*	*1*
13C3 HFPO-DA	*81*		*50 - 200*	*01/09/25 09:25*	*01/10/25 05:18*	*1*
13C3 PFBS	*89*		*50 - 200*	*01/09/25 09:25*	*01/10/25 05:18*	*1*
13C8 PFOS	*89*		*50 - 200*	*01/09/25 09:25*	*01/10/25 05:18*	*1*
13C2-4:2-FTS	*95*		*50 - 200*	*01/09/25 09:25*	*01/10/25 05:18*	*1*

Client Sample ID: J18 - Rehobeth ARV

Lab Sample ID: 810-133630-1

Date Collected: 01/07/25 12:30

Matrix: Drinking Water

Date Received: 01/08/25 09:30

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	91		50 - 200	01/09/25 09:25	01/10/25 05:18	1
13C2-8:2-FTS	95		50 - 200	01/09/25 09:25	01/10/25 05:18	1
13C3 PFHxS	86		50 - 200	01/09/25 09:25	01/10/25 05:18	1

Client Sample ID: Y01 - Yadkin Finished Water

Lab Sample ID: 810-133630-2

Date Collected: 01/07/25 13:19

Matrix: Drinking Water

Date Received: 01/08/25 09:30

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)	**2.1**		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluoropentanoic acid (PFPeA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluoro(4-methoxybutanoic acid)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1
Perfluoro-3,6-dioxaheptanoic acid	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:26	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	87		50 - 200	01/09/25 09:25	01/10/25 06:26	1
13C5 PFPeA	96		50 - 200	01/09/25 09:25	01/10/25 06:26	1
13C5 PFHxA	87		50 - 200	01/09/25 09:25	01/10/25 06:26	1
13C4 PFHpA	83		50 - 200	01/09/25 09:25	01/10/25 06:26	1
13C8 PFOA	83		50 - 200	01/09/25 09:25	01/10/25 06:26	1

Client Sample ID: Y01 - Yadkin Finished Water

Lab Sample ID: 810-133630-2

Date Collected: 01/07/25 13:19

Matrix: Drinking Water

Date Received: 01/08/25 09:30

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C9 PFNA	82		50 - 200	01/09/25 09:25	01/10/25 06:26	1
13C6 PFDA	81		50 - 200	01/09/25 09:25	01/10/25 06:26	1
13C7 PFUnA	81		50 - 200	01/09/25 09:25	01/10/25 06:26	1
13C2 PFDoA	81		50 - 200	01/09/25 09:25	01/10/25 06:26	1
13C3 HFPO-DA	82		50 - 200	01/09/25 09:25	01/10/25 06:26	1
13C3 PFBS	90		50 - 200	01/09/25 09:25	01/10/25 06:26	1
13C8 PFOS	89		50 - 200	01/09/25 09:25	01/10/25 06:26	1
13C2-4:2-FTS	84		50 - 200	01/09/25 09:25	01/10/25 06:26	1
13C2-6:2-FTS	84		50 - 200	01/09/25 09:25	01/10/25 06:26	1
13C2-8:2-FTS	90		50 - 200	01/09/25 09:25	01/10/25 06:26	1
13C3 PFHxS	86		50 - 200	01/09/25 09:25	01/10/25 06:26	1

Client Sample ID: Y02 - Yadkin Raw Water

Lab Sample ID: 810-133630-3

Date Collected: 01/07/25 13:26

Matrix: Drinking Water

Date Received: 01/08/25 09:30

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)	**2.4**		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluoropentanoic acid (PFPeA)	**2.1**		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluorohexanoic acid (PFHxA)	**2.1**		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluorooctanoic acid (PFOA)	**2.1**		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluorooctanesulfonic acid (PFOS)	**3.6**		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluoro(4-methoxybutanoic acid)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1

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

Job ID: 810-133630-1

Client Sample ID: Y02 - Yadkin Raw Water
Date Collected: 01/07/25 13:26
Date Received: 01/08/25 09:30

Lab Sample ID: 810-133630-3
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)	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1
Perfluoro-3,6-dioxaheptanoic acid	<1.9		1.9		ng/L		01/09/25 09:25	01/10/25 06:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C5 PFPeA	*143*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C5 PFHxA	*88*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C4 PFHpA	*88*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C8 PFOA	*88*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C9 PFNA	*87*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C6 PFDA	*87*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C7 PFUnA	*88*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C2 PFDoA	*91*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C3 HFPO-DA	*85*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C3 PFBS	*89*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C8 PFOS	*88*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C2-4:2-FTS	*103*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C2-6:2-FTS	*86*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C2-8:2-FTS	*89*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*
13C3 PFHxS	*87*		*50 - 200*	*01/09/25 09:25*	*01/10/25 06:39*	*1*

Isotope Dilution Summary

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

Job ID: 810-133630-1

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)
810-133630-1	J18 - Rehobeth ARV	89	103	85	85	83	85	82	83
810-133630-1 LMS	J18 - Rehobeth ARV	86	99	83	83	83	81	79	81
810-133630-2	Y01 - Yadkin Finished Water	87	96	87	83	83	82	81	81
810-133630-3	Y02 - Yadkin Raw Water	89	143	88	88	88	87	87	88
LCS 810-128892/3-A	Lab Control Sample	89	86	86	88	91	87	88	88
LLCS 810-128892/2-A	Lab Control Sample	80	80	83	84	84	89	86	90
MBL 810-128892/1-A	Method Blank	91	90	89	90	91	95	92	90

		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)
810-133630-1	J18 - Rehobeth ARV	83	81	89	89	95	91	95	86
810-133630-1 LMS	J18 - Rehobeth ARV	83	80	86	86	90	85	92	85
810-133630-2	Y01 - Yadkin Finished Water	81	82	90	89	84	84	90	86
810-133630-3	Y02 - Yadkin Raw Water	91	85	89	88	103	86	89	87
LCS 810-128892/3-A	Lab Control Sample	88	87	88	89	84	95	90	89
LLCS 810-128892/2-A	Lab Control Sample	89	80	88	88	75	81	86	86
MBL 810-128892/1-A	Method Blank	91	88	93	91	77	83	89	91

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 810-128892/1-A
Matrix: Drinking Water
Analysis Batch: 128957

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 128892

Analyte	MBL Result	MBL Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<0.52		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluorohexanoic acid (PFHxA)	<0.42		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluoroheptanoic acid (PFHpA)	<0.40		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluorononanoic acid (PFNA)	<0.38		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluorodecanoic acid (PFDA)	<0.36		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluoroundecanoic acid (PFUnA)	<0.38		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluorododecanoic acid (PFDoA)	<0.35		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluorobutanesulfonic acid (PFBS)	<0.42		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluoropentanesulfonic acid (PFPeS)	<0.37		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluorohexanesulfonic acid (PFHxS)	<0.39		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.44		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluorooctanesulfonic acid (PFOS)	<0.39		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.45		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.56		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.68		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.57		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.53		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.40		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<0.45		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<0.51		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluoro(4-methoxybutanoic acid)	<0.35		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.32		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1
Perfluoro-3,6-dioxaheptanoic acid	<0.93		2.0		ng/L		01/09/25 09:25	01/10/25 04:38	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*50 - 200*	*01/09/25 09:25*	*01/10/25 04:38*	*1*
13C5 PFPeA	*90*		*50 - 200*	*01/09/25 09:25*	*01/10/25 04:38*	*1*
13C5 PFHxA	*89*		*50 - 200*	*01/09/25 09:25*	*01/10/25 04:38*	*1*
13C4 PFHpA	*90*		*50 - 200*	*01/09/25 09:25*	*01/10/25 04:38*	*1*
13C8 PFOA	*91*		*50 - 200*	*01/09/25 09:25*	*01/10/25 04:38*	*1*
13C9 PFNA	*95*		*50 - 200*	*01/09/25 09:25*	*01/10/25 04:38*	*1*
13C6 PFDA	*92*		*50 - 200*	*01/09/25 09:25*	*01/10/25 04:38*	*1*
13C7 PFUnA	*90*		*50 - 200*	*01/09/25 09:25*	*01/10/25 04:38*	*1*
13C2 PFDoA	*91*		*50 - 200*	*01/09/25 09:25*	*01/10/25 04:38*	*1*
13C3 HFPO-DA	*88*		*50 - 200*	*01/09/25 09:25*	*01/10/25 04:38*	*1*
13C3 PFBS	*93*		*50 - 200*	*01/09/25 09:25*	*01/10/25 04:38*	*1*
13C8 PFOS	*91*		*50 - 200*	*01/09/25 09:25*	*01/10/25 04:38*	*1*
13C2-4:2-FTS	*77*		*50 - 200*	*01/09/25 09:25*	*01/10/25 04:38*	*1*

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

Lab Sample ID: MBL 810-128892/1-A
Matrix: Drinking Water
Analysis Batch: 128957

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 128892

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-6:2-FTS	83		50 - 200	01/09/25 09:25	01/10/25 04:38	1
13C2-8:2-FTS	89		50 - 200	01/09/25 09:25	01/10/25 04:38	1
13C3 PFHxS	91		50 - 200	01/09/25 09:25	01/10/25 04:38	1

Lab Sample ID: LCS 810-128892/3-A
Matrix: Drinking Water
Analysis Batch: 128957

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 128892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	200	194		ng/L		97	70 - 130
Perfluoropentanoic acid (PFPeA)	200	196		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	200	192		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	200	196		ng/L		98	70 - 130
Perfluorooctanoic acid (PFOA)	200	187		ng/L		94	70 - 130
Perfluorononanoic acid (PFNA)	200	198		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	200	199		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	200	199		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	200	200		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	178	172		ng/L		97	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	188	183		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	183	177		ng/L		97	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	191	186		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	186	178		ng/L		96	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	178	173		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	188	187		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	190	181		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	192	185		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	200	200		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	189	186		ng/L		98	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	187	176		ng/L		94	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	189	185		ng/L		98	70 - 130
Perfluoro(4-methoxybutanoic acid)	200	196		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	200	197		ng/L		99	70 - 130
Perfluoro-3,6-dioxaheptanoic acid	200	193		ng/L		97	70 - 130

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

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	89		50 - 200
13C5 PFPeA	86		50 - 200
13C5 PFHxA	86		50 - 200
13C4 PFHpA	88		50 - 200
13C8 PFOA	91		50 - 200
13C9 PFNA	87		50 - 200
13C6 PFDA	88		50 - 200
13C7 PFUnA	88		50 - 200
13C2 PFDoA	88		50 - 200
13C3 HFPO-DA	87		50 - 200
13C3 PFBS	88		50 - 200
13C8 PFOS	89		50 - 200
13C2-4:2-FTS	84		50 - 200
13C2-6:2-FTS	95		50 - 200
13C2-8:2-FTS	90		50 - 200
13C3 PFHxS	89		50 - 200

Lab Sample ID: LLCS 810-128892/2-A
Matrix: Drinking Water
Analysis Batch: 128957

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 128892

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	2.00	1.67	J	ng/L		84	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	1.72	J	ng/L		86	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.66	J	ng/L		83	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.64	J	ng/L		82	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.69	J	ng/L		84	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.69	J	ng/L		85	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.80	J	ng/L		90	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.78	J	ng/L		89	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.72	J	ng/L		86	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.78	1.45	J	ng/L		82	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.53	J	ng/L		81	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	1.46	J	ng/L		80	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.91	1.53	J	ng/L		80	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	1.59	J	ng/L		85	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	1.78	1.54	J	ng/L		86	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.88	1.70	J	ng/L		91	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.90	1.72	J	ng/L		90	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.92	1.70	J	ng/L		88	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	2.00	1.71	J	ng/L		85	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.61	J	ng/L		85	50 - 150

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

Lab Sample ID: LLCS 810-128892/2-A
Matrix: Drinking Water
Analysis Batch: 128957

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 128892

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.87	1.62	J	ng/L		87	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.89	1.56	J	ng/L		83	50 - 150
Perfluoro(4-methoxybutanoic acid)	2.00	1.62	J	ng/L		81	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.63	J	ng/L		82	50 - 150
Perfluoro-3,6-dioxaheptanoic acid	2.00	1.62	J	ng/L		81	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*80*		*50 - 200*
13C5 PFPeA	*80*		*50 - 200*
13C5 PFHxA	*83*		*50 - 200*
13C4 PFHpA	*84*		*50 - 200*
13C8 PFOA	*84*		*50 - 200*
13C9 PFNA	*89*		*50 - 200*
13C6 PFDA	*86*		*50 - 200*
13C7 PFUnA	*90*		*50 - 200*
13C2 PFDoA	*89*		*50 - 200*
13C3 HFPO-DA	*80*		*50 - 200*
13C3 PFBS	*88*		*50 - 200*
13C8 PFOS	*88*		*50 - 200*
13C2-4:2-FTS	*75*		*50 - 200*
13C2-6:2-FTS	*81*		*50 - 200*
13C2-8:2-FTS	*86*		*50 - 200*
13C3 PFHxS	*86*		*50 - 200*

Lab Sample ID: 810-133630-1 LMS
Matrix: Drinking Water
Analysis Batch: 128957

Client Sample ID: J18 - Rehobeth ARV
Prep Type: Total/NA
Prep Batch: 128892

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	3.1		1.89	4.67		ng/L		84	50 - 150
Perfluoropentanoic acid (PFPeA)	5.7		1.89	7.40		ng/L		88	50 - 150
Perfluorohexanoic acid (PFHxA)	5.3		1.89	6.81		ng/L		79	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.9		1.89	3.35		ng/L		78	50 - 150
Perfluorooctanoic acid (PFOA)	3.3		1.89	4.87		ng/L		83	50 - 150
Perfluorononanoic acid (PFNA)	<1.9		1.89	2.21		ng/L		84	50 - 150
Perfluorodecanoic acid (PFDA)	<1.9		1.89	2.13		ng/L		92	50 - 150
Perfluoroundecanoic acid (PFUnA)	<1.9		1.89	1.78	J	ng/L		94	50 - 150
Perfluorododecanoic acid (PFDoA)	<1.9		1.89	1.78	J	ng/L		94	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.9		1.68	3.32		ng/L		83	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.78	1.79	J	ng/L		101	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.73	3.11		ng/L		85	50 - 150

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

Lab Sample ID: 810-133630-1 LMS
Matrix: Drinking Water
Analysis Batch: 128957

Client Sample ID: J18 - Rehobeth ARV
Prep Type: Total/NA
Prep Batch: 128892

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		1.80	1.54	J	ng/L		86	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.9		1.76	4.21		ng/L		74	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<1.9		1.69	1.12	J	ng/L		67	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<1.9		1.77	1.54	J	ng/L		87	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<1.9		1.80	1.89	J	ng/L		105	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<1.9		1.82	1.58	J	ng/L		87	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.89	1.69	J	ng/L		90	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.79	1.49	J	ng/L		83	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.77	1.53	J	ng/L		87	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.79	1.57	J	ng/L		88	50 - 150
Perfluoro(4-methoxybutanoic acid)	<1.9		1.89	1.57	J	ng/L		83	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.9		1.89	1.57	J	ng/L		83	50 - 150
Perfluoro-3,6-dioxaheptanoic acid	<1.9		1.89	1.62	J	ng/L		86	50 - 150

Isotope Dilution	*LMS %Recovery*	*LMS Qualifier*	*Limits*
13C4 PFBA	*86*		*50 - 200*
13C5 PFPeA	*99*		*50 - 200*
13C5 PFHxA	*83*		*50 - 200*
13C4 PFHpA	*83*		*50 - 200*
13C8 PFOA	*83*		*50 - 200*
13C9 PFNA	*81*		*50 - 200*
13C6 PFDA	*79*		*50 - 200*
13C7 PFUnA	*81*		*50 - 200*
13C2 PFDoA	*83*		*50 - 200*
13C3 HFPO-DA	*80*		*50 - 200*
13C3 PFBS	*86*		*50 - 200*
13C8 PFOS	*86*		*50 - 200*
13C2-4:2-FTS	*90*		*50 - 200*
13C2-6:2-FTS	*85*		*50 - 200*
13C2-8:2-FTS	*92*		*50 - 200*
13C3 PFHxS	*85*		*50 - 200*

QC Association Summary

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

Job ID: 810-133630-1

LCMS

Prep Batch: 128892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-133630-1	J18 - Rehobeth ARV	Total/NA	Drinking Water	533	
810-133630-2	Y01 - Yadkin Finished Water	Total/NA	Drinking Water	533	
810-133630-3	Y02 - Yadkin Raw Water	Total/NA	Drinking Water	533	
MBL 810-128892/1-A	Method Blank	Total/NA	Drinking Water	533	
LCS 810-128892/3-A	Lab Control Sample	Total/NA	Drinking Water	533	
LLCS 810-128892/2-A	Lab Control Sample	Total/NA	Drinking Water	533	
810-133630-1 LMS	J18 - Rehobeth ARV	Total/NA	Drinking Water	533	

Analysis Batch: 128957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-133630-1	J18 - Rehobeth ARV	Total/NA	Drinking Water	533	128892
810-133630-2	Y01 - Yadkin Finished Water	Total/NA	Drinking Water	533	128892
810-133630-3	Y02 - Yadkin Raw Water	Total/NA	Drinking Water	533	128892
MBL 810-128892/1-A	Method Blank	Total/NA	Drinking Water	533	128892
LCS 810-128892/3-A	Lab Control Sample	Total/NA	Drinking Water	533	128892
LLCS 810-128892/2-A	Lab Control Sample	Total/NA	Drinking Water	533	128892
810-133630-1 LMS	J18 - Rehobeth ARV	Total/NA	Drinking Water	533	128892

Lab Chronicle

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

Job ID: 810-133630-1

Client Sample ID: J18 - Rehobeth ARV

Lab Sample ID: 810-133630-1

Date Collected: 01/07/25 12:30

Matrix: Drinking Water

Date Received: 01/08/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			128892	KB	EA SB	01/09/25 09:25
Total/NA	Analysis	533		1	128957	MH	EA SB	01/10/25 05:18

Client Sample ID: Y01 - Yadkin Finished Water

Lab Sample ID: 810-133630-2

Date Collected: 01/07/25 13:19

Matrix: Drinking Water

Date Received: 01/08/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			128892	KB	EA SB	01/09/25 09:25
Total/NA	Analysis	533		1	128957	MH	EA SB	01/10/25 06:26

Client Sample ID: Y02 - Yadkin Raw Water

Lab Sample ID: 810-133630-3

Date Collected: 01/07/25 13:26

Matrix: Drinking Water

Date Received: 01/08/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			128892	KB	EA SB	01/09/25 09:25
Total/NA	Analysis	533		1	128957	MH	EA SB	01/10/25 06:39

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: 810-133630-1

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	07-31-25

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: 810-133630-1

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: 810-133630-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
810-133630-1	J18 - Rehobeth ARV	Drinking Water	01/07/25 12:30	01/08/25 09:30
810-133630-2	Y01 - Yadkin Finished Water	Drinking Water	01/07/25 13:19	01/08/25 09:30
810-133630-3	Y02 - Yadkin Raw Water	Drinking Water	01/07/25 13:26	01/08/25 09:30

810-133630 Chain of Custody

nd

Chain of Custody Record

eurofins | Environment Testing

	Sampler: Jordan Helms	Lab PM: Mattheis, Joe	Carrier Tracking No(s):	COC No: 810-34251-6174.1
Justin Huntley	Phone: 980-269-7728	E-Mail: Joe.Mattheis@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: Union County Water	PWSID:			Job #:

Analysis Requested

Address: 500 N Main St.	Due Date Requested:	
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#:	

Preservation Codes: I - NH4 Acetate

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:				I		
J18 - Rehobeth ARV	1/7/25	12:30P	G	Drinking Wate			✓		
Y01 - Yadkin Finished Water	1/7/25	1:19P	G	Drinking Wate			✓		
Y02 - Yadkin Raw Water	1/7/25	1:26P	G	Drinking Wate			✓		

Initial Temp: 0.0
Corrected Temp: 0.2 net
IR Gun #: 31

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: 1/7/25 1:50P	Company	Received by: Kayton Trail	Date/Time: 01/08/2025 0930	Company
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: 10/10/2024

Login Sample Receipt Checklist

Client: Union County Water

Job Number: 810-133630-1

Login Number: 133630

List Source: Eurofins Eaton Analytical South Bend

List Number: 1

Creator: Trowbridge, Peyton

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	