

 **ANALYTICAL REPORT****PREPARED FOR**

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

Generated 1/13/2026 9:43:37 PM

**JOB DESCRIPTION**

PFAS - 533

**JOB NUMBER**

810-177602-1

# Eurofins South Bend

## 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 Drinking Water and Wastewater Central, LLC Project Manager.

## Authorization



Generated  
1/13/2026 9:43:37 PM

Authorized for release by  
Joe Mattheis, Project Manager I  
[Joe.Mattheis@et.eurofinsus.com](mailto: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 . . . . .	15
Lab Chronicle . . . . .	16
Certification Summary . . . . .	17
Method Summary . . . . .	18
Sample Summary . . . . .	19
Chain of Custody . . . . .	20
Receipt Checklists . . . . .	21

# Definitions/Glossary

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

Job ID: 810-177602-1

## 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

# Case Narrative

Client: Union County Water  
Project: PFAS - 533

Job ID: 810-177602-1

**Job ID: 810-177602-1**

**Eurofins South Bend**

## Job Narrative 810-177602-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

### Receipt

The samples were received on 1/9/2026 9:45 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 0.4°C.

### PFAS

Method 533: The pH of the following samples were adjusted to pH 7.5 in the laboratory: J18-Rehobeth ARV (810-177602-1), Y01-Yadkin Finished Water (810-177602-2) and Y02-Yadkin Raw Water (810-177602-3)

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

Eurofins South Bend

# Detection Summary

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

Job ID: 810-177602-1

## Client Sample ID: J18-Rehobeth ARV

Lab Sample ID: 810-177602-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.0		1.9		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	5.5		1.9		ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	5.2		1.9		ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	3.1		1.9		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.1		1.9		ng/L	1		533	Total/NA

## Client Sample ID: Y01-Yadkin Finished Water

Lab Sample ID: 810-177602-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.0		1.9		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	3.3		1.9		ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.5		1.9		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		1.9		ng/L	1		533	Total/NA

## Client Sample ID: Y02-Yadkin Raw Water

Lab Sample ID: 810-177602-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.2		1.9		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	3.0		1.9		ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.5		1.9		ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	2.1		1.9		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.0		1.9		ng/L	1		533	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins South Bend

# Client Sample Results

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

Job ID: 810-177602-1

**Client Sample ID: J18-Rehobeth ARV**

**Lab Sample ID: 810-177602-1**

Date Collected: 01/08/26 10:25

Matrix: Drinking Water

Date Received: 01/09/26 09:45

**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)	3.0		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluoropentanoic acid (PFPeA)	5.5		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluorohexanoic acid (PFHxA)	5.2		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluorooctanoic acid (PFOA)	3.1		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluorooctanesulfonic acid (PFOS)	2.1		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluoro(4-methoxybutanoic acid)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1
Perfluoro-3,6-dioxaheptanoic acid	<1.9		1.9		ng/L		01/12/26 09:08	01/12/26 23:53	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	97		50 - 200	01/12/26 09:08	01/12/26 23:53	1
13C5 PFPeA	98		50 - 200	01/12/26 09:08	01/12/26 23:53	1
13C5 PFHxA	94		50 - 200	01/12/26 09:08	01/12/26 23:53	1
13C4 PFHpA	96		50 - 200	01/12/26 09:08	01/12/26 23:53	1
13C8 PFOA	91		50 - 200	01/12/26 09:08	01/12/26 23:53	1
13C9 PFNA	91		50 - 200	01/12/26 09:08	01/12/26 23:53	1
13C6 PFDA	87		50 - 200	01/12/26 09:08	01/12/26 23:53	1
13C7 PFUnA	85		50 - 200	01/12/26 09:08	01/12/26 23:53	1
13C2 PFDoA	87		50 - 200	01/12/26 09:08	01/12/26 23:53	1
13C3 HFPO-DA	94		50 - 200	01/12/26 09:08	01/12/26 23:53	1
13C3 PFBS	100		50 - 200	01/12/26 09:08	01/12/26 23:53	1
13C8 PFOS	95		50 - 200	01/12/26 09:08	01/12/26 23:53	1
13C2-4:2-FTS	98		50 - 200	01/12/26 09:08	01/12/26 23:53	1
13C2-6:2-FTS	98		50 - 200	01/12/26 09:08	01/12/26 23:53	1

Eurofins South Bend

# Client Sample Results

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

Job ID: 810-177602-1

## Client Sample ID: J18-Rehobeth ARV

Lab Sample ID: 810-177602-1

Date Collected: 01/08/26 10:25

Matrix: Drinking Water

Date Received: 01/09/26 09:45

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-8:2-FTS	92		50 - 200	01/12/26 09:08	01/12/26 23:53	1
13C3 PFHxS	93		50 - 200	01/12/26 09:08	01/12/26 23:53	1

## Client Sample ID: Y01-Yadkin Finished Water

Lab Sample ID: 810-177602-2

Date Collected: 01/08/26 11:54

Matrix: Drinking Water

Date Received: 01/09/26 09:45

### 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		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluoropentanoic acid (PFPeA)	3.3		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluorohexanoic acid (PFHxA)	2.5		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluorooctanesulfonic acid (PFOS)	2.2		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluoro(4-methoxybutanoic acid)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
Perfluoro-3,6-dioxaheptanoic acid	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:08	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C4 PFBA	94		50 - 200				01/12/26 09:08	01/13/26 00:08	1
13C5 PFPeA	96		50 - 200				01/12/26 09:08	01/13/26 00:08	1
13C5 PFHxA	89		50 - 200				01/12/26 09:08	01/13/26 00:08	1
13C4 PFHpA	90		50 - 200				01/12/26 09:08	01/13/26 00:08	1
13C8 PFOA	87		50 - 200				01/12/26 09:08	01/13/26 00:08	1
13C9 PFNA	85		50 - 200				01/12/26 09:08	01/13/26 00:08	1

Eurofins South Bend

# Client Sample Results

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

Job ID: 810-177602-1

**Client Sample ID: Y01-Yadkin Finished Water**

**Lab Sample ID: 810-177602-2**

Date Collected: 01/08/26 11:54

Matrix: Drinking Water

Date Received: 01/09/26 09:45

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C6 PFDA	78		50 - 200	01/12/26 09:08	01/13/26 00:08	1
13C7 PFOA	76		50 - 200	01/12/26 09:08	01/13/26 00:08	1
13C2 PFDoA	81		50 - 200	01/12/26 09:08	01/13/26 00:08	1
13C3 HFPO-DA	89		50 - 200	01/12/26 09:08	01/13/26 00:08	1
13C3 PFBS	98		50 - 200	01/12/26 09:08	01/13/26 00:08	1
13C8 PFOS	93		50 - 200	01/12/26 09:08	01/13/26 00:08	1
13C2-4:2-FTS	97		50 - 200	01/12/26 09:08	01/13/26 00:08	1
13C2-6:2-FTS	97		50 - 200	01/12/26 09:08	01/13/26 00:08	1
13C2-8:2-FTS	92		50 - 200	01/12/26 09:08	01/13/26 00:08	1
13C3 PFHxS	92		50 - 200	01/12/26 09:08	01/13/26 00:08	1

**Client Sample ID: Y02-Yadkin Raw Water**

**Lab Sample ID: 810-177602-3**

Date Collected: 01/08/26 11:57

Matrix: Drinking Water

Date Received: 01/09/26 09:45

**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)	2.2		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluoropentanoic acid (PFPeA)	3.0		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluorohexanoic acid (PFHxA)	2.5		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluorooctanoic acid (PFOA)	2.1		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluorooctanesulfonic acid (PFOS)	3.0		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluoro(4-methoxybutanoic acid)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1

Eurofins South Bend

# Client Sample Results

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

Job ID: 810-177602-1

**Client Sample ID: Y02-Yadkin Raw Water**

**Lab Sample ID: 810-177602-3**

Date Collected: 01/08/26 11:57

Matrix: Drinking Water

Date Received: 01/09/26 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-3,6-dioxaheptanoic acid	<1.9		1.9		ng/L		01/12/26 09:08	01/13/26 00:24	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFBA	96		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C5 PFPeA	96		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C5 PFHxA	95		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C4 PFHpA	94		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C8 PFOA	92		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C9 PFNA	91		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C6 PFDA	88		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C7 PFUnA	84		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C2 PFDoA	85		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C3 HFPO-DA	92		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C3 PFBS	101		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C8 PFOS	96		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C2-4:2-FTS	108		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C2-6:2-FTS	103		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C2-8:2-FTS	94		50 - 200				01/12/26 09:08	01/13/26 00:24	1
13C3 PFHxS	95		50 - 200				01/12/26 09:08	01/13/26 00:24	1

# Isotope Dilution Summary

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

Job ID: 810-177602-1

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

Matrix: Drinking Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	C6PFDA (50-200)	13C7PUA (50-200)
810-177602-1	J18-Rehobeth ARV	97	98	94	96	91	91	87	85
810-177602-2	Y01-Yadkin Finished Water	94	96	89	90	87	85	78	76
810-177602-3	Y02-Yadkin Raw Water	96	96	95	94	92	91	88	84
LLCS 810-176076/2-A	Lab Control Sample	95	96	93	96	96	98	93	89
MBL 810-176076/1-A	Method Blank	96	97	93	94	97	100	95	89

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDoA (50-200)	HFPODA (50-200)	C3PFBS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)	C3PFHS (50-200)
810-177602-1	J18-Rehobeth ARV	87	94	100	95	98	98	92	93
810-177602-2	Y01-Yadkin Finished Water	81	89	98	93	97	97	92	92
810-177602-3	Y02-Yadkin Raw Water	85	92	101	96	108	103	94	95
LLCS 810-176076/2-A	Lab Control Sample	92	93	91	93	79	93	92	88
MBL 810-176076/1-A	Method Blank	92	93	94	97	85	99	92	94

#### 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

# QC Sample Results

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

Job ID: 810-177602-1

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

**Lab Sample ID: MBL 810-176076/1-A**  
**Matrix: Drinking Water**  
**Analysis Batch: 176145**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 176076**

Analyte	MBL Result	MBL Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<0.52		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluoropentanoic acid (PFPeA)	<0.77		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluorohexanoic acid (PFHxA)	<0.73		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluoroheptanoic acid (PFHpA)	<0.72		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluorooctanoic acid (PFOA)	<0.74		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluorononanoic acid (PFNA)	<0.73		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluorodecanoic acid (PFDA)	<0.66		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluoroundecanoic acid (PFUnA)	<0.70		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluorododecanoic acid (PFDoA)	<0.70		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluorobutanesulfonic acid (PFBS)	<0.66		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluoropentanesulfonic acid (PFPeS)	<0.69		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluorohexanesulfonic acid (PFHxS)	<0.66		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.60		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluorooctanesulfonic acid (PFOS)	<0.69		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.66		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.67		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.68		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.57		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.71		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	<0.97		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	<0.82		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluoro(4-methoxybutanoic acid)	<0.65		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.81		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1
Perfluoro-3,6-dioxaheptanoic acid	<0.93		2.0		ng/L		01/12/26 09:08	01/12/26 20:02	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	96		50 - 200	01/12/26 09:08	01/12/26 20:02	1
13C5 PFPeA	97		50 - 200	01/12/26 09:08	01/12/26 20:02	1
13C5 PFHxA	93		50 - 200	01/12/26 09:08	01/12/26 20:02	1
13C4 PFHpA	94		50 - 200	01/12/26 09:08	01/12/26 20:02	1
13C8 PFOA	97		50 - 200	01/12/26 09:08	01/12/26 20:02	1
13C9 PFNA	100		50 - 200	01/12/26 09:08	01/12/26 20:02	1
13C6 PFDA	95		50 - 200	01/12/26 09:08	01/12/26 20:02	1
13C7 PFUnA	89		50 - 200	01/12/26 09:08	01/12/26 20:02	1
13C2 PFDoA	92		50 - 200	01/12/26 09:08	01/12/26 20:02	1
13C3 HFPO-DA	93		50 - 200	01/12/26 09:08	01/12/26 20:02	1
13C3 PFBS	94		50 - 200	01/12/26 09:08	01/12/26 20:02	1
13C8 PFOS	97		50 - 200	01/12/26 09:08	01/12/26 20:02	1
13C2-4:2-FTS	85		50 - 200	01/12/26 09:08	01/12/26 20:02	1

Eurofins South Bend

# QC Sample Results

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

Job ID: 810-177602-1

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

**Lab Sample ID: MBL 810-176076/1-A**  
**Matrix: Drinking Water**  
**Analysis Batch: 176145**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 176076**

Isotope Dilution	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C2-6:2-FTS	99		50 - 200	01/12/26 09:08	01/12/26 20:02	1
13C2-8:2-FTS	92		50 - 200	01/12/26 09:08	01/12/26 20:02	1
13C3 PFHxS	94		50 - 200	01/12/26 09:08	01/12/26 20:02	1

**Lab Sample ID: LLCS 810-176076/2-A**  
**Matrix: Drinking Water**  
**Analysis Batch: 176145**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 176076**

Analyte	Spike Added	LLCS LLCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Perfluorobutanoic acid (PFBA)	2.00	1.96	J	ng/L		98	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	1.98	J	ng/L		99	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.90	J	ng/L		95	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.96	J	ng/L		98	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.93	J	ng/L		97	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.90	J	ng/L		95	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.09		ng/L		105	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.12		ng/L		106	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.07		ng/L		104	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.78	1.69	J	ng/L		95	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.65	J	ng/L		88	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	1.77	J	ng/L		97	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.91	1.81	J	ng/L		95	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	1.72	J	ng/L		93	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	1.78	1.85	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.88	1.90	J	ng/L		102	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.90	1.84	J	ng/L		97	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.92	1.81	J	ng/L		94	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	2.00	1.98	J	ng/L		99	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.78	J	ng/L		94	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.87	1.86	J	ng/L		99	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.89	1.75	J	ng/L		93	50 - 150
Perfluoro(4-methoxybutanoic acid)	2.00	1.96	J	ng/L		98	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.87	J	ng/L		94	50 - 150
Perfluoro-3,6-dioxaheptanoic acid	2.00	2.03		ng/L		101	50 - 150

# QC Sample Results

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

Job ID: 810-177602-1

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

<i>Isotope Dilution</i>	<i>LLCS LLCS</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C4 PFBA	95		50 - 200
13C5 PFPeA	96		50 - 200
13C5 PFHxA	93		50 - 200
13C4 PFHpA	96		50 - 200
13C8 PFOA	96		50 - 200
13C9 PFNA	98		50 - 200
13C6 PFDA	93		50 - 200
13C7 PFUnA	89		50 - 200
13C2 PFDoA	92		50 - 200
13C3 HFPO-DA	93		50 - 200
13C3 PFBS	91		50 - 200
13C8 PFOS	93		50 - 200
13C2-4:2-FTS	79		50 - 200
13C2-6:2-FTS	93		50 - 200
13C2-8:2-FTS	92		50 - 200
13C3 PFHxS	88		50 - 200

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# QC Association Summary

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

Job ID: 810-177602-1

## LCMS

### Prep Batch: 176076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-177602-1	J18-Rehobeth ARV	Total/NA	Drinking Water	533	
810-177602-2	Y01-Yadkin Finished Water	Total/NA	Drinking Water	533	
810-177602-3	Y02-Yadkin Raw Water	Total/NA	Drinking Water	533	
MBL 810-176076/1-A	Method Blank	Total/NA	Drinking Water	533	
LLCS 810-176076/2-A	Lab Control Sample	Total/NA	Drinking Water	533	

### Analysis Batch: 176145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-177602-1	J18-Rehobeth ARV	Total/NA	Drinking Water	533	176076
810-177602-2	Y01-Yadkin Finished Water	Total/NA	Drinking Water	533	176076
810-177602-3	Y02-Yadkin Raw Water	Total/NA	Drinking Water	533	176076
MBL 810-176076/1-A	Method Blank	Total/NA	Drinking Water	533	176076
LLCS 810-176076/2-A	Lab Control Sample	Total/NA	Drinking Water	533	176076

# Lab Chronicle

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

Job ID: 810-177602-1

## Client Sample ID: J18-Rehobeth ARV

Lab Sample ID: 810-177602-1

Date Collected: 01/08/26 10:25

Matrix: Drinking Water

Date Received: 01/09/26 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			176076	MR	EA SB	01/12/26 09:08
Total/NA	Analysis	533		1	176145	MH	EA SB	01/12/26 23:53

## Client Sample ID: Y01-Yadkin Finished Water

Lab Sample ID: 810-177602-2

Date Collected: 01/08/26 11:54

Matrix: Drinking Water

Date Received: 01/09/26 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			176076	MR	EA SB	01/12/26 09:08
Total/NA	Analysis	533		1	176145	MH	EA SB	01/13/26 00:08

## Client Sample ID: Y02-Yadkin Raw Water

Lab Sample ID: 810-177602-3

Date Collected: 01/08/26 11:57

Matrix: Drinking Water

Date Received: 01/09/26 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			176076	MR	EA SB	01/12/26 09:08
Total/NA	Analysis	533		1	176145	MH	EA SB	01/13/26 00:24

**Laboratory References:**

EA SB = Eurofins 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: 810-177602-1

## Laboratory: Eurofins 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	07-31-26

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-Chloroeicosafuoro-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 (PFEEESA)
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: 810-177602-1

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 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: 810-177602-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
810-177602-1	J18-Rehobeth ARV	Drinking Water	01/08/26 10:25	01/09/26 09:45	North Carolina
810-177602-2	Y01-Yadkin Finished Water	Drinking Water	01/08/26 11:54	01/09/26 09:45	North Carolina
810-177602-3	Y02-Yadkin Raw Water	Drinking Water	01/08/26 11:57	01/09/26 09:45	North Carolina

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



## Login Sample Receipt Checklist

Client: Union County Water

Job Number: 810-177602-1

**Login Number: 177602**

**List Number: 1**

**Creator: Moffitt, Tisha**

**List Source: Eurofins South Bend**

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	
Were samples preserved to correct pH upon receipt, if applicable?	True	
Sample Preservative Verified	True	
Container provided by EEA	True	

