



# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 3/21/2023 10:17:56 PM

## JOB DESCRIPTION

PFAS - 533

## JOB NUMBER

810-52449-1

# Eurofins Eaton Analytical South Bend

## Job Notes

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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# Definitions/Glossary

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

Job ID: 810-52449-1

## 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.
α	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/Site: PFAS - 533

Job ID: 810-52449-1

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**Job ID: 810-52449-1**

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**Laboratory: Eurofins Eaton Analytical South Bend**

**Narrative**

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**Job Narrative**  
**810-52449-1**

**Receipt**

The samples were received on 2/7/2023 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 5.4°C

**PFAS**

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

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# Detection Summary

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

Job ID: 810-52449-1

## Client Sample ID: J18 - Rehobeth ARV

Lab Sample ID: 810-52449-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	3.2		1.9		ng/L	1		533	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.0		1.9		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.8		1.9		ng/L	1		533	Total/NA
Perfluorobutanoic acid (PFBA)	2.6		1.9		ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	4.2		1.9		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	5.8		1.9		ng/L	1		533	Total/NA

## Client Sample ID: T07 - Hwy 74 E BPS

Lab Sample ID: 810-52449-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	2.1		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.0		2.0		ng/L	1		533	Total/NA
Perfluorobutanoic acid (PFBA)	3.1		2.0		ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.3		2.0		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.9		2.0		ng/L	1		533	Total/NA

## Client Sample ID: NOR - Norwood WTP

Lab Sample ID: 810-52449-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	2.2		2.0		ng/L	1		533	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.1		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0		ng/L	1		533	Total/NA
Perfluorobutanoic acid (PFBA)	3.7		2.0		ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.5		2.0		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	3.2		2.0		ng/L	1		533	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

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

Job ID: 810-52449-1

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

**Lab Sample ID: 810-52449-1**

Date Collected: 02/06/23 09:54

Matrix: Drinking Water

Date Received: 02/07/23 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	3.2		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluorobutanesulfonic acid (PFBS)	2.0		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluorooctanesulfonic acid (PFOS)	2.8		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluorobutanoic acid (PFBA)	2.6		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluorohexanoic acid (PFHxA)	4.2		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluoro(4-methoxybutanoic acid)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluoro-3,6-dioxahexanoic acid	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluoropentanoic acid (PFPeA)	5.8		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		1.9		ng/L		03/02/23 06:13	03/03/23 00:30	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C6 PFDA	66		50 - 200	03/02/23 06:13	03/03/23 00:30	1
13C5 PFHxA	89		50 - 200	03/02/23 06:13	03/03/23 00:30	1
13C3 PFBS	90		50 - 200	03/02/23 06:13	03/03/23 00:30	1
13C2 PFDoA	66		50 - 200	03/02/23 06:13	03/03/23 00:30	1
13C2-6:2-FTS	96		50 - 200	03/02/23 06:13	03/03/23 00:30	1
13C5 PFPeA	100		50 - 200	03/02/23 06:13	03/03/23 00:30	1
13C2-4:2-FTS	96		50 - 200	03/02/23 06:13	03/03/23 00:30	1
13C7 PFUnA	64		50 - 200	03/02/23 06:13	03/03/23 00:30	1
13C8 PFOA	83		50 - 200	03/02/23 06:13	03/03/23 00:30	1
13C9 PFNA	74		50 - 200	03/02/23 06:13	03/03/23 00:30	1
13C4 PFHpA	85		50 - 200	03/02/23 06:13	03/03/23 00:30	1
13C3 HFPO-DA	92		50 - 200	03/02/23 06:13	03/03/23 00:30	1
13C2-8:2-FTS	88		50 - 200	03/02/23 06:13	03/03/23 00:30	1

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# Client Sample Results

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

Job ID: 810-52449-1

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

**Lab Sample ID: 810-52449-1**

Date Collected: 02/06/23 09:54

Matrix: Drinking Water

Date Received: 02/07/23 09:30

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	92		50 - 200	03/02/23 06:13	03/03/23 00:30	1
13C8 PFOS	90		50 - 200	03/02/23 06:13	03/03/23 00:30	1
13C4 PFBA	90		50 - 200	03/02/23 06:13	03/03/23 00:30	1

**Client Sample ID: T07 - Hwy 74 E BPS**

**Lab Sample ID: 810-52449-3**

Date Collected: 02/06/23 10:59

Matrix: Drinking Water

Date Received: 02/07/23 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluorooctanoic acid (PFOA)</b>	<b>2.1</b>		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>3.0</b>		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
<b>Perfluorobutanoic acid (PFBA)</b>	<b>3.1</b>		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
<b>Perfluorohexanoic acid (PFHxA)</b>	<b>2.3</b>		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
Perfluoro(4-methoxybutanoic acid)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
Perfluoro-3,6-dioxaheptanoic acid	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
<b>Perfluoropentanoic acid (PFPeA)</b>	<b>2.9</b>		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 00:57	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C6 PFDA	73		50 - 200	03/02/23 06:13	03/03/23 00:57	1
13C5 PFHxA	86		50 - 200	03/02/23 06:13	03/03/23 00:57	1
13C3 PFBS	100		50 - 200	03/02/23 06:13	03/03/23 00:57	1
13C2 PFDoA	71		50 - 200	03/02/23 06:13	03/03/23 00:57	1
13C2-6:2-FTS	97		50 - 200	03/02/23 06:13	03/03/23 00:57	1

Eurofins Eaton Analytical South Bend



# Client Sample Results

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

Job ID: 810-52449-1

**Client Sample ID: T07 - Hwy 74 E BPS**

**Lab Sample ID: 810-52449-3**

Date Collected: 02/06/23 10:59

Matrix: Drinking Water

Date Received: 02/07/23 09:30

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	102		50 - 200	03/02/23 06:13	03/03/23 00:57	1
13C2-4:2-FTS	96		50 - 200	03/02/23 06:13	03/03/23 00:57	1
13C7 PFUnA	69		50 - 200	03/02/23 06:13	03/03/23 00:57	1
13C8 PFOA	85		50 - 200	03/02/23 06:13	03/03/23 00:57	1
13C9 PFNA	76		50 - 200	03/02/23 06:13	03/03/23 00:57	1
13C4 PFHpA	84		50 - 200	03/02/23 06:13	03/03/23 00:57	1
13C3 HFPO-DA	83		50 - 200	03/02/23 06:13	03/03/23 00:57	1
13C2-8:2-FTS	91		50 - 200	03/02/23 06:13	03/03/23 00:57	1
13C3 PFHxS	96		50 - 200	03/02/23 06:13	03/03/23 00:57	1
13C8 PFOS	90		50 - 200	03/02/23 06:13	03/03/23 00:57	1
13C4 PFBA	91		50 - 200	03/02/23 06:13	03/03/23 00:57	1

**Client Sample ID: NOR - Norwood WTP**

**Lab Sample ID: 810-52449-5**

Date Collected: 02/06/23 11:54

Matrix: Drinking Water

Date Received: 02/07/23 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	2.2		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluorobutanesulfonic acid (PFBS)	2.1		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluorobutanoic acid (PFBA)	3.7		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluorohexanoic acid (PFHxA)	2.5		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluoro(4-methoxybutanoic acid)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluoro-3,6-dioxaheptanoic acid	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1

Eurofins Eaton Analytical South Bend

# Client Sample Results

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

Job ID: 810-52449-1

**Client Sample ID: NOR - Norwood WTP**

**Lab Sample ID: 810-52449-5**

Date Collected: 02/06/23 11:54

Matrix: Drinking Water

Date Received: 02/07/23 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluoropentanoic acid (PFPeA)</b>	<b>3.2</b>		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		03/02/23 06:13	03/03/23 01:10	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C6 PFDA	61		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C5 PFHxA	89		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C3 PFBS	87		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C2 PFDoA	67		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C2-6:2-FTS	89		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C5 PFPeA	104		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C2-4:2-FTS	93		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C7 PFUnA	61		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C8 PFOA	84		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C9 PFNA	73		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C4 PFHpA	87		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C3 HFPO-DA	86		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C2-8:2-FTS	89		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C3 PFHxS	92		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C8 PFOS	90		50 - 200	03/02/23 06:13	03/03/23 01:10	1
13C4 PFBA	90		50 - 200	03/02/23 06:13	03/03/23 01:10	1

# Isotope Dilution Summary

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

Job ID: 810-52449-1

## 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	C6PFDA (50-200)	13C5PHA (50-200)	C3PFBS (50-200)	PFDoA (50-200)	62FTS (50-200)	PFPeA (50-200)	42FTS (50-200)	13C7PUA (50-200)
810-52449-1	J18 - Rehobeth ARV	66	89	90	66	96	100	96	64
810-52449-1 DU	J18 - Rehobeth ARV	66	88	94	66	98	99	88	66
810-52449-3	T07 - Hwy 74 E BPS	73	86	100	71	97	102	96	69
810-52449-5	NOR - Norwood WTP	61	89	87	67	89	104	93	61
LCS 810-49965/3-A	Lab Control Sample	98	96	92	98	90	96	90	98
LLCS 810-49965/2-A	Lab Control Sample	92	102	94	90	98	98	102	91
MBL 810-49965/1-A	Method Blank	94	96	98	90	93	104	95	91

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C8PFOA (50-200)	C9PFNA (50-200)	C4PFHA (50-200)	HFPODA (50-200)	82FTS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	PFBA (50-200)
810-52449-1	J18 - Rehobeth ARV	83	74	85	92	88	92	90	90
810-52449-1 DU	J18 - Rehobeth ARV	83	74	85	80	87	92	90	90
810-52449-3	T07 - Hwy 74 E BPS	85	76	84	83	91	96	90	91
810-52449-5	NOR - Norwood WTP	84	73	87	86	89	92	90	90
LCS 810-49965/3-A	Lab Control Sample	96	98	100	102	92	91	94	97
LLCS 810-49965/2-A	Lab Control Sample	96	94	94	97	99	101	98	97
MBL 810-49965/1-A	Method Blank	98	97	97	96	92	95	95	99

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 810-52449-1

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

**Lab Sample ID: MBL 810-49965/1-A**  
**Matrix: Drinking Water**  
**Analysis Batch: 50081**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 49965**

Analyte	MBL	MBL	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluorobutanesulfonic acid (PFBS)	<0.42		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluorooctanesulfonic acid (PFOS)	<0.39		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.53		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	<0.45		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluorohexanesulfonic acid (PFHxS)	<0.39		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluoroundecanoic acid (PFUnA)	<0.38		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.40		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluorodecanoic acid (PFDA)	<0.36		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.45		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.56		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluorononanoic acid (PFNA)	<0.38		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluoropentanesulfonic acid (PFPeS)	<0.37		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.68		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluoroheptanoic acid (PFHpA)	<0.40		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	<0.51		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.57		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.32		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluorobutanoic acid (PFBA)	<0.52		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluorododecanoic acid (PFDoA)	<0.35		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluorohexanoic acid (PFHxA)	<0.42		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluoro(4-methoxybutanoic acid)	<0.35		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluoro-3,6-dioxahexanoic acid	<0.93		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.44		2.0		ng/L		03/02/23 06:13	03/02/23 23:50	1

Isotope Dilution	MBL	MBL	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C6 PFDA	94		50 - 200	03/02/23 06:13	03/02/23 23:50	1
13C5 PFHxA	96		50 - 200	03/02/23 06:13	03/02/23 23:50	1
13C3 PFBS	98		50 - 200	03/02/23 06:13	03/02/23 23:50	1
13C2 PFDoA	90		50 - 200	03/02/23 06:13	03/02/23 23:50	1
13C2-6:2-FTS	93		50 - 200	03/02/23 06:13	03/02/23 23:50	1
13C5 PFPeA	104		50 - 200	03/02/23 06:13	03/02/23 23:50	1
13C2-4:2-FTS	95		50 - 200	03/02/23 06:13	03/02/23 23:50	1
13C7 PFUnA	91		50 - 200	03/02/23 06:13	03/02/23 23:50	1
13C8 PFOA	98		50 - 200	03/02/23 06:13	03/02/23 23:50	1
13C9 PFNA	97		50 - 200	03/02/23 06:13	03/02/23 23:50	1
13C4 PFHpA	97		50 - 200	03/02/23 06:13	03/02/23 23:50	1
13C3 HFPO-DA	96		50 - 200	03/02/23 06:13	03/02/23 23:50	1
13C2-8:2-FTS	92		50 - 200	03/02/23 06:13	03/02/23 23:50	1

Eurofins Eaton Analytical South Bend

# QC Sample Results

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

Job ID: 810-52449-1

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

**Lab Sample ID: MBL 810-49965/1-A**  
**Matrix: Drinking Water**  
**Analysis Batch: 50081**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 49965**

Isotope Dilution	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C3 PFHxS	95		50 - 200	03/02/23 06:13	03/02/23 23:50	1
13C8 PFOS	95		50 - 200	03/02/23 06:13	03/02/23 23:50	1
13C4 PFBA	99		50 - 200	03/02/23 06:13	03/02/23 23:50	1

**Lab Sample ID: LCS 810-49965/3-A**  
**Matrix: Drinking Water**  
**Analysis Batch: 50081**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 49965**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanesulfonic acid (PFBS)	355	364		ng/L		103	70 - 130
Perfluorooctanesulfonic acid (PFOS)	371	358		ng/L		96	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	400	400		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	374	322		ng/L		86	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	365	368		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	400	394		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	378	376		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	400	394		ng/L		98	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	357	357		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	375	365		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	400	398		ng/L		99	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	376	351		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	381	400		ng/L		105	70 - 130
Perfluoroheptanoic acid (PFHpA)	400	405		ng/L		101	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	378	333		ng/L		88	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	384	365		ng/L		95	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	400	398		ng/L		100	70 - 130
Perfluorobutanoic acid (PFBA)	400	404		ng/L		101	70 - 130
Perfluorododecanoic acid (PFDoA)	400	392		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	400	401		ng/L		100	70 - 130
Perfluoro(4-methoxybutanoic acid)	400	392		ng/L		98	70 - 130
Perfluoro-3,6-dioxaheptanoic acid	400	406		ng/L		102	70 - 130
Perfluoropentanoic acid (PFPeA)	400	383		ng/L		96	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	382	348		ng/L		91	70 - 130

# QC Sample Results

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

Job ID: 810-52449-1

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

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C6 PFDA	98		50 - 200
13C5 PFHxA	96		50 - 200
13C3 PFBS	92		50 - 200
13C2 PFDoA	98		50 - 200
13C2-6:2-FTS	90		50 - 200
13C5 PFPeA	96		50 - 200
13C2-4:2-FTS	90		50 - 200
13C7 PFUnA	98		50 - 200
13C8 PFOA	96		50 - 200
13C9 PFNA	98		50 - 200
13C4 PFHpA	100		50 - 200
13C3 HFPO-DA	102		50 - 200
13C2-8:2-FTS	92		50 - 200
13C3 PFHxS	91		50 - 200
13C8 PFOS	94		50 - 200
13C4 PFBA	97		50 - 200

Lab Sample ID: LLCS 810-49965/2-A

Matrix: Drinking Water

Analysis Batch: 50081

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49965

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec
							Limits
Perfluorooctanoic acid (PFOA)	2.00	1.97	J	ng/L		98	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.78	1.80	J	ng/L		102	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	1.80	J	ng/L		97	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	2.00	1.87	J	ng/L		93	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.87	1.63	J	ng/L		87	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	1.59	J	ng/L		87	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.86	J	ng/L		93	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.79	J	ng/L		95	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.91	J	ng/L		96	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	1.78	1.80	J	ng/L		101	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.88	1.53	J	ng/L		81	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.88	J	ng/L		94	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.58	J	ng/L		84	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.90	1.98	J	ng/L		104	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.90	J	ng/L		95	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.89	1.60	J	ng/L		85	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.92	1.95	J	ng/L		101	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.89	J	ng/L		94	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	1.97	J	ng/L		99	50 - 150

Eurofins Eaton Analytical South Bend

# QC Sample Results

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

Job ID: 810-52449-1

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

**Lab Sample ID: LLCS 810-49965/2-A**  
**Matrix: Drinking Water**  
**Analysis Batch: 50081**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 49965**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorododecanoic acid (PFDoA)	2.00	1.98	J	ng/L		99	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.75	J	ng/L		88	50 - 150
Perfluoro(4-methoxybutanoic acid)	2.00	1.82	J	ng/L		91	50 - 150
Perfluoro-3,6-dioxahexanoic acid	2.00	1.73	J	ng/L		86	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.01		ng/L		100	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.91	1.76	J	ng/L		92	50 - 150

Isotope Dilution	LLCS %Recovery	LLCS Qualifier	Limits
13C6 PFDA	92		50 - 200
13C5 PFHxA	102		50 - 200
13C3 PFBS	94		50 - 200
13C2 PFDoA	90		50 - 200
13C2-6:2-FTS	98		50 - 200
13C5 PFPeA	98		50 - 200
13C2-4:2-FTS	102		50 - 200
13C7 PFUnA	91		50 - 200
13C8 PFOA	96		50 - 200
13C9 PFNA	94		50 - 200
13C4 PFHpA	94		50 - 200
13C3 HFPO-DA	97		50 - 200
13C2-8:2-FTS	99		50 - 200
13C3 PFHxS	101		50 - 200
13C8 PFOS	98		50 - 200
13C4 PFBA	97		50 - 200

**Lab Sample ID: 810-52449-1 DU**  
**Matrix: Drinking Water**  
**Analysis Batch: 50081**

**Client Sample ID: J18 - Rehobeth ARV**  
**Prep Type: Total/NA**  
**Prep Batch: 49965**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Perfluorooctanoic acid (PFOA)	3.2		3.22		ng/L		0.1	30
Perfluorobutanesulfonic acid (PFBS)	2.0		2.03		ng/L		3	30
Perfluorooctanesulfonic acid (PFOS)	2.8		2.78		ng/L		1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		<2.0		ng/L		NC	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		<2.0		ng/L		NC	30
Perfluorohexanesulfonic acid (PFHxS)	<1.9		<2.0		ng/L		NC	30
Perfluoroundecanoic acid (PFUnA)	<1.9		<2.0		ng/L		NC	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		<2.0		ng/L		NC	30
Perfluorodecanoic acid (PFDA)	<1.9		<2.0		ng/L		NC	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<1.9		<2.0		ng/L		NC	30

Eurofins Eaton Analytical South Bend

# QC Sample Results

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

Job ID: 810-52449-1

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

Lab Sample ID: 810-52449-1 DU

Matrix: Drinking Water

Analysis Batch: 50081

Client Sample ID: J18 - Rehobeth ARV

Prep Type: Total/NA

Prep Batch: 49965

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<1.9		<2.0		ng/L		NC	30
Perfluorononanoic acid (PFNA)	<1.9		<2.0		ng/L		NC	30
Perfluoropentanesulfonic acid (PFPeS)	<1.9		<2.0		ng/L		NC	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<1.9		<2.0		ng/L		NC	30
Perfluoroheptanoic acid (PFHpA)	<1.9		<2.0		ng/L		NC	30
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	<1.9		<2.0		ng/L		NC	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<1.9		<2.0		ng/L		NC	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.9		<2.0		ng/L		NC	30
Perfluorobutanoic acid (PFBA)	2.6		2.65		ng/L		2	30
Perfluorododecanoic acid (PFDoA)	<1.9		<2.0		ng/L		NC	30
Perfluorohexanoic acid (PFHxA)	4.2		4.66		ng/L		10	30
Perfluoro(4-methoxybutanoic acid)	<1.9		<2.0		ng/L		NC	30
Perfluoro-3,6-dioxahexanoic acid	<1.9		<2.0		ng/L		NC	30
Perfluoropentanoic acid (PFPeA)	5.8		5.37		ng/L		7	30
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		<2.0		ng/L		NC	30

Isotope Dilution	DU	DU	Limits
	%Recovery	Qualifier	
13C6 PFDA	66		50 - 200
13C5 PFHxA	88		50 - 200
13C3 PFBS	94		50 - 200
13C2 PFDoA	66		50 - 200
13C2-6:2-FTS	98		50 - 200
13C5 PFPeA	99		50 - 200
13C2-4:2-FTS	88		50 - 200
13C7 PFUnA	66		50 - 200
13C8 PFOA	83		50 - 200
13C9 PFNA	74		50 - 200
13C4 PFHpA	85		50 - 200
13C3 HFPO-DA	80		50 - 200
13C2-8:2-FTS	87		50 - 200
13C3 PFHxS	92		50 - 200
13C8 PFOS	90		50 - 200
13C4 PFBA	90		50 - 200



# QC Association Summary

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

Job ID: 810-52449-1

## LCMS

### Prep Batch: 49965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-52449-1	J18 - Rehobeth ARV	Total/NA	Drinking Water	533	
810-52449-3	T07 - Hwy 74 E BPS	Total/NA	Drinking Water	533	
810-52449-5	NOR - Norwood WTP	Total/NA	Drinking Water	533	
MBL 810-49965/1-A	Method Blank	Total/NA	Drinking Water	533	
LCS 810-49965/3-A	Lab Control Sample	Total/NA	Drinking Water	533	
LLCS 810-49965/2-A	Lab Control Sample	Total/NA	Drinking Water	533	
810-52449-1 DU	J18 - Rehobeth ARV	Total/NA	Drinking Water	533	

### Analysis Batch: 50081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-52449-1	J18 - Rehobeth ARV	Total/NA	Drinking Water	533	49965
810-52449-3	T07 - Hwy 74 E BPS	Total/NA	Drinking Water	533	49965
810-52449-5	NOR - Norwood WTP	Total/NA	Drinking Water	533	49965
MBL 810-49965/1-A	Method Blank	Total/NA	Drinking Water	533	49965
LCS 810-49965/3-A	Lab Control Sample	Total/NA	Drinking Water	533	49965
LLCS 810-49965/2-A	Lab Control Sample	Total/NA	Drinking Water	533	49965
810-52449-1 DU	J18 - Rehobeth ARV	Total/NA	Drinking Water	533	49965



# Lab Chronicle

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

Job ID: 810-52449-1

## Client Sample ID: J18 - Rehobeth ARV

Lab Sample ID: 810-52449-1

Date Collected: 02/06/23 09:54

Matrix: Drinking Water

Date Received: 02/07/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			49965	MP	EA SB	03/02/23 06:13
Total/NA	Analysis	533		1	50081	CM	EA SB	03/03/23 00:30

## Client Sample ID: T07 - Hwy 74 E BPS

Lab Sample ID: 810-52449-3

Date Collected: 02/06/23 10:59

Matrix: Drinking Water

Date Received: 02/07/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			49965	MP	EA SB	03/02/23 06:13
Total/NA	Analysis	533		1	50081	CM	EA SB	03/03/23 00:57

## Client Sample ID: NOR - Norwood WTP

Lab Sample ID: 810-52449-5

Date Collected: 02/06/23 11:54

Matrix: Drinking Water

Date Received: 02/07/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			49965	MP	EA SB	03/02/23 06:13
Total/NA	Analysis	533		1	50081	CM	EA SB	03/03/23 01:10

**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: 810-52449-1

## 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	07-31-23

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 (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: 810-52449-1

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: 810-52449-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
810-52449-1	J18 - Rehobeth ARV	Drinking Water	02/06/23 09:54	02/07/23 09:30
810-52449-3	T07 - Hwy 74 E BPS	Drinking Water	02/06/23 10:59	02/07/23 09:30
810-52449-5	NOR - Norwood WTP	Drinking Water	02/06/23 11:54	02/07/23 09:30

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**South Bend, IN**  
 110 S Hill Street  
 South Bend, IN 46617  
 Phone: 574-233-4777 Fax: 574-233-8207

**Chain of Custody Record**



**Client Information**

Client Contact: **Justin Huntley**  
 Company: **Union County Water**  
 Address: **300 N Main St.**  
 City: **Monroe**  
 State, Zip: **NC, 28112**  
 Phone: **704-289-3307(Tel)**  
 Email: **Justin.Huntley@UnionCountyNC.gov**  
 Project Name: **PFAS - 533**  
 Site: **SSOW#**

**Chris Tye**

Lab PM: **Mathis, Joe**  
 E-Mail: **Joe.Mathis@el.eurofins.com**

Game Tracking No(s):  
 State of Origin:

COC No: **810-21221-6174.1**  
 Page: **Page 1 of 1**  
 Job #:

Due Date Requested:

TAT Requested (days):

Compliance Project:  Yes  No

Purchase Order not required

Project # **81004979**

SSOW#

**Analysis Requested**



810-52449 Chain of Custody

**Sample Identification**

Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Metal, Semisolid, Omission, or Tissue Add)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)
<b>U18 - Rehobeth ARV</b>	<b>2/6/23</b>	<b>9:54A</b>	<b>G</b>	<b>drinking Water</b>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>T07 - HWY 74 E BPS</b>	<b>2/6/23</b>	<b>10:59A</b>	<b>G</b>	<b>drinking Water</b>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>NOR - Norwood WTP</b>	<b>2/6/23</b>	<b>11:54A</b>	<b>G</b>	<b>drinking Water</b>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

533 - (MOD) Local Method  
 533 - Local Method

Total Number of Containers

Special Instructions/Note:

- Preservation Codes:**
- A - HCL
  - B - NaOH
  - C - Zn Acetate
  - D - Nitric Acid
  - E - NaHSO4
  - F - NaOH
  - G - Anchlor
  - H - Ascorbic Acid
  - I - Ice
  - J - DI Water
  - K - EDTA
  - L - EDA
  - M - Hexane
  - N - None
  - O - AsNaO2
  - P - Na2OAS
  - Q - Na2SO3
  - R - Na2S2O3
  - S - H2SO4
  - T - TSP Dodecylhydrate
  - U - Acetone
  - V - MCAA
  - W - pH 4.5
  - Y - Trizma
  - Z - other (Specify)

Initial Temp: **5.0**  
 Corrected Temp: **5.2**  
 IR Count: **25WTR**

**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

Special Instructions/OC Requirements:

Request Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_

Requested by: **Chris Tye** Date/Time: **2/6/23 1:05 PM** Company: \_\_\_\_\_

Requested by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Requested by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Cooler Temperature(s) °C and Other Remarks

## Login Sample Receipt Checklist

Client: Union County Water

Job Number: 810-52449-1

**Login Number: 52449**

**List Source: Eurofins Eaton Analytical South Bend**

**List Number: 1**

**Creator: Williams, Kameron**

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	

