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ANALYTICAL REPORT

PREPARED FOR

Attn: Junior Honeycutt
Union County Water
500 N Main St.
Monroe, North Carolina 28112

Generated 7/30/2023 9:30:47 PM

JOB DESCRIPTION

Union County Water NC0190413 UCMR5

JOB NUMBER

810-68254-1

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

See page two for job notes and contact information.

myEOL

Job Notes

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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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Authorized for release by
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Table of Contents

Definitions/Glossary

Client: Union County Water
Job ID: 810-68254-1
Project/Site: Union County Water NC0190413 UCMR5

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
Job ID: 810-68254-1
Project/Site: Union County Water NC0190413 UCMR5

Job ID: 810-68254-1

Laboratory: Eurofins Eaton Analytical South Bend

Narrative

Job Narrative
810-68254-1

Receipt
The sample was received on 7/5/2023 9:00 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice.

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

Metals
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
Job ID: 810-68254-1
Project/Site: Union County Water NC0190413 UCMR5

Client Sample ID: Catawba River WTP
Lab Sample ID: 810-68254-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.0055		0.0050		ug/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	0.0069		0.0030		ug/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	0.0067		0.0030		ug/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	0.0042		0.0040		ug/L	1		533	Total/NA

Client Sample ID: Catawba River WTP
Lab Sample ID: 810-68254-1FRB

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Union County Water
Project/Site: Union County Water NC0190413 UCMR5

Job ID: 810-68254-1

Client Sample ID: Catawba River WTP
Date Collected: 07/03/23 11:54
Date Received: 07/05/23 09:00

Lab Sample ID: 810-68254-1
Matrix: Drinking Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.0055**		0.0050		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluoropentanoic acid (PFPeA)	**0.0069**		0.0030		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluorohexanoic acid (PFHxA)	**0.0067**		0.0030		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluoroheptanoic acid (PFHpA)	<0.0030		0.0030		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluorooctanoic acid (PFOA)	**0.0042**		0.0040		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluorononanoic acid (PFNA)	<0.0040		0.0040		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluorodecanoic acid (PFDA)	<0.0030		0.0030		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluoroundecanoic acid (PFUnA)	<0.0020		0.0020		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluorododecanoic acid (PFDoA)	<0.0030		0.0030		ug/L		07/18/23 06:17	07/22/23 00:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.0030		0.0030		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluorobutanesulfonic acid (PFBS)	<0.0030		0.0030		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluorohexanesulfonic acid (PFHxS)	<0.0030		0.0030		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.0030		0.0030		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluorooctanesulfonic acid (PFOS)	<0.0040		0.0040		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluoropentanesulfonic acid (PFPeS)	<0.0040		0.0040		ug/L		07/18/23 06:17	07/22/23 00:36	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.0050		0.0050		ug/L		07/18/23 06:17	07/22/23 00:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<0.0020		0.0020		ug/L		07/18/23 06:17	07/22/23 00:36	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<0.0050		0.0050		ug/L		07/18/23 06:17	07/22/23 00:36	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.0030		0.0030		ug/L		07/18/23 06:17	07/22/23 00:36	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.0050		0.0050		ug/L		07/18/23 06:17	07/22/23 00:36	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.0050		0.0050		ug/L		07/18/23 06:17	07/22/23 00:36	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.0200		0.0200		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.0040		0.0040		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.0030		0.0030		ug/L		07/18/23 06:17	07/22/23 00:36	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.0030		0.0030		ug/L		07/18/23 06:17	07/22/23 00:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*78*		*50 - 200*	*07/18/23 06:17*	*07/22/23 00:36*	*1*
13C4 PFBA	*84*		*50 - 200*	*07/18/23 06:17*	*07/22/23 00:36*	*1*
13C3 PFBS	*83*		*50 - 200*	*07/18/23 06:17*	*07/22/23 00:36*	*1*
13C5 PFPeA	*80*		*50 - 200*	*07/18/23 06:17*	*07/22/23 00:36*	*1*
13C5 PFHxA	*85*		*50 - 200*	*07/18/23 06:17*	*07/22/23 00:36*	*1*
13C4 PFHpA	*80*		*50 - 200*	*07/18/23 06:17*	*07/22/23 00:36*	*1*
13C8 PFOA	*79*		*50 - 200*	*07/18/23 06:17*	*07/22/23 00:36*	*1*
13C9 PFNA	*83*		*50 - 200*	*07/18/23 06:17*	*07/22/23 00:36*	*1*
13C6 PFDA	*79*		*50 - 200*	*07/18/23 06:17*	*07/22/23 00:36*	*1*
13C7 PFUnA	*78*		*50 - 200*	*07/18/23 06:17*	*07/22/23 00:36*	*1*
13C2 PFDoA	*76*		*50 - 200*	*07/18/23 06:17*	*07/22/23 00:36*	*1*
13C8 PFOS	*87*		*50 - 200*	*07/18/23 06:17*	*07/22/23 00:36*	*1*
13C3 PFHxS	*85*		*50 - 200*	*07/18/23 06:17*	*07/22/23 00:36*	*1*

Client Sample ID: Catawba River WTP
Lab Sample ID: 810-68254-1
Date Collected: 07/03/23 11:54
Matrix: Drinking Water
Date Received: 07/05/23 09:00

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-4:2-FTS	115		50 - 200	07/18/23 06:17	07/22/23 00:36	1
13C2-6:2-FTS	94		50 - 200	07/18/23 06:17	07/22/23 00:36	1
13C2-8:2-FTS	94		50 - 200	07/18/23 06:17	07/22/23 00:36	1

Method: EPA 537.1 UCMR5 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.0050		0.0050		ug/L		07/12/23 07:44	07/13/23 21:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.0060		0.0060		ug/L		07/12/23 07:44	07/13/23 21:21	1
Perfluorotetradecanoic acid (PFTA)	<0.0080		0.0080		ug/L		07/12/23 07:44	07/13/23 21:21	1
Perfluorotridecanoic acid (PFTrDA)	<0.0070		0.0070		ug/L		07/12/23 07:44	07/13/23 21:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	102		70 - 130	07/12/23 07:44	07/13/23 21:21	1
13C2 PFHxA	97		70 - 130	07/12/23 07:44	07/13/23 21:21	1
13C2 PFDA	104		70 - 130	07/12/23 07:44	07/13/23 21:21	1
13C3 HFPO-DA	95		70 - 130	07/12/23 07:44	07/13/23 21:21	1

Method: EPA 200.7 UCMR5 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<9.00		9.00		ug/L		07/17/23 12:45	07/18/23 12:25	1

Client Sample ID: Catawba River WTP
Lab Sample ID: 810-68254-1FRB
Date Collected: 07/03/23 11:54
Matrix: Drinking Water
Date Received: 07/05/23 09:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<0.0005		0.0050		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluoropentanoic acid (PFPeA)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluorohexanoic acid (PFHxA)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluoroheptanoic acid (PFHpA)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluorooctanoic acid (PFOA)	<0.0004		0.0040		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluorononanoic acid (PFNA)	<0.0004		0.0040		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluorodecanoic acid (PFDA)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluoroundecanoic acid (PFUnA)	<0.0004		0.0020		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluorododecanoic acid (PFDoA)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/27/23 03:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluorobutanesulfonic acid (PFBS)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluorohexanesulfonic acid (PFHxS)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluorooctanesulfonic acid (PFOS)	<0.0004		0.0040		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluoropentanesulfonic acid (PFPeS)	<0.0004		0.0040		ug/L		07/24/23 07:13	07/27/23 03:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.0005		0.0050		ug/L		07/24/23 07:13	07/27/23 03:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<0.0005		0.0020		ug/L		07/24/23 07:13	07/27/23 03:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<0.0005		0.0050		ug/L		07/24/23 07:13	07/27/23 03:19	1

Client: Union County Water
Job ID: 810-68254-1
Project/Site: Union County Water NC0190413 UCMR5

Client Sample ID: Catawba River WTP
Lab Sample ID: 810-68254-1FRB
Date Collected: 07/03/23 11:54
Matrix: Drinking Water
Date Received: 07/05/23 09:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.0006		0.0030		ug/L		07/24/23 07:13	07/27/23 03:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.0007		0.0050		ug/L		07/24/23 07:13	07/27/23 03:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.0006		0.0050		ug/L		07/24/23 07:13	07/27/23 03:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.0009		0.0200		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.0003		0.0040		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/27/23 03:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.0005		0.0030		ug/L		07/24/23 07:13	07/27/23 03:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*100*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C4 PFBA	*100*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C3 PFBS	*100*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C5 PFPeA	*108*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C5 PFHxA	*101*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C4 PFHpA	*104*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C8 PFOA	*101*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C9 PFNA	*112*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C6 PFDA	*107*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C7 PFUnA	*106*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C2 PFDoA	*106*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C8 PFOS	*101*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C3 PFHxS	*99*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C2-4:2-FTS	*99*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C2-6:2-FTS	*98*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*
13C2-8:2-FTS	*110*		*50 - 200*	*07/24/23 07:13*	*07/27/23 03:19*	*1*

Surrogate Summary

Client: Union County Water
Project/Site: Union County Water NC0190413 UCMR5

Job ID: 810-68254-1

Method: 537.1 UCMR5 - Perfluorinated Alkyl Acids (LC/MS)

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		d5NEFOS	PFHxA	PFDA	HFPODA				
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)				
810-68254-1	Catawba River WTP	102	97	104	95				
LLCS 810-65311/2-A	Lab Control Sample	101	96	104	97				
MBL 810-65311/22-A	Method Blank	105	102	109	97				

Surrogate Legend

d5NEFOS = d5-NEtFOSAA
PFHxA = 13C2 PFHxA
PFDA = 13C2 PFDA
HFPODA = 13C3 HFPO-DA

Isotope Dilution Summary

Client: Union County Water
Job ID: 810-68254-1
Project/Site: Union County Water NC0190413 UCMR5

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

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA	PFBA	C3PFBS	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA
Lab Sample ID	Client Sample ID	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)
810-68254-1	Catawba River WTP	78	84	83	80	85	80	79	83
810-68254-1FRB	FRB	100	100	100	108	101	104	101	112
LLCS 810-65918/2-A	Lab Control Sample	84	84	84	90	88	87	86	94
LLCS 810-66602/2-A	Lab Control Sample	98	104	102	107	103	101	101	106
MBL 810-65918/1-A	Method Blank	76	80	80	88	84	83	81	87
MBL 810-66602/1-A	Method Blank	96	101	100	106	97	99	100	107

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C6PFDA	13C7PUA	PFDoA	C8PFOS	C3PFHS	42FTS	62FTS	82FTS
Lab Sample ID	Client Sample ID	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)
810-68254-1	Catawba River WTP	79	78	76	87	85	115	94	94
810-68254-1FRB	FRB	107	106	106	101	99	99	98	110
LLCS 810-65918/2-A	Lab Control Sample	87	86	84	85	84	117	102	96
LLCS 810-66602/2-A	Lab Control Sample	99	93	92	101	99	104	103	100
MBL 810-65918/1-A	Method Blank	83	83	80	79	79	107	92	89
MBL 810-66602/1-A	Method Blank	100	98	97	100	100	97	102	104

Surrogate Legend

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

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

Lab Sample ID: MBL 810-65918/1-A
Matrix: Drinking Water
Analysis Batch: 66380

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65918

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<0.0005		0.0050		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluoropentanoic acid (PFPeA)	<0.0004		0.0030		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluorohexanoic acid (PFHxA)	<0.0004		0.0030		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluoroheptanoic acid (PFHpA)	<0.0004		0.0030		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluorooctanoic acid (PFOA)	<0.0004		0.0040		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluorononanoic acid (PFNA)	<0.0004		0.0040		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluorodecanoic acid (PFDA)	<0.0004		0.0030		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluoroundecanoic acid (PFUnA)	<0.0004		0.0020		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluorododecanoic acid (PFDoA)	<0.0004		0.0030		ug/L		07/18/23 06:17	07/21/23 23:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.0004		0.0030		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluorobutanesulfonic acid (PFBS)	<0.0004		0.0030		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluorohexanesulfonic acid (PFHxS)	<0.0004		0.0030		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.0004		0.0030		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluorooctanesulfonic acid (PFOS)	<0.0004		0.0040		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluoropentanesulfonic acid (PFPeS)	<0.0004		0.0040		ug/L		07/18/23 06:17	07/21/23 23:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.0005		0.0050		ug/L		07/18/23 06:17	07/21/23 23:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<0.0005		0.0020		ug/L		07/18/23 06:17	07/21/23 23:00	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<0.0005		0.0050		ug/L		07/18/23 06:17	07/21/23 23:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.0006		0.0030		ug/L		07/18/23 06:17	07/21/23 23:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.0007		0.0050		ug/L		07/18/23 06:17	07/21/23 23:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.0006		0.0050		ug/L		07/18/23 06:17	07/21/23 23:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.0009		0.0200		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.0003		0.0040		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.0004		0.0030		ug/L		07/18/23 06:17	07/21/23 23:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.0005		0.0030		ug/L		07/18/23 06:17	07/21/23 23:00	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*76*		*50 - 200*	*07/18/23 06:17*	*07/21/23 23:00*	*1*
13C4 PFBA	*80*		*50 - 200*	*07/18/23 06:17*	*07/21/23 23:00*	*1*
13C3 PFBS	*80*		*50 - 200*	*07/18/23 06:17*	*07/21/23 23:00*	*1*
13C5 PFPeA	*88*		*50 - 200*	*07/18/23 06:17*	*07/21/23 23:00*	*1*
13C5 PFHxA	*84*		*50 - 200*	*07/18/23 06:17*	*07/21/23 23:00*	*1*
13C4 PFHpA	*83*		*50 - 200*	*07/18/23 06:17*	*07/21/23 23:00*	*1*
13C8 PFOA	*81*		*50 - 200*	*07/18/23 06:17*	*07/21/23 23:00*	*1*
13C9 PFNA	*87*		*50 - 200*	*07/18/23 06:17*	*07/21/23 23:00*	*1*
13C6 PFDA	*83*		*50 - 200*	*07/18/23 06:17*	*07/21/23 23:00*	*1*
13C7 PFUnA	*83*		*50 - 200*	*07/18/23 06:17*	*07/21/23 23:00*	*1*
13C2 PFDoA	*80*		*50 - 200*	*07/18/23 06:17*	*07/21/23 23:00*	*1*
13C8 PFOS	*79*		*50 - 200*	*07/18/23 06:17*	*07/21/23 23:00*	*1*

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

Lab Sample ID: MBL 810-65918/1-A
Matrix: Drinking Water
Analysis Batch: 66380

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65918

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	79		50 - 200	07/18/23 06:17	07/21/23 23:00	1
13C2-4:2-FTS	107		50 - 200	07/18/23 06:17	07/21/23 23:00	1
13C2-6:2-FTS	92		50 - 200	07/18/23 06:17	07/21/23 23:00	1
13C2-8:2-FTS	89		50 - 200	07/18/23 06:17	07/21/23 23:00	1

Lab Sample ID: LLCS 810-65918/2-A
Matrix: Drinking Water
Analysis Batch: 66380

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65918

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	0.00200	0.0021		ug/L		106	50 - 150
Perfluoropentanoic acid (PFPeA)	0.00200	0.0022		ug/L		109	50 - 150
Perfluorohexanoic acid (PFHxA)	0.00200	0.0023		ug/L		113	50 - 150
Perfluoroheptanoic acid (PFHpA)	0.00200	0.0022		ug/L		110	50 - 150
Perfluorooctanoic acid (PFOA)	0.00200	0.0022		ug/L		112	50 - 150
Perfluorononanoic acid (PFNA)	0.00200	0.0022		ug/L		110	50 - 150
Perfluorodecanoic acid (PFDA)	0.00200	0.0022		ug/L		110	50 - 150
Perfluoroundecanoic acid (PFUnA)	0.00200	0.0022		ug/L		110	50 - 150
Perfluorododecanoic acid (PFDoA)	0.00200	0.0022		ug/L		109	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.00189	0.0021		ug/L		111	50 - 150
Perfluorobutanesulfonic acid (PFBS)	0.00178	0.0019		ug/L		109	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	0.00183	0.0019		ug/L		107	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.00191	0.0019		ug/L		99	50 - 150
Perfluorooctanesulfonic acid (PFOS)	0.00186	0.0020		ug/L		106	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	0.00188	0.0019		ug/L		104	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.00200	0.0022		ug/L		109	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	0.00187	0.0018		ug/L		97	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	0.00189	0.0019		ug/L		102	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.00188	0.0023		ug/L		122	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.00190	0.0026		ug/L		136	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.00192	0.0023		ug/L		120	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.00200	0.0022		ug/L		108	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.00200	0.0024		ug/L		118	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.00200	0.0021		ug/L		107	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.00178	0.0019		ug/L		107	50 - 150

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

Isotope Dilution	LLCS %Recovery	LLCS Qualifier	Limits
13C3 HFPO-DA	84		50 - 200
13C4 PFBA	84		50 - 200
13C3 PFBS	84		50 - 200
13C5 PFPeA	90		50 - 200
13C5 PFHxA	88		50 - 200
13C4 PFHpA	87		50 - 200
13C8 PFOA	86		50 - 200
13C9 PFNA	94		50 - 200
13C6 PFDA	87		50 - 200
13C7 PFUnA	86		50 - 200
13C2 PFDoA	84		50 - 200
13C8 PFOS	85		50 - 200
13C3 PFHxS	84		50 - 200
13C2-4:2-FTS	117		50 - 200
13C2-6:2-FTS	102		50 - 200
13C2-8:2-FTS	96		50 - 200

Lab Sample ID: MBL 810-66602/1-A
Matrix: Drinking Water
Analysis Batch: 67117

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 66602

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<0.0005		0.0050		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluoropentanoic acid (PFPeA)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluorohexanoic acid (PFHxA)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluoroheptanoic acid (PFHpA)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluorooctanoic acid (PFOA)	<0.0004		0.0040		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluorononanoic acid (PFNA)	<0.0004		0.0040		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluorodecanoic acid (PFDA)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluoroundecanoic acid (PFUnA)	<0.0004		0.0020		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluorododecanoic acid (PFDoA)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/26/23 20:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluorobutanesulfonic acid (PFBS)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluorohexanesulfonic acid (PFHxS)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluorooctanesulfonic acid (PFOS)	<0.0004		0.0040		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluoropentanesulfonic acid (PFPeS)	<0.0004		0.0040		ug/L		07/24/23 07:13	07/26/23 20:03	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.0005		0.0050		ug/L		07/24/23 07:13	07/26/23 20:03	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<0.0005		0.0020		ug/L		07/24/23 07:13	07/26/23 20:03	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<0.0005		0.0050		ug/L		07/24/23 07:13	07/26/23 20:03	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.0006		0.0030		ug/L		07/24/23 07:13	07/26/23 20:03	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.0007		0.0050		ug/L		07/24/23 07:13	07/26/23 20:03	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.0006		0.0050		ug/L		07/24/23 07:13	07/26/23 20:03	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.0009		0.0200		ug/L		07/24/23 07:13	07/26/23 20:03	1

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

Lab Sample ID: MBL 810-66602/1-A
Matrix: Drinking Water
Analysis Batch: 67117

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 66602

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.0003		0.0040		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.0004		0.0030		ug/L		07/24/23 07:13	07/26/23 20:03	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.0005		0.0030		ug/L		07/24/23 07:13	07/26/23 20:03	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*96*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C4 PFBA	*101*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C3 PFBS	*100*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C5 PFPeA	*106*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C5 PFHxA	*97*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C4 PFHpA	*99*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C8 PFOA	*100*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C9 PFNA	*107*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C6 PFDA	*100*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C7 PFUnA	*98*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C2 PFDoA	*97*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C8 PFOS	*100*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C3 PFHxS	*100*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C2-4:2-FTS	*97*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C2-6:2-FTS	*102*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*
13C2-8:2-FTS	*104*		*50 - 200*	*07/24/23 07:13*	*07/26/23 20:03*	*1*

Lab Sample ID: LLCS 810-66602/2-A
Matrix: Drinking Water
Analysis Batch: 67117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 66602

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	0.00200	0.0025		ug/L		124	50 - 150
Perfluoropentanoic acid (PFPeA)	0.00200	0.0027		ug/L		134	50 - 150
Perfluorohexanoic acid (PFHxA)	0.00200	0.0026		ug/L		131	50 - 150
Perfluoroheptanoic acid (PFHpA)	0.00200	0.0026		ug/L		132	50 - 150
Perfluorooctanoic acid (PFOA)	0.00200	0.0026		ug/L		129	50 - 150
Perfluorononanoic acid (PFNA)	0.00200	0.0027		ug/L		135	50 - 150
Perfluorodecanoic acid (PFDA)	0.00200	0.0026		ug/L		131	50 - 150
Perfluoroundecanoic acid (PFUnA)	0.00200	0.0025		ug/L		126	50 - 150
Perfluorododecanoic acid (PFDoA)	0.00200	0.0026		ug/L		129	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.00189	0.0025		ug/L		133	50 - 150
Perfluorobutanesulfonic acid (PFBS)	0.00178	0.0022		ug/L		125	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	0.00183	0.0023		ug/L		125	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.00191	0.0022		ug/L		117	50 - 150
Perfluorooctanesulfonic acid (PFOS)	0.00186	0.0023		ug/L		125	50 - 150

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

Lab Sample ID: LLCS 810-66602/2-A
Matrix: Drinking Water
Analysis Batch: 67117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 66602

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			0.00188	0.0024		ug/L		125	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			0.00200	0.0026		ug/L		129	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid			0.00187	0.0022		ug/L		118	50 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid			0.00189	0.0022		ug/L		117	50 - 150		
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			0.00188	0.0026		ug/L		140	50 - 150		
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			0.00190	0.0025		ug/L		132	50 - 150		
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			0.00192	0.0027		ug/L		142	50 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.00200	0.0027		ug/L		134	50 - 150		
Perfluoro-3-methoxypropanoic acid (PFMPA)			0.00200	0.0028		ug/L		138	50 - 150		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.00200	0.0026		ug/L		128	50 - 150		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.00178	0.0025		ug/L		139	50 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C3 HFPO-DA	*98*		*50 - 200*
13C4 PFBA	*104*		*50 - 200*
13C3 PFBS	*102*		*50 - 200*
13C5 PFPeA	*107*		*50 - 200*
13C5 PFHxA	*103*		*50 - 200*
13C4 PFHpA	*101*		*50 - 200*
13C8 PFOA	*101*		*50 - 200*
13C9 PFNA	*106*		*50 - 200*
13C6 PFDA	*99*		*50 - 200*
13C7 PFUnA	*93*		*50 - 200*
13C2 PFDoA	*92*		*50 - 200*
13C8 PFOS	*101*		*50 - 200*
13C3 PFHxS	*99*		*50 - 200*
13C2-4:2-FTS	*104*		*50 - 200*
13C2-6:2-FTS	*103*		*50 - 200*
13C2-8:2-FTS	*100*		*50 - 200*

Method: 537.1 UCMR5 - Perfluorinated Alkyl Acids (LC/MS)

Lab Sample ID: MBL 810-65311/22-A
Matrix: Drinking Water
Analysis Batch: 65387

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65311

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.0005		0.0050		ug/L		07/12/23 07:48	07/13/23 20:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.0006		0.0060		ug/L		07/12/23 07:48	07/13/23 20:27	1

Method: 537.1 UCMR5 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: MBL 810-65311/22-A
Matrix: Drinking Water
Analysis Batch: 65387

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65311

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTA)	<0.0007		0.0080		ug/L		07/12/23 07:48	07/13/23 20:27	1
Perfluorotridecanoic acid (PFTrDA)	<0.0006		0.0070		ug/L		07/12/23 07:48	07/13/23 20:27	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*105*		*70 - 130*	*07/12/23 07:48*	*07/13/23 20:27*	*1*
13C2 PFHxA	*102*		*70 - 130*	*07/12/23 07:48*	*07/13/23 20:27*	*1*
13C2 PFDA	*109*		*70 - 130*	*07/12/23 07:48*	*07/13/23 20:27*	*1*
13C3 HFPO-DA	*97*		*70 - 130*	*07/12/23 07:48*	*07/13/23 20:27*	*1*

Lab Sample ID: LLCS 810-65311/2-A
Matrix: Drinking Water
Analysis Batch: 65387

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65311

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			0.00200	0.0019		ug/L		97	50 - 150		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			0.00200	0.0017		ug/L		84	50 - 150		
Perfluorotetradecanoic acid (PFTA)			0.00200	0.0013		ug/L		63	50 - 150		
Perfluorotridecanoic acid (PFTrDA)			0.00200	0.0016		ug/L		80	50 - 150		

Surrogate	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
d5-NEtFOSAA	*101*		*70 - 130*
13C2 PFHxA	*96*		*70 - 130*
13C2 PFDA	*104*		*70 - 130*
13C3 HFPO-DA	*97*		*70 - 130*

Method: 200.7 UCMR5 - Metals (ICP)

Lab Sample ID: MBL 810-65870/1-A
Matrix: Drinking Water
Analysis Batch: 65996

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65870

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.520		9.00		ug/L		07/17/23 12:45	07/18/23 11:49	1

Lab Sample ID: LLCS 810-65870/2-A
Matrix: Drinking Water
Analysis Batch: 65996

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65870

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			9.00	10.0		ug/L		112	50 - 150		

LCMS

Prep Batch: 65311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-68254-1	Catawba River WTP	Total/NA	Drinking Water	537.1 DW	
MBL 810-65311/22-A	Method Blank	Total/NA	Drinking Water	537.1 DW	
LLCS 810-65311/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 65387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-68254-1	Catawba River WTP	Total/NA	Drinking Water	537.1 UCMR5	65311
MBL 810-65311/22-A	Method Blank	Total/NA	Drinking Water	537.1 UCMR5	65311
LLCS 810-65311/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 UCMR5	65311

Prep Batch: 65918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-68254-1	Catawba River WTP	Total/NA	Drinking Water	533	
MBL 810-65918/1-A	Method Blank	Total/NA	Drinking Water	533	
LLCS 810-65918/2-A	Lab Control Sample	Total/NA	Drinking Water	533	

Analysis Batch: 66380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-68254-1	Catawba River WTP	Total/NA	Drinking Water	533	65918
MBL 810-65918/1-A	Method Blank	Total/NA	Drinking Water	533	65918
LLCS 810-65918/2-A	Lab Control Sample	Total/NA	Drinking Water	533	65918

Prep Batch: 66602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-68254-1FRB	FRB	Total/NA	Drinking Water	533	
MBL 810-66602/1-A	Method Blank	Total/NA	Drinking Water	533	
LLCS 810-66602/2-A	Lab Control Sample	Total/NA	Drinking Water	533	

Analysis Batch: 67117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-68254-1FRB	FRB	Total/NA	Drinking Water	533	66602
MBL 810-66602/1-A	Method Blank	Total/NA	Drinking Water	533	66602
LLCS 810-66602/2-A	Lab Control Sample	Total/NA	Drinking Water	533	66602

Metals

Prep Batch: 65870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-68254-1	Catawba River WTP	Total/NA	Drinking Water	200.7 UCMR5	
MBL 810-65870/1-A	Method Blank	Total/NA	Drinking Water	200.7 UCMR5	
LLCS 810-65870/2-A	Lab Control Sample	Total/NA	Drinking Water	200.7 UCMR5	

Analysis Batch: 65996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-68254-1	Catawba River WTP	Total/NA	Drinking Water	200.7 UCMR5	65870
MBL 810-65870/1-A	Method Blank	Total/NA	Drinking Water	200.7 UCMR5	65870
LLCS 810-65870/2-A	Lab Control Sample	Total/NA	Drinking Water	200.7 UCMR5	65870

Lab Chronicle

Client: Union County Water
Job ID: 810-68254-1
Project/Site: Union County Water NC0190413 UCMR5

Client Sample ID: Catawba River WTP
Lab Sample ID: 810-68254-1

Date Collected: 07/03/23 11:54
Matrix: Drinking Water

Date Received: 07/05/23 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			65918	KL	EA SB	07/18/23 06:17
Total/NA	Analysis	533		1	66380	KB	EA SB	07/22/23 00:36
Total/NA	Prep	537.1 DW			65311	SS	EA SB	07/12/23 07:44
Total/NA	Analysis	537.1 UCMR5		1	65387	PP	EA SB	07/13/23 21:21
Total/NA	Prep	200.7 UCMR5			65870	NB	EA SB	07/17/23 12:45
Total/NA	Analysis	200.7 UCMR5		1	65996	NB	EA SB	07/18/23 12:25

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
Job ID: 810-68254-1
Project/Site: Union County Water NC0190413 UCMR5

Laboratory: Eurofins Eaton Analytical South Bend

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
USEPA UCMR 5	US Federal Programs	IN00035	12-31-25

Method Summary

Client: Union County Water
Job ID: 810-68254-1
Project/Site: Union County Water NC0190413 UCMR5

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA SB
537.1 UCMR5	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA SB
200.7 UCMR5	Metals (ICP)	EPA	EA SB
200.7 UCMR5	Preparation, Total Recoverable Metals	EPA	EA SB
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA SB
537.1 DW	Extraction of Perfluorinated 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
Job ID: 810-68254-1
Project/Site: Union County Water NC0190413 UCMR5

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
810-68254-1	Catawba River WTP	Drinking Water	07/03/23 11:54	07/05/23 09:00
810-68254-1FRB	Catawba River WTP	Drinking Water	07/03/23 11:54	07/05/23 09:00

South Bend, IN
110 S Hill Street
South Bend, IN 46617
Phone (574) 233-4777; Phone (574) 233-8207

"UCMR 5 Sampling Form for Single Collection Site"

(Separate form is needed for each collection site)

eurofins | Environment Testing America

Company Contact: Donald Honeycutt
Company Name: Union County Water
Company Address: 500 N. Main St
Monroe NC 28112
Phone: 704-289-7044
Email: Junior.Honeycutt@unioncountync.gov
Purchase Order:

Lab I
El 810-68254 Chain of Custody

PWSID: Catawba River
FacID: WTP
SPID:
FacName:
SPName:
Sampling Event:

Water System Name: Union County Water System
Collection Location: Catawba River WTP
Scheduled Collection Date: 7/3/23

Sampler Name (Print): Jordan Helms

Date/Time Sampled: 7/3/23 11:54A

Client Storage temp, if >2 days from collection:

AREA BELOW FOR LAB USE ONLY

For UCMR 5 specific criteria see: REC-WI55108 Guidance Document for UCMR 5 Sample Receiving Requirements and QA-SOP-SOP48964 UCMR 5 QAPP

IR Gun#: 29

Ice: Wet / Blue

Method	Type	# Bot	Temp °C (10°C within 2 days of collection, 6°C for > 2 days) Initial / Corrected	pH* value	✓if receipt pH acceptable	✓if pH needs adjustment	Cl (P/A) **	Sample Comments	✓if sample is invalid
200.7	FS	1	[redacted]				[redacted]		
200.7	FS	2							
533	FS	1	1.2 / 2.0		√		A		
533	FS	2	/		√		A		
533	FS	3	/		√		A		
533	FRB	1	1.2 / 2.0		√		A		
537.1	FS	1	1.6 / 2.4		√	[redacted]	A		
537.1	FS	2	/		√		A		
537.1	FS	3	/		√		A		
537.1	FRB	1	1.6 / 2.4		√		A		

* pH <2 for 200.7. pH 6-8 for 533 & 537.1. *Note: 200.7 & 533 pH may be adjusted upon receipt.*

** A = Absent if Free Cl <0.1 mg/L; P = Chlorine is present

Received By [signature] *Date/Time* 07-05-2023 0801

Login Sample Receipt Checklist

Client: Union County Water

Job Number: 810-68254-1

Login Number: 68254

List Source: Eurofins Eaton Analytical South Bend

List Number: 1

Creator: Moore, Gary

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	