

ANALYTICAL REPORT

Eurofins Eaton South Bend
110 S Hill Street
South Bend, IN 46617
Tel: (574)233-4777

Laboratory Job ID: 810-11474-1

Client Project/Site: PFAS - Georgetown Water

For:

Georgetown Water Department
1 Moulton Street
Georgetown, Massachusetts 01833

Attn: Marlene Ladderbush



Authorized for release by:
1/17/2022 1:25:01 PM

Nathan Trowbridge, Manager of Project Management
(574)233-4777
nathan.trowbridge@eurofinset.com

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Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: Georgetown Water Department
Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

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: Georgetown Water Department
Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

Job ID: 810-11474-1

Laboratory: Eurofins Eaton South Bend

Narrative

Job Narrative
810-11474-1

Comments

No additional comments.

Receipt

The samples were received on 1/6/2022 3:15 PM. 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 was -1.8° C.

LCMS

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

Organic Prep

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

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Detection Summary

Client: Georgetown Water Department
Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

Client Sample ID: FTB
PWSID Number: 3105000

Lab Sample ID: 810-11474-1

No Detections.

Client Sample ID: 10015 West St WTP-Finish
PWSID Number: 3105000

Lab Sample ID: 810-11474-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	1.1	J	1.7	0.34	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	0.79	J	1.7	0.34	ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	1.7		1.7	0.34	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.63	J	1.7	0.43	ng/L	1		537.1	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.70	J	1.7	0.34	ng/L	1		537.1	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.55	J	1.7	0.34	ng/L	1		537.1	Total/NA
PFAS Total	1.70	J	2.00	0.500	ng/L	1		PFAS6	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: Georgetown Water Department
Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

Client Sample ID: FTB

Lab Sample ID: 810-11474-1

Date Collected: 01/04/22 11:55

Matrix: Drinking Water

Date Received: 01/06/22 15:15

PWSID Number: 3105000

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.38	ng/L		01/10/22 08:26	01/11/22 00:10	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	0.47	ng/L		01/10/22 08:26	01/11/22 00:10	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.38	ng/L		01/10/22 08:26	01/11/22 00:10	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.38	ng/L		01/10/22 08:26	01/11/22 00:10	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.38	ng/L		01/10/22 08:26	01/11/22 00:10	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.47	ng/L		01/10/22 08:26	01/11/22 00:10	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.9	0.47	ng/L		01/10/22 08:26	01/11/22 00:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.38	ng/L		01/10/22 08:26	01/11/22 00:10	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	0.38	ng/L		01/10/22 08:26	01/11/22 00:10	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.47	ng/L		01/10/22 08:26	01/11/22 00:10	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.9	0.56	ng/L		01/10/22 08:26	01/11/22 00:10	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	0.47	ng/L		01/10/22 08:26	01/11/22 00:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.47	ng/L		01/10/22 08:26	01/11/22 00:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.56	ng/L		01/10/22 08:26	01/11/22 00:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.9	0.47	ng/L		01/10/22 08:26	01/11/22 00:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.9	0.47	ng/L		01/10/22 08:26	01/11/22 00:10	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.9	0.47	ng/L		01/10/22 08:26	01/11/22 00:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.57	ng/L		01/10/22 08:26	01/11/22 00:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C2 PFHxA	92		70 - 130				01/10/22 08:26	01/11/22 00:10	1
13C2 PFDA	91		70 - 130				01/10/22 08:26	01/11/22 00:10	1
13C3 HFPO-DA	89		70 - 130				01/10/22 08:26	01/11/22 00:10	1
d5-NEtFOSAA	90		70 - 130				01/10/22 08:26	01/11/22 00:10	1

Client Sample ID: 10015 West St WTP-Finish

Lab Sample ID: 810-11474-2

Date Collected: 01/04/22 11:57

Matrix: Drinking Water

Date Received: 01/06/22 15:15

PWSID Number: 3105000

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	1.1	J	1.7	0.34	ng/L		01/13/22 07:30	01/14/22 00:23	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/13/22 07:30	01/14/22 00:23	1
Perfluorohexanoic acid (PFHxA)	0.79	J	1.7	0.34	ng/L		01/13/22 07:30	01/14/22 00:23	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.34	ng/L		01/13/22 07:30	01/14/22 00:23	1
Perfluorooctanoic acid (PFOA)	1.7		1.7	0.34	ng/L		01/13/22 07:30	01/14/22 00:23	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		01/13/22 07:30	01/14/22 00:23	1
Perfluorohexanesulfonic acid (PFHxS)	0.63	J	1.7	0.43	ng/L		01/13/22 07:30	01/14/22 00:23	1
Perfluorobutanesulfonic acid (PFBS)	0.70	J	1.7	0.34	ng/L		01/13/22 07:30	01/14/22 00:23	1
Perfluoroheptanoic acid (PFHpA)	0.55	J	1.7	0.34	ng/L		01/13/22 07:30	01/14/22 00:23	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		01/13/22 07:30	01/14/22 00:23	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.51	ng/L		01/13/22 07:30	01/14/22 00:23	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.43	ng/L		01/13/22 07:30	01/14/22 00:23	1

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Client Sample Results

Client: Georgetown Water Department
 Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

Client Sample ID: 10015 West St WTP-Finish

Lab Sample ID: 810-11474-2

Date Collected: 01/04/22 11:57

Matrix: Drinking Water

Date Received: 01/06/22 15:15

PWSID Number: 3105000

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/13/22 07:30	01/14/22 00:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.51	ng/L		01/13/22 07:30	01/14/22 00:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.7	0.43	ng/L		01/13/22 07:30	01/14/22 00:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.7	0.43	ng/L		01/13/22 07:30	01/14/22 00:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.7	0.43	ng/L		01/13/22 07:30	01/14/22 00:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.52	ng/L		01/13/22 07:30	01/14/22 00:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	90		70 - 130	01/13/22 07:30	01/14/22 00:23	1
13C2 PFDA	92		70 - 130	01/13/22 07:30	01/14/22 00:23	1
13C3 HFPO-DA	92		70 - 130	01/13/22 07:30	01/14/22 00:23	1
d5-NEtFOSAA	83		70 - 130	01/13/22 07:30	01/14/22 00:23	1

Method: PFAS6 - PFAS6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFAS Total	1.70	J	2.00	0.500	ng/L			01/14/22 00:23	1

Surrogate Summary

Client: Georgetown Water Department
 Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		PFHxA (70-130)	PFDA (70-130)	HFPODA (70-130)	d5NEFOS (70-130)
810-11474-1	FTB	92	91	89	90
810-11474-1 DU	FTB	95	99	101	94
810-11474-2	10015 West St WTP-Finish	90	92	92	83
LCS 810-10590/3-A	Lab Control Sample	98	97	95	92
LCS 810-10827/3-A	Lab Control Sample	94	96	92	81
LLCS 810-10590/2-A	Lab Control Sample	95	99	91	91
LLCS 810-10827/2-A	Lab Control Sample	96	90	93	89
MB 810-10590/1-A	Method Blank	103	103	96	103
MB 810-10827/1-A	Method Blank	87	88	84	83

Surrogate Legend

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



QC Sample Results

Client: Georgetown Water Department
 Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

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

Lab Sample ID: MB 810-10590/1-A
Matrix: Drinking Water
Analysis Batch: 10635

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 10590

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.40	ng/L		01/10/22 08:26	01/10/22 21:00	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/10/22 08:26	01/10/22 21:00	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.40	ng/L		01/10/22 08:26	01/10/22 21:00	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.40	ng/L		01/10/22 08:26	01/10/22 21:00	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.40	ng/L		01/10/22 08:26	01/10/22 21:00	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/10/22 08:26	01/10/22 21:00	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/10/22 08:26	01/10/22 21:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.40	ng/L		01/10/22 08:26	01/10/22 21:00	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.40	ng/L		01/10/22 08:26	01/10/22 21:00	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/10/22 08:26	01/10/22 21:00	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.60	ng/L		01/10/22 08:26	01/10/22 21:00	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.50	ng/L		01/10/22 08:26	01/10/22 21:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/10/22 08:26	01/10/22 21:00	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.60	ng/L		01/10/22 08:26	01/10/22 21:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.0	0.50	ng/L		01/10/22 08:26	01/10/22 21:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.50	ng/L		01/10/22 08:26	01/10/22 21:00	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.50	ng/L		01/10/22 08:26	01/10/22 21:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.61	ng/L		01/10/22 08:26	01/10/22 21:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	103		70 - 130	01/10/22 08:26	01/10/22 21:00	1
13C2 PFDA	103		70 - 130	01/10/22 08:26	01/10/22 21:00	1
13C3 HFPO-DA	96		70 - 130	01/10/22 08:26	01/10/22 21:00	1
d5-NEtFOSAA	103		70 - 130	01/10/22 08:26	01/10/22 21:00	1

Lab Sample ID: LCS 810-10590/3-A
Matrix: Drinking Water
Analysis Batch: 10635

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10590

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	96.1	91.3		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	96.1	88.6		ng/L		92	70 - 130
Perfluorohexanoic acid (PFHxA)	96.1	89.7		ng/L		93	70 - 130
Perfluorododecanoic acid (PFDoA)	96.1	86.4		ng/L		90	70 - 130
Perfluorooctanoic acid (PFOA)	96.1	87.9		ng/L		92	70 - 130
Perfluorodecanoic acid (PFDA)	96.1	89.0		ng/L		93	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	96.1	96.9		ng/L		101	70 - 130
Perfluorobutanesulfonic acid (PFBS)	96.1	97.1		ng/L		101	70 - 130
Perfluoroheptanoic acid (PFHpA)	96.1	95.9		ng/L		100	70 - 130
Perfluorononanoic acid (PFNA)	96.1	91.3		ng/L		95	70 - 130

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QC Sample Results

Client: Georgetown Water Department
 Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

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

Lab Sample ID: LCS 810-10590/3-A
Matrix: Drinking Water
Analysis Batch: 10635

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10590

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorotetradecanoic acid (PFTeDA)	96.1	72.2		ng/L		75	70 - 130
Perfluorotridecanoic acid (PFTrDA)	96.1	82.1		ng/L		85	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	96.1	84.0		ng/L		87	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	96.1	85.1		ng/L		89	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	96.1	87.1		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	96.1	88.2		ng/L		92	70 - 130
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	96.1	86.7		ng/L		90	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	96.1	92.5		ng/L		96	70 - 130
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
13C2 PFHxA	98		70 - 130				
13C2 PFDA	97		70 - 130				
13C3 HFPO-DA	95		70 - 130				
d5-NEtFOSAA	92		70 - 130				

Lab Sample ID: LLCS 810-10590/2-A
Matrix: Drinking Water
Analysis Batch: 10635

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10590

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	1.95	1.71	J	ng/L		88	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.95	1.63	J	ng/L		84	50 - 150
Perfluorohexanoic acid (PFHxA)	1.95	1.77	J	ng/L		91	50 - 150
Perfluorododecanoic acid (PFDoA)	1.95	1.62	J	ng/L		83	50 - 150
Perfluorooctanoic acid (PFOA)	1.95	1.66	J	ng/L		85	50 - 150
Perfluorodecanoic acid (PFDA)	1.95	1.73	J	ng/L		89	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.95	1.75	J	ng/L		90	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.95	1.75	J	ng/L		90	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.95	1.80	J	ng/L		92	50 - 150
Perfluorononanoic acid (PFNA)	1.95	1.77	J	ng/L		91	50 - 150
Perfluorotetradecanoic acid (PFTeDA)	1.95	1.35	J	ng/L		69	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.95	1.56	J	ng/L		80	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.95	1.65	J	ng/L		84	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.95	1.48	J	ng/L		76	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.95	1.58	J	ng/L		81	50 - 150

Eurofins Eaton South Bend

QC Sample Results

Client: Georgetown Water Department
 Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

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

Lab Sample ID: LLCS 810-10590/2-A
Matrix: Drinking Water
Analysis Batch: 10635

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10590

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid	1.95	1.63	J	ng/L		84	50 - 150
11-Chloroeicosafluoro-3-oxaund ecane-1-sulfonic acid	1.95	1.53	J	ng/L		78	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.95	1.60	J	ng/L		82	50 - 150

Surrogate	LLCS %Recovery	LLCS Qualifier	Limits
13C2 PFHxA	95		70 - 130
13C2 PFDA	99		70 - 130
13C3 HFPO-DA	91		70 - 130
d5-NEtFOSAA	91		70 - 130

Lab Sample ID: 810-11474-1 DU
Matrix: Drinking Water
Analysis Batch: 10635

Client Sample ID: FTB
Prep Type: Total/NA
Prep Batch: 10590

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Perfluorooctanesulfonic acid (PFOS)	ND		1.11	J	ng/L		NC	30
Perfluoroundecanoic acid (PFUnA)	ND		ND		ng/L		NC	30
Perfluorohexanoic acid (PFHxA)	ND		0.769	J	ng/L		NC	30
Perfluorododecanoic acid (PFDoA)	ND		ND		ng/L		NC	30
Perfluorooctanoic acid (PFOA)	ND		1.59	J	ng/L		NC	30
Perfluorodecanoic acid (PFDA)	ND		ND		ng/L		NC	30
Perfluorohexanesulfonic acid (PFHxS)	ND		0.636	J	ng/L		NC	30
Perfluorobutanesulfonic acid (PFBS)	ND		0.680	J	ng/L		NC	30
Perfluoroheptanoic acid (PFHpA)	ND		0.688	J	ng/L		NC	30
Perfluorononanoic acid (PFNA)	ND		ND		ng/L		NC	30
Perfluorotetradecanoic acid (PFTeDA)	ND		ND		ng/L		NC	30
Perfluorotridecanoic acid (PFTrDA)	ND		ND		ng/L		NC	30
N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA)	ND		ND		ng/L		NC	30
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	ND		ND		ng/L		NC	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ND		ng/L		NC	30
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid	ND		ND		ng/L		NC	30
11-Chloroeicosafluoro-3-oxaund ecane-1-sulfonic acid	ND		ND		ng/L		NC	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		ND		ng/L		NC	30

Surrogate	DU %Recovery	DU Qualifier	Limits
13C2 PFHxA	95		70 - 130

QC Sample Results

Client: Georgetown Water Department
 Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

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

Lab Sample ID: 810-11474-1 DU
Matrix: Drinking Water
Analysis Batch: 10635

Client Sample ID: FTB
Prep Type: Total/NA
Prep Batch: 10590

<i>Surrogate</i>	<i>%Recovery</i>	<i>DU DU Qualifier</i>	<i>Limits</i>
13C2 PFDA	99		70 - 130
13C3 HFPO-DA	101		70 - 130
d5-NEtFOSAA	94		70 - 130

Lab Sample ID: MB 810-10827/1-A
Matrix: Drinking Water
Analysis Batch: 10889

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 10827

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.40	ng/L		01/13/22 07:30	01/13/22 19:45	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/13/22 07:30	01/13/22 19:45	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.40	ng/L		01/13/22 07:30	01/13/22 19:45	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.40	ng/L		01/13/22 07:30	01/13/22 19:45	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.40	ng/L		01/13/22 07:30	01/13/22 19:45	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/13/22 07:30	01/13/22 19:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/13/22 07:30	01/13/22 19:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.40	ng/L		01/13/22 07:30	01/13/22 19:45	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.40	ng/L		01/13/22 07:30	01/13/22 19:45	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/13/22 07:30	01/13/22 19:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.60	ng/L		01/13/22 07:30	01/13/22 19:45	1
Perfluorotridecanoic acid (PFTTrDA)	ND		2.0	0.50	ng/L		01/13/22 07:30	01/13/22 19:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/13/22 07:30	01/13/22 19:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.60	ng/L		01/13/22 07:30	01/13/22 19:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.0	0.50	ng/L		01/13/22 07:30	01/13/22 19:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.50	ng/L		01/13/22 07:30	01/13/22 19:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.50	ng/L		01/13/22 07:30	01/13/22 19:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.61	ng/L		01/13/22 07:30	01/13/22 19:45	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C2 PFHxA	87		70 - 130	01/13/22 07:30	01/13/22 19:45	1
13C2 PFDA	88		70 - 130	01/13/22 07:30	01/13/22 19:45	1
13C3 HFPO-DA	84		70 - 130	01/13/22 07:30	01/13/22 19:45	1
d5-NEtFOSAA	83		70 - 130	01/13/22 07:30	01/13/22 19:45	1

Lab Sample ID: LCS 810-10827/3-A
Matrix: Drinking Water
Analysis Batch: 10889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10827

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
Perfluorooctanesulfonic acid (PFOS)	188	184		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	188	177		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	188	173		ng/L		92	70 - 130

Eurofins Eaton South Bend

QC Sample Results

Client: Georgetown Water Department
 Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

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

Lab Sample ID: LCS 810-10827/3-A
Matrix: Drinking Water
Analysis Batch: 10889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10827

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorododecanoic acid (PFDoA)	188	173		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	188	180		ng/L		96	70 - 130
Perfluorodecanoic acid (PFDA)	188	185		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	188	186		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	188	159		ng/L		84	70 - 130
Perfluoroheptanoic acid (PFHpA)	188	177		ng/L		94	70 - 130
Perfluorononanoic acid (PFNA)	188	178		ng/L		95	70 - 130
Perfluorotetradecanoic acid (PFTeDA)	188	165		ng/L		88	70 - 130
Perfluorotridecanoic acid (PFTrDA)	188	180		ng/L		96	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	188	166		ng/L		88	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	188	166		ng/L		88	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	188	170		ng/L		90	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	188	178		ng/L		95	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	188	181		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	188	175		ng/L		93	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
13C2 PFHxA	94		70 - 130
13C2 PFDA	96		70 - 130
13C3 HFPO-DA	92		70 - 130
d5-NEtFOSAA	81		70 - 130

Lab Sample ID: LLCS 810-10827/2-A
Matrix: Drinking Water
Analysis Batch: 10889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10827

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	1.94	1.73	J	ng/L		89	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.94	1.58	J	ng/L		82	50 - 150
Perfluorohexanoic acid (PFHxA)	1.94	1.71	J	ng/L		88	50 - 150
Perfluorododecanoic acid (PFDoA)	1.94	1.68	J	ng/L		87	50 - 150
Perfluorooctanoic acid (PFOA)	1.94	1.76	J	ng/L		91	50 - 150
Perfluorodecanoic acid (PFDA)	1.94	1.79	J	ng/L		92	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.94	1.81	J	ng/L		93	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.94	1.59	J	ng/L		82	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.94	1.80	J	ng/L		93	50 - 150

Eurofins Eaton South Bend

QC Sample Results

Client: Georgetown Water Department
 Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

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

Lab Sample ID: LLCS 810-10827/2-A
Matrix: Drinking Water
Analysis Batch: 10889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10827

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Perfluorononanoic acid (PFNA)	1.94	1.72	J	ng/L		89	50 - 150	
Perfluorotetradecanoic acid (PFTeDA)	1.94	1.49	J	ng/L		77	50 - 150	
Perfluorotridecanoic acid (PFTrDA)	1.94	1.68	J	ng/L		87	50 - 150	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.94	1.49	J	ng/L		77	50 - 150	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.94	1.65	J	ng/L		85	50 - 150	
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.94	1.65	J	ng/L		85	50 - 150	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.94	1.49	J	ng/L		77	50 - 150	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.94	1.51	J	ng/L		78	50 - 150	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.94	1.77	J	ng/L		91	50 - 150	
LLCS LLCS								
Surrogate	%Recovery	Qualifier						Limits
13C2 PFHxA	96							70 - 130
13C2 PFDA	90							70 - 130
13C3 HFPO-DA	93							70 - 130
d5-NEtFOSAA	89							70 - 130

QC Association Summary

Client: Georgetown Water Department
 Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

LCMS

Prep Batch: 10590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-11474-1	FTB	Total/NA	Drinking Water	537.1 DW	
MB 810-10590/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW	
LCS 810-10590/3-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
LLCS 810-10590/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
810-11474-1 DU	FTB	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 10635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-11474-1	FTB	Total/NA	Drinking Water	537.1	10590
MB 810-10590/1-A	Method Blank	Total/NA	Drinking Water	537.1	10590
LCS 810-10590/3-A	Lab Control Sample	Total/NA	Drinking Water	537.1	10590
LLCS 810-10590/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1	10590
810-11474-1 DU	FTB	Total/NA	Drinking Water	537.1	10590

Prep Batch: 10827

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-11474-2	10015 West St WTP-Finish	Total/NA	Drinking Water	537.1 DW	
MB 810-10827/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW	
LCS 810-10827/3-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
LLCS 810-10827/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 10889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-11474-2	10015 West St WTP-Finish	Total/NA	Drinking Water	537.1	10827
MB 810-10827/1-A	Method Blank	Total/NA	Drinking Water	537.1	10827
LCS 810-10827/3-A	Lab Control Sample	Total/NA	Drinking Water	537.1	10827
LLCS 810-10827/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1	10827

Analysis Batch: 10977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-11474-2	10015 West St WTP-Finish	Total/NA	Drinking Water	PFAS6	

Lab Chronicle

Client: Georgetown Water Department
 Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

Client Sample ID: FTB

Date Collected: 01/04/22 11:55

Date Received: 01/06/22 15:15

Lab Sample ID: 810-11474-1

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW			10590	01/10/22 08:26	MP	EA SB
Total/NA	Analysis	537.1		1	10635	01/11/22 00:10	MH	EA SB

Client Sample ID: 10015 West St WTP-Finish

Date Collected: 01/04/22 11:57

Date Received: 01/06/22 15:15

Lab Sample ID: 810-11474-2

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW			10827	01/13/22 07:30	TR	EA SB
Total/NA	Analysis	537.1		1	10889	01/14/22 00:23	MH	EA SB
Total/NA	Analysis	PFAS6		1	10977	01/14/22 00:23	MH	EA SB

Laboratory References:

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



Accreditation/Certification Summary

Client: Georgetown Water Department
Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

Laboratory: Eurofins Eaton South Bend

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

Authority	Program	Identification Number	Expiration Date
Massachusetts	State	M-IN035	06-30-22

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
PFAS6		Drinking Water	PFAS Total

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

Method Summary

Client: Georgetown Water Department
Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

Method	Method Description	Protocol	Laboratory
537.1	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA SB
PFAS6	PFAS6	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 South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777



Sample Summary

Client: Georgetown Water Department
Project/Site: PFAS - Georgetown Water

Job ID: 810-11474-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
810-11474-1	FTB	Drinking Water	01/04/22 11:55	01/06/22 15:15	3105000
810-11474-2	10015 West St WTP-Finish	Drinking Water	01/04/22 11:57	01/06/22 15:15	3105000

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Chain of Custody Record

Client 810-11474 Chain of Custody Client: Marlene Ladderbush Company: Georgetown Water Department Address: 1 Moulton Street City: Georgetown State, Zip: MA, 01833 Phone: 978 352 5750 Email: MLadderbush@georgetownma.gov Project Name: PFAS - Georgetown Water Site:		Sampler: M. Ladderbush Phone: 978 888 7931 PWSID: 3105000		Lab PM: Trowbridge, Nathan E-Mail: nathan.trowbridge@eurofinset.com		Carrier Tracking No(s): State of Origin:		COC No: 810-5955-741.1 Page: Page 1 of 1 Job #:																					
Due Date Requested: TAT Requested (days): Compliance Project: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No PO #: Purchase Order not required WO #:				Analysis Requested				Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)																					
Sample Identification		Sample Date		Sample Time		Sample Type (W=water, S=solid, O=wasteflow, G=grab)		Matrix (BT=Tissue, A=Air)		Field Filtered Sample (Yes or No)		Permitted MS/MSD (Yes or No)		537.1_DW_PREC - PFC18		Total Number of Containers		Special Instructions/Note:											
Preservation Code:																													
10015 West St WTP - Finish		1/4/22		11:55am		G		Drinking Water		X		X		X		2													
Field Blank		4/1/22		11:57am		G		Drinking Water		X		X		X		1													
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological										Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																			
Deliverable Requested: I, II, III, IV, Other (specify)										Special Instructions/QC Requirements:																			
Empty Kit Relinquished by:					Date:					Time:					Method of Shipment:														
Relinquished by: M Ladderbush					Date/Time: 1/4/22 12:20pm					Company: GWD					Received by:					Date/Time:					Company:				
Relinquished by:					Date/Time:					Company:					Received by:					Date/Time:					Company:				
Relinquished by:					Date/Time:					Company:					Received by:					Date/Time:					Company:				
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No					Custody Seal No.:					Cooler Temperature(s) °C and Other Remarks: -1.8 Wet																			

Login Sample Receipt Checklist

Client: Georgetown Water Department

Job Number: 810-11474-1

Login Number: 11474

List Source: Eurofins Eaton South Bend

List Number: 1

Creator: Pehling-Wright, Penny

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