

## ANALYTICAL REPORT

Eurofins Eaton South Bend  
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South Bend, IN 46617  
Tel: (574)233-4777

Laboratory Job ID: 810-30295-1

Client Project/Site: PFAS - Georgetown Water

For:

Georgetown Water Department  
1 Moulton Street  
Georgetown, Massachusetts 01833

Attn: Marlene Ladderbush



Authorized for release by:  
7/28/2022 2:36:55 PM

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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: 810-30295-1

## 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: 810-30295-1

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**Job ID: 810-30295-1**

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**Laboratory: Eurofins Eaton South Bend**

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**Narrative**

**Job Narrative  
810-30295-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 7/13/2022 8:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt 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: 810-30295-1

## Client Sample ID: #10015 West St WTP

## Lab Sample ID: 810-30295-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	1.3	J	1.9	0.38	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	0.97	J	1.9	0.38	ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	2.0		1.9	0.38	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.58	J	1.9	0.48	ng/L	1		537.1	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.76	J	1.9	0.38	ng/L	1		537.1	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.64	J	1.9	0.38	ng/L	1		537.1	Total/NA
PFAS Total	2.00		2.00	0.500	ng/L	1		PFAS6	Total/NA

## Client Sample ID: #10015 West St WTP FTB

## Lab Sample ID: 810-30295-2

No Detections.

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: 810-30295-1

**Client Sample ID: #10015 West St WTP**

**Lab Sample ID: 810-30295-1**

Date Collected: 07/12/22 13:30

Matrix: Drinking Water

Date Received: 07/13/22 08:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1.3</b>	<b>J</b>	1.9	0.38	ng/L		07/25/22 08:27	07/27/22 17:28	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	0.48	ng/L		07/25/22 08:27	07/27/22 17:28	1
<b>Perfluorohexanoic acid (PFHxA)</b>	<b>0.97</b>	<b>J</b>	1.9	0.38	ng/L		07/25/22 08:27	07/27/22 17:28	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.38	ng/L		07/25/22 08:27	07/27/22 17:28	1
<b>Perfluorooctanoic acid (PFOA)</b>	<b>2.0</b>		1.9	0.38	ng/L		07/25/22 08:27	07/27/22 17:28	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.48	ng/L		07/25/22 08:27	07/27/22 17:28	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>0.58</b>	<b>J</b>	1.9	0.48	ng/L		07/25/22 08:27	07/27/22 17:28	1
<b>Perfluorobutanesulfonic acid (PFBS)</b>	<b>0.76</b>	<b>J</b>	1.9	0.38	ng/L		07/25/22 08:27	07/27/22 17:28	1
<b>Perfluoroheptanoic acid (PFHpA)</b>	<b>0.64</b>	<b>J</b>	1.9	0.38	ng/L		07/25/22 08:27	07/27/22 17:28	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.48	ng/L		07/25/22 08:27	07/27/22 17:28	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.9	0.58	ng/L		07/25/22 08:27	07/27/22 17:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	0.48	ng/L		07/25/22 08:27	07/27/22 17:28	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.48	ng/L		07/25/22 08:27	07/27/22 17:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.58	ng/L		07/25/22 08:27	07/27/22 17:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.9	0.48	ng/L		07/25/22 08:27	07/27/22 17:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.9	0.48	ng/L		07/25/22 08:27	07/27/22 17:28	1
11-Chloroeicosadecafluoro-3-oxaundecane-1-sulfonic acid	ND		1.9	0.48	ng/L		07/25/22 08:27	07/27/22 17:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.59	ng/L		07/25/22 08:27	07/27/22 17:28	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C2 PFHxA	91		70 - 130				07/25/22 08:27	07/27/22 17:28	1
13C2 PFDA	93		70 - 130				07/25/22 08:27	07/27/22 17:28	1
13C3 HFPO-DA	90		70 - 130				07/25/22 08:27	07/27/22 17:28	1
d5-NEtFOSAA	86		70 - 130				07/25/22 08:27	07/27/22 17:28	1

**Method: PFAS6 - PFAS6**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>PFAS Total</b>	<b>2.00</b>		2.00	0.500	ng/L			07/28/22 14:07	1

**Client Sample ID: #10015 West St WTP FTB**

**Lab Sample ID: 810-30295-2**

Date Collected: 07/12/22 13:30

Matrix: Drinking Water

Date Received: 07/13/22 08:45

**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		07/25/22 06:17	07/25/22 23:51	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	0.47	ng/L		07/25/22 06:17	07/25/22 23:51	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.38	ng/L		07/25/22 06:17	07/25/22 23:51	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.38	ng/L		07/25/22 06:17	07/25/22 23:51	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.38	ng/L		07/25/22 06:17	07/25/22 23:51	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.47	ng/L		07/25/22 06:17	07/25/22 23:51	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.9	0.47	ng/L		07/25/22 06:17	07/25/22 23:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.38	ng/L		07/25/22 06:17	07/25/22 23:51	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	0.38	ng/L		07/25/22 06:17	07/25/22 23:51	1

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# Client Sample Results

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

Job ID: 810-30295-1

**Client Sample ID: #10015 West St WTP FTB**

**Lab Sample ID: 810-30295-2**

**Date Collected: 07/12/22 13:30**

**Matrix: Drinking Water**

**Date Received: 07/13/22 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		1.9	0.47	ng/L		07/25/22 06:17	07/25/22 23:51	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.9	0.57	ng/L		07/25/22 06:17	07/25/22 23:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	0.47	ng/L		07/25/22 06:17	07/25/22 23:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.47	ng/L		07/25/22 06:17	07/25/22 23:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.57	ng/L		07/25/22 06:17	07/25/22 23:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.9	0.47	ng/L		07/25/22 06:17	07/25/22 23:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.9	0.47	ng/L		07/25/22 06:17	07/25/22 23:51	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.9	0.47	ng/L		07/25/22 06:17	07/25/22 23:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.58	ng/L		07/25/22 06:17	07/25/22 23:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C2 PFHxA	99		70 - 130				07/25/22 06:17	07/25/22 23:51	1
13C2 PFDA	95		70 - 130				07/25/22 06:17	07/25/22 23:51	1
13C3 HFPO-DA	94		70 - 130				07/25/22 06:17	07/25/22 23:51	1
d5-NEtFOSAA	99		70 - 130				07/25/22 06:17	07/25/22 23:51	1

# Surrogate Summary

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

Job ID: 810-30295-1

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

**Matrix: Drinking Water**

**Prep Type: Total/NA**

**Percent Surrogate Recovery (Acceptance Limits)**

Lab Sample ID	Client Sample ID	PFHxA	PFDA	HFPODA	d5NEFOS
		(70-130)	(70-130)	(70-130)	(70-130)
810-30295-1	#10015 West St WTP	91	93	90	86
810-30295-2	#10015 West St WTP FTB	99	95	94	99
LCS 810-25757/3-A	Lab Control Sample	95	93	97	88
LLCS 810-25757/2-A	Lab Control Sample	101	94	99	95
LLCS 810-25763/2-A	Lab Control Sample	97	96	97	93
MBL 810-25757/1-A	Method Blank	102	103	98	96
MBL 810-25763/1-A	Method Blank	103	100	104	100

**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: 810-30295-1

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

**Lab Sample ID: MBL 810-25757/1-A**  
**Matrix: Drinking Water**  
**Analysis Batch: 25820**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 25757**

Analyte	MBL Result	MBL Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.40	ng/L		07/25/22 06:17	07/25/22 20:51	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		07/25/22 06:17	07/25/22 20:51	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.40	ng/L		07/25/22 06:17	07/25/22 20:51	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.40	ng/L		07/25/22 06:17	07/25/22 20:51	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.40	ng/L		07/25/22 06:17	07/25/22 20:51	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		07/25/22 06:17	07/25/22 20:51	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		07/25/22 06:17	07/25/22 20:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.40	ng/L		07/25/22 06:17	07/25/22 20:51	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.40	ng/L		07/25/22 06:17	07/25/22 20:51	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		07/25/22 06:17	07/25/22 20:51	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.60	ng/L		07/25/22 06:17	07/25/22 20:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.50	ng/L		07/25/22 06:17	07/25/22 20:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		07/25/22 06:17	07/25/22 20:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.60	ng/L		07/25/22 06:17	07/25/22 20:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.0	0.50	ng/L		07/25/22 06:17	07/25/22 20:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.50	ng/L		07/25/22 06:17	07/25/22 20:51	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.50	ng/L		07/25/22 06:17	07/25/22 20:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.61	ng/L		07/25/22 06:17	07/25/22 20:51	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	102		70 - 130	07/25/22 06:17	07/25/22 20:51	1
13C2 PFDA	103		70 - 130	07/25/22 06:17	07/25/22 20:51	1
13C3 HFPO-DA	98		70 - 130	07/25/22 06:17	07/25/22 20:51	1
d5-NEtFOSAA	96		70 - 130	07/25/22 06:17	07/25/22 20:51	1

**Lab Sample ID: LCS 810-25757/3-A**  
**Matrix: Drinking Water**  
**Analysis Batch: 25820**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 25757**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	199	179		ng/L		90	70 - 130
Perfluoroundecanoic acid (PFUnA)	199	181		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	199	194		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	199	177		ng/L		89	70 - 130
Perfluorooctanoic acid (PFOA)	199	193		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	199	185		ng/L		93	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	199	186		ng/L		93	70 - 130
Perfluorobutanesulfonic acid (PFBS)	199	182		ng/L		92	70 - 130
Perfluoroheptanoic acid (PFHpA)	199	190		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	199	186		ng/L		93	70 - 130

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# QC Sample Results

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

Job ID: 810-30295-1

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

**Lab Sample ID: LCS 810-25757/3-A**  
**Matrix: Drinking Water**  
**Analysis Batch: 25820**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 25757**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotetradecanoic acid (PFTeDA)	199	165		ng/L		83	70 - 130
Perfluorotridecanoic acid (PFTrDA)	199	181		ng/L		91	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	199	174		ng/L		88	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	199	177		ng/L		89	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	199	182		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	199	174		ng/L		87	70 - 130
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	199	175		ng/L		88	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	199	189		ng/L		95	70 - 130
<b>LCS LCS</b>							
Surrogate	%Recovery	Qualifier	Limits				
13C2 PFHxA	95		70 - 130				
13C2 PFDA	93		70 - 130				
13C3 HFPO-DA	97		70 - 130				
d5-NEtFOSAA	88		70 - 130				

**Lab Sample ID: LLCS 810-25757/2-A**  
**Matrix: Drinking Water**  
**Analysis Batch: 25820**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 25757**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	1.99	1.92	J	ng/L		96	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.99	1.76	J	ng/L		89	50 - 150
Perfluorohexanoic acid (PFHxA)	1.99	1.95	J	ng/L		98	50 - 150
Perfluorododecanoic acid (PFDoA)	1.99	1.87	J	ng/L		94	50 - 150
Perfluorooctanoic acid (PFOA)	1.99	2.02		ng/L		102	50 - 150
Perfluorodecanoic acid (PFDA)	1.99	1.92	J	ng/L		97	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.99	1.80	J	ng/L		91	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.99	1.85	J	ng/L		93	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.99	2.09		ng/L		105	50 - 150
Perfluorononanoic acid (PFNA)	1.99	2.06		ng/L		104	50 - 150
Perfluorotetradecanoic acid (PFTeDA)	1.99	1.65	J	ng/L		83	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.99	1.88	J	ng/L		94	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.99	2.00		ng/L		101	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.99	1.98	J	ng/L		100	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.99	1.82	J	ng/L		92	50 - 150

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# QC Sample Results

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

Job ID: 810-30295-1

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

**Lab Sample ID: LLCS 810-25757/2-A**  
**Matrix: Drinking Water**  
**Analysis Batch: 25820**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 25757**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.99	1.76	J	ng/L		89	50 - 150
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	1.99	1.76	J	ng/L		89	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.99	1.89	J	ng/L		95	50 - 150

Surrogate	LLCS %Recovery	LLCS Qualifier	LLCS Limits
13C2 PFHxA	101		70 - 130
13C2 PFDA	94		70 - 130
13C3 HFPO-DA	99		70 - 130
d5-NEtFOSAA	95		70 - 130

**Lab Sample ID: MBL 810-25763/1-A**  
**Matrix: Drinking Water**  
**Analysis Batch: 25968**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 25763**

Analyte	MBL Result	MBL Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.40	ng/L		07/25/22 08:27	07/27/22 16:13	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		07/25/22 08:27	07/27/22 16:13	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.40	ng/L		07/25/22 08:27	07/27/22 16:13	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.40	ng/L		07/25/22 08:27	07/27/22 16:13	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.40	ng/L		07/25/22 08:27	07/27/22 16:13	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		07/25/22 08:27	07/27/22 16:13	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		07/25/22 08:27	07/27/22 16:13	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.40	ng/L		07/25/22 08:27	07/27/22 16:13	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.40	ng/L		07/25/22 08:27	07/27/22 16:13	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		07/25/22 08:27	07/27/22 16:13	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.60	ng/L		07/25/22 08:27	07/27/22 16:13	1
Perfluorotridecanoic acid (PFTTrDA)	ND		2.0	0.50	ng/L		07/25/22 08:27	07/27/22 16:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		07/25/22 08:27	07/27/22 16:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.60	ng/L		07/25/22 08:27	07/27/22 16:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.0	0.50	ng/L		07/25/22 08:27	07/27/22 16:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.50	ng/L		07/25/22 08:27	07/27/22 16:13	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.50	ng/L		07/25/22 08:27	07/27/22 16:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.61	ng/L		07/25/22 08:27	07/27/22 16:13	1

Surrogate	MBL %Recovery	MBL Qualifier	MBL Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	103		70 - 130	07/25/22 08:27	07/27/22 16:13	1
13C2 PFDA	100		70 - 130	07/25/22 08:27	07/27/22 16:13	1
13C3 HFPO-DA	104		70 - 130	07/25/22 08:27	07/27/22 16:13	1
d5-NEtFOSAA	100		70 - 130	07/25/22 08:27	07/27/22 16:13	1

# QC Sample Results

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

Job ID: 810-30295-1

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

**Lab Sample ID: LLCS 810-25763/2-A**  
**Matrix: Drinking Water**  
**Analysis Batch: 25968**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 25763**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	1.95	1.83	J	ng/L		93	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.95	1.64	J	ng/L		84	50 - 150
Perfluorohexanoic acid (PFHxA)	1.95	1.83	J	ng/L		94	50 - 150
Perfluorododecanoic acid (PFDoA)	1.95	1.59	J	ng/L		81	50 - 150
Perfluorooctanoic acid (PFOA)	1.95	1.94	J	ng/L		99	50 - 150
Perfluorodecanoic acid (PFDA)	1.95	1.76	J	ng/L		90	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.95	1.75	J	ng/L		90	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.95	1.72	J	ng/L		88	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.95	1.99	J	ng/L		102	50 - 150
Perfluorononanoic acid (PFNA)	1.95	1.80	J	ng/L		92	50 - 150
Perfluorotetradecanoic acid (PFTeDA)	1.95	1.63	J	ng/L		83	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.95	1.58	J	ng/L		81	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.95	1.68	J	ng/L		86	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.95	1.62	J	ng/L		83	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.95	1.64	J	ng/L		84	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.95	1.53	J	ng/L		78	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.95	1.47	J	ng/L		75	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.95	1.70	J	ng/L		87	50 - 150

Surrogate	LLCS		Limits
	%Recovery	Qualifier	
13C2 PFHxA	97		70 - 130
13C2 PFDA	96		70 - 130
13C3 HFPO-DA	97		70 - 130
d5-NEtFOSAA	93		70 - 130

# QC Association Summary

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

Job ID: 810-30295-1

## LCMS

### Prep Batch: 25757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-30295-2	#10015 West St WTP FTB	Total/NA	Drinking Water	537.1 DW	
MBL 810-25757/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW	
LCS 810-25757/3-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
LLCS 810-25757/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	

### Prep Batch: 25763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-30295-1	#10015 West St WTP	Total/NA	Drinking Water	537.1 DW	
MBL 810-25763/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW	
LLCS 810-25763/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	

### Analysis Batch: 25820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-30295-2	#10015 West St WTP FTB	Total/NA	Drinking Water	537.1	25757
MBL 810-25757/1-A	Method Blank	Total/NA	Drinking Water	537.1	25757
LCS 810-25757/3-A	Lab Control Sample	Total/NA	Drinking Water	537.1	25757
LLCS 810-25757/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1	25757

### Analysis Batch: 25968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-30295-1	#10015 West St WTP	Total/NA	Drinking Water	537.1	25763
MBL 810-25763/1-A	Method Blank	Total/NA	Drinking Water	537.1	25763
LLCS 810-25763/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1	25763

### Analysis Batch: 26249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-30295-1	#10015 West St WTP	Total/NA	Drinking Water	PFAS6	

# Lab Chronicle

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

Job ID: 810-30295-1

**Client Sample ID: #10015 West St WTP**

**Lab Sample ID: 810-30295-1**

**Date Collected: 07/12/22 13:30**

**Matrix: Drinking Water**

**Date Received: 07/13/22 08:45**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW			25763	07/25/22 08:27	MP	EA SB
Total/NA	Analysis	537.1		1	25968	07/27/22 17:28	MH	EA SB
Total/NA	Analysis	PFAS6		1	26249	07/28/22 14:07	RD	EA SB

**Client Sample ID: #10015 West St WTP FTB**

**Lab Sample ID: 810-30295-2**

**Date Collected: 07/12/22 13:30**

**Matrix: Drinking Water**

**Date Received: 07/13/22 08:45**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW			25757	07/25/22 06:17	MP	EA SB
Total/NA	Analysis	537.1		1	25820	07/25/22 23:51	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: 810-30295-1

## 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	06-30-23

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
PFAS6		Drinking Water	PFAS Total



# Method Summary

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

Job ID: 810-30295-1

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: 810-30295-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
810-30295-1	#10015 West St WTP	Drinking Water	07/12/22 13:30	07/13/22 08:45
810-30295-2	#10015 West St WTP FTB	Drinking Water	07/12/22 13:30	07/13/22 08:45

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Chain of Custody Record



810-30295 Chain of Custody

Company: Marlene Ladderbush

Address: 1 Moulton Street  
Georgetown

City: Georgetown  
State: Zip: MA, 01833

Phone: 978-888-7931

Email: MLadderbush@georgetownma.gov

Project Name: PFAS - Georgetown Water

Site: Finish H2O

Sampler: M Ladderbush  
Phone: 978-888-7931

Lab PM: Trowbridge, Nathan  
E-Mail: nathan.trowbridge@euroffins.com

Carrier Tracking No(s):  
State of Origin: MA

COC No: 810-6113-741.1  
Page: Page 1 of 1  
Job #:

Due Date Requested:

TAT Requested (days):

Compliance Project:  Yes  No

PO #: Purchase Order not required

WVO #:

Project #: 81001180

SSOW#:

Analysis Requested

Preservation Codes:

- A - HCL
- B - NaOH
- C - Zn Acetate
- D - Nitric Acid
- E - NaHSO4
- F - MeOH
- G - Amehlor
- H - Ascorbic Acid
- I - Ice
- J - DI Water
- K - EDTA
- L - EDA
- M - Hexane
- N - None
- O - AsNaO2
- P - Na2O4S
- Q - Na2SO3
- R - Na2S2O3
- S - H2SO4
- T - TSP Dodecahydrate
- U - Acetone
- V - MCAA
- W - pH 4.5
- Z - other (specify)

Sample Identification

Sample Date

Sample Time

Sample Type (C=Comp, G=grab, B=Trans, A=Air)

Matrix (Water, Solid, Organic)

Field Filtered Sample (Yes or No)

Perform M&MSD (Yes or No)

537.1\_DW\_PREC - PFC18

Total Number of containers

Special Instructions/Note:

# 10015 West St WTP  
Finish H2O

7/12/22 1330 G

Drinking Water

N

N

2

Field Blank

7/12/22 1330 G

DW

N

X

1

Possible Hazard Identification

Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: MLadderbush  
Date: 7/12/22

Received by: Penny Polkinghough  
Date/Time: 07/13/22 0845

Method of Shipment: Initial Temp: 1.0  
Corrected Temp: 1.8  
IR Gun # 28 WJaf

Relinquished by:

Date/Time: 7/12/22 1330  
Company: CWD

Received by: Penny Polkinghough

Date/Time: 07/13/22 0845  
Company: ETH

Relinquished by:

Date/Time:

Received by:

Date/Time:

Custody Seals Intact:  Yes  No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Initial Temp: 1.0  
Corrected Temp: 1.8  
IR Gun # 28 WJaf

# Login Sample Receipt Checklist

Client: Georgetown Water Department

Job Number: 810-30295-1

**Login Number: 30295**

**List Number: 1**

**Creator: Pehling-Wright, Penny**

**List Source: Eurofins Eaton South Bend**

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