

ANALYTICAL REPORT

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

Laboratory Job ID: 810-19692-1

Client Project/Site: Mass DEP / UMass PFAS Region 3

For:

University of Massachusetts
224 Marston Hall
Amherst, Massachusetts 01003

Attn: Mr. Rick Larson



Authorized for release by:
4/11/2022 8:09:26 AM

Nathan Trowbridge, Manager of Project Management
(574)233-4777
Nathan.Trowbridge@et.eurofinsus.com

LINKS

Review your project
results through
Total Access

Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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



Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Detection Summary	5
Client Sample Results	6
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	12
Lab Chronicle	13
Certification Summary	14
Method Summary	15
Sample Summary	16
Chain of Custody	17
Receipt Checklists	20

Definitions/Glossary

Client: University of Massachusetts
Project/Site: Mass DEP / UMass PFAS Region 3

Job ID: 810-19692-1

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: University of Massachusetts
Project/Site: Mass DEP / UMass PFAS Region 3

Job ID: 810-19692-1

Job ID: 810-19692-1

Laboratory: Eurofins Eaton South Bend

Narrative

**Job Narrative
810-19692-1**

Comments

No additional comments.

Receipt

The samples were received on 4/5/2022 9:00 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.

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

Detection Summary

Client: University of Massachusetts
Project/Site: Mass DEP / UMass PFAS Region 3

Job ID: 810-19692-1

Client Sample ID: West St WTP-Finished Water/DEP 10015

Lab Sample ID: 810-19692-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	1.1	J	1.9	0.37	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	0.95	J	1.9	0.37	ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	1.8	J	1.9	0.37	ng/L	1		537.1	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.66	J	1.9	0.37	ng/L	1		537.1	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.59	J	1.9	0.37	ng/L	1		537.1	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Eaton South Bend

Client Sample Results

Client: University of Massachusetts
 Project/Site: Mass DEP / UMass PFAS Region 3

Job ID: 810-19692-1

Client Sample ID: West St WTP-Finished Water/DEP 10015

Lab Sample ID: 810-19692-1

Date Collected: 04/04/22 08:30

Matrix: Drinking Water

Date Received: 04/05/22 09:00

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	1.9	0.37	ng/L		04/07/22 10:03	04/08/22 03:08	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	0.47	ng/L		04/07/22 10:03	04/08/22 03:08	1
Perfluorohexanoic acid (PFHxA)	0.95	J	1.9	0.37	ng/L		04/07/22 10:03	04/08/22 03:08	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.37	ng/L		04/07/22 10:03	04/08/22 03:08	1
Perfluorooctanoic acid (PFOA)	1.8	J	1.9	0.37	ng/L		04/07/22 10:03	04/08/22 03:08	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.47	ng/L		04/07/22 10:03	04/08/22 03:08	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.9	0.47	ng/L		04/07/22 10:03	04/08/22 03:08	1
Perfluorobutanesulfonic acid (PFBS)	0.66	J	1.9	0.37	ng/L		04/07/22 10:03	04/08/22 03:08	1
Perfluoroheptanoic acid (PFHpA)	0.59	J	1.9	0.37	ng/L		04/07/22 10:03	04/08/22 03:08	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.47	ng/L		04/07/22 10:03	04/08/22 03:08	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.9	0.56	ng/L		04/07/22 10:03	04/08/22 03:08	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	0.47	ng/L		04/07/22 10:03	04/08/22 03:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.47	ng/L		04/07/22 10:03	04/08/22 03:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.56	ng/L		04/07/22 10:03	04/08/22 03:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.9	0.47	ng/L		04/07/22 10:03	04/08/22 03:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.9	0.47	ng/L		04/07/22 10:03	04/08/22 03:08	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.9	0.47	ng/L		04/07/22 10:03	04/08/22 03:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.57	ng/L		04/07/22 10:03	04/08/22 03:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	90		70 - 130	04/07/22 10:03	04/08/22 03:08	1
13C2 PFDA	92		70 - 130	04/07/22 10:03	04/08/22 03:08	1
13C3 HFPO-DA	96		70 - 130	04/07/22 10:03	04/08/22 03:08	1
d5-NEtFOSAA	83		70 - 130	04/07/22 10:03	04/08/22 03:08	1

Method: PFAS6 - PFAS6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PFAS6	ND		2.00	0.500	ng/L			04/07/22 10:03	1

Surrogate Summary

Client: University of Massachusetts
 Project/Site: Mass DEP / UMass PFAS Region 3

Job ID: 810-19692-1

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)
810-19692-1	West St WTP-Finished Water/Di	90	92	96	83
810-19692-1 MS	West St WTP-Finished Water/DEP 10015	84	82	86	75
810-19692-1 MSD	West St WTP-Finished Water/DEP 10015	85	82	88	80
LCS 810-16392/3-A	Lab Control Sample	96	88	95	83
LLCS 810-16392/2-A	Lab Control Sample	100	87	94	86
MBL 810-16392/1-A	Method Blank	94	82	93	81

Surrogate Legend

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



QC Sample Results

Client: University of Massachusetts
 Project/Site: Mass DEP / UMass PFAS Region 3

Job ID: 810-19692-1

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

Lab Sample ID: MBL 810-16392/1-A
Matrix: Drinking Water
Analysis Batch: 16444

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16392

Analyte	MBL Result	MBL Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.40	ng/L		04/07/22 10:03	04/08/22 01:54	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		04/07/22 10:03	04/08/22 01:54	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.40	ng/L		04/07/22 10:03	04/08/22 01:54	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.40	ng/L		04/07/22 10:03	04/08/22 01:54	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.40	ng/L		04/07/22 10:03	04/08/22 01:54	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		04/07/22 10:03	04/08/22 01:54	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		04/07/22 10:03	04/08/22 01:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.40	ng/L		04/07/22 10:03	04/08/22 01:54	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.40	ng/L		04/07/22 10:03	04/08/22 01:54	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		04/07/22 10:03	04/08/22 01:54	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.60	ng/L		04/07/22 10:03	04/08/22 01:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.50	ng/L		04/07/22 10:03	04/08/22 01:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		04/07/22 10:03	04/08/22 01:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.60	ng/L		04/07/22 10:03	04/08/22 01:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.0	0.50	ng/L		04/07/22 10:03	04/08/22 01:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.50	ng/L		04/07/22 10:03	04/08/22 01:54	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.50	ng/L		04/07/22 10:03	04/08/22 01:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.61	ng/L		04/07/22 10:03	04/08/22 01:54	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	94		70 - 130	04/07/22 10:03	04/08/22 01:54	1
13C2 PFDA	82		70 - 130	04/07/22 10:03	04/08/22 01:54	1
13C3 HFPO-DA	93		70 - 130	04/07/22 10:03	04/08/22 01:54	1
d5-NEtFOSAA	81		70 - 130	04/07/22 10:03	04/08/22 01:54	1

Lab Sample ID: LCS 810-16392/3-A
Matrix: Drinking Water
Analysis Batch: 16444

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16392

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	191	185		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	191	181		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	191	205		ng/L		107	70 - 130
Perfluorododecanoic acid (PFDoA)	191	182		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	191	195		ng/L		102	70 - 130
Perfluorodecanoic acid (PFDA)	191	188		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	191	190		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	191	189		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	191	194		ng/L		102	70 - 130
Perfluorononanoic acid (PFNA)	191	191		ng/L		100	70 - 130

Eurofins Eaton South Bend

QC Sample Results

Client: University of Massachusetts
Project/Site: Mass DEP / UMass PFAS Region 3

Job ID: 810-19692-1

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

Lab Sample ID: LCS 810-16392/3-A
Matrix: Drinking Water
Analysis Batch: 16444

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16392

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotetradecanoic acid (PFTeDA)	191	182		ng/L		95	70 - 130
Perfluorotridecanoic acid (PFTrDA)	191	179		ng/L		94	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	191	173		ng/L		91	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	191	172		ng/L		90	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	191	184		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	191	182		ng/L		95	70 - 130
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	191	174		ng/L		91	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	191	183		ng/L		96	70 - 130
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
13C2 PFHxA	96		70 - 130				
13C2 PFDA	88		70 - 130				
13C3 HFPO-DA	95		70 - 130				
d5-NEtFOSAA	83		70 - 130				

Lab Sample ID: LLCS 810-16392/2-A
Matrix: Drinking Water
Analysis Batch: 16444

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16392

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	1.92	1.71	J	ng/L		89	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.92	1.53	J	ng/L		79	50 - 150
Perfluorohexanoic acid (PFHxA)	1.92	2.13		ng/L		111	50 - 150
Perfluorododecanoic acid (PFDoA)	1.92	1.73	J	ng/L		90	50 - 150
Perfluorooctanoic acid (PFOA)	1.92	1.81	J	ng/L		94	50 - 150
Perfluorodecanoic acid (PFDA)	1.92	1.54	J	ng/L		80	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.92	1.74	J	ng/L		90	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.92	1.59	J	ng/L		83	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.92	1.93		ng/L		101	50 - 150
Perfluorononanoic acid (PFNA)	1.92	1.89	J	ng/L		98	50 - 150
Perfluorotetradecanoic acid (PFTeDA)	1.92	1.76	J	ng/L		92	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.92	1.61	J	ng/L		84	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.92	1.51	J	ng/L		79	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.92	1.67	J	ng/L		87	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.92	1.65	J	ng/L		86	50 - 150

Eurofins Eaton South Bend

QC Sample Results

Client: University of Massachusetts
Project/Site: Mass DEP / UMass PFAS Region 3

Job ID: 810-19692-1

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

Lab Sample ID: LLCS 810-16392/2-A
Matrix: Drinking Water
Analysis Batch: 16444

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16392

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid	1.92	1.41	J	ng/L		74	50 - 150
11-Chloroeicosfluoro-3-oxaund ecane-1-sulfonic acid	1.92	1.44	J	ng/L		75	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.92	1.83	J	ng/L		95	50 - 150

Surrogate	LLCS %Recovery	LLCS Qualifier	Limits
13C2 PFHxA	100		70 - 130
13C2 PFDA	87		70 - 130
13C3 HFPO-DA	94		70 - 130
d5-NEtFOSAA	86		70 - 130

Lab Sample ID: 810-19692-1 MS
Matrix: Drinking Water
Analysis Batch: 16444

Client Sample ID: West St WTP-Finished Water/DEP 10015
Prep Type: Total/NA
Prep Batch: 16392

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	1.1	J	93.8	88.6		ng/L		93	70 - 130
Perfluoroundecanoic acid (PFUnA)	ND		93.8	84.3		ng/L		90	70 - 130
Perfluorohexanoic acid (PFHxA)	0.95	J	93.8	89.7		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	ND		93.8	81.6		ng/L		87	70 - 130
Perfluorooctanoic acid (PFOA)	1.8	J	93.8	94.7		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	ND		93.8	86.9		ng/L		93	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	ND		93.8	91.5		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	0.66	J	93.8	83.9		ng/L		89	70 - 130
Perfluoroheptanoic acid (PFHpA)	0.59	J	93.8	91.5		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	ND		93.8	91.3		ng/L		97	70 - 130
Perfluorotetradecanoic acid (PFTeDA)	ND		93.8	86.4		ng/L		92	70 - 130
Perfluorotridecanoic acid (PFTrDA)	ND		93.8	81.2		ng/L		87	70 - 130
N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA)	ND		93.8	81.1		ng/L		86	70 - 130
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	ND		93.8	83.5		ng/L		89	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		93.8	85.2		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid	ND		93.8	86.1		ng/L		92	70 - 130
11-Chloroeicosfluoro-3-oxaund ecane-1-sulfonic acid	ND		93.8	80.2		ng/L		85	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		93.8	85.1		ng/L		91	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
13C2 PFHxA	84		70 - 130

QC Sample Results

Client: University of Massachusetts
 Project/Site: Mass DEP / UMass PFAS Region 3

Job ID: 810-19692-1

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

Lab Sample ID: 810-19692-1 MS
Matrix: Drinking Water
Analysis Batch: 16444

Client Sample ID: West St WTP-Finished Water/DEP 10015
Prep Type: Total/NA
Prep Batch: 16392

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
13C2 PFDA	82		70 - 130
13C3 HFPO-DA	86		70 - 130
d5-NEtFOSAA	75		70 - 130

Lab Sample ID: 810-19692-1 MSD
Matrix: Drinking Water
Analysis Batch: 16444

Client Sample ID: West St WTP-Finished Water/DEP 10015
Prep Type: Total/NA
Prep Batch: 16392

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Perfluorooctanesulfonic acid (PFOS)	1.1	J	95.3	92.0		ng/L		95	70 - 130	4	30	
Perfluoroundecanoic acid (PFUnA)	ND		95.3	88.1		ng/L		92	70 - 130	4	30	
Perfluorohexanoic acid (PFHxA)	0.95	J	95.3	96.5		ng/L		100	70 - 130	7	30	
Perfluorododecanoic acid (PFDoA)	ND		95.3	85.7		ng/L		90	70 - 130	5	30	
Perfluorooctanoic acid (PFOA)	1.8	J	95.3	95.8		ng/L		99	70 - 130	1	30	
Perfluorodecanoic acid (PFDA)	ND		95.3	92.6		ng/L		97	70 - 130	6	30	
Perfluorohexanesulfonic acid (PFHxS)	ND		95.3	96.7		ng/L		101	70 - 130	6	30	
Perfluorobutanesulfonic acid (PFBS)	0.66	J	95.3	88.4		ng/L		92	70 - 130	5	30	
Perfluoroheptanoic acid (PFHpA)	0.59	J	95.3	95.2		ng/L		99	70 - 130	4	30	
Perfluorononanoic acid (PFNA)	ND		95.3	97.2		ng/L		102	70 - 130	6	30	
Perfluorotetradecanoic acid (PFTeDA)	ND		95.3	90.1		ng/L		95	70 - 130	4	30	
Perfluorotridecanoic acid (PFTrDA)	ND		95.3	87.2		ng/L		91	70 - 130	7	30	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		95.3	85.9		ng/L		90	70 - 130	6	30	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		95.3	85.5		ng/L		90	70 - 130	2	30	
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		95.3	89.7		ng/L		94	70 - 130	5	30	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		95.3	90.2		ng/L		95	70 - 130	5	30	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		95.3	82.7		ng/L		87	70 - 130	3	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		95.3	88.7		ng/L		93	70 - 130	4	30	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
13C2 PFHxA	85		70 - 130
13C2 PFDA	82		70 - 130
13C3 HFPO-DA	88		70 - 130
d5-NEtFOSAA	80		70 - 130

QC Association Summary

Client: University of Massachusetts
 Project/Site: Mass DEP / UMass PFAS Region 3

Job ID: 810-19692-1

LCMS

Prep Batch: 16392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-19692-1	West St WTP-Finished Water/DEP 10015	Total/NA	Drinking Water	537.1 DW	
MBL 810-16392/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW	
LCS 810-16392/3-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
LLCS 810-16392/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
810-19692-1 MS	West St WTP-Finished Water/DEP 10015	Total/NA	Drinking Water	537.1 DW	
810-19692-1 MSD	West St WTP-Finished Water/DEP 10015	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 16444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-19692-1	West St WTP-Finished Water/DEP 10015	Total/NA	Drinking Water	537.1	16392
MBL 810-16392/1-A	Method Blank	Total/NA	Drinking Water	537.1	16392
LCS 810-16392/3-A	Lab Control Sample	Total/NA	Drinking Water	537.1	16392
LLCS 810-16392/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1	16392
810-19692-1 MS	West St WTP-Finished Water/DEP 10015	Total/NA	Drinking Water	537.1	16392
810-19692-1 MSD	West St WTP-Finished Water/DEP 10015	Total/NA	Drinking Water	537.1	16392

Analysis Batch: 16498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-19692-1	West St WTP-Finished Water/DEP 10015	Total/NA	Drinking Water	PFAS6	
810-19692-1 MS	West St WTP-Finished Water/DEP 10015	Total/NA	Drinking Water	PFAS6	
810-19692-1 MSD	West St WTP-Finished Water/DEP 10015	Total/NA	Drinking Water	PFAS6	

Lab Chronicle

Client: University of Massachusetts
Project/Site: Mass DEP / UMass PFAS Region 3

Job ID: 810-19692-1

Client Sample ID: West St WTP-Finished Water/DEP 10015

Lab Sample ID: 810-19692-1

Date Collected: 04/04/22 08:30

Matrix: Drinking Water

Date Received: 04/05/22 09:00

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Prep	537.1 DW			16392	04/07/22 10:03	SS	EA SB
Total/NA	Analysis	537.1		1	16444	04/08/22 03:08	MH	EA SB
Total/NA	Analysis	PFAS6		1	16498	04/07/22 10:03	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: University of Massachusetts
Project/Site: Mass DEP / UMass PFAS Region 3

Job ID: 810-19692-1

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	PFAS6

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

Method Summary

Client: University of Massachusetts
Project/Site: Mass DEP / UMass PFAS Region 3

Job ID: 810-19692-1

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: University of Massachusetts
Project/Site: Mass DEP / UMass PFAS Region 3

Job ID: 810-19692-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
810-19692-1	West St WTP-Finished Water/DEP 10015	Drinking Water	04/04/22 08:30	04/05/22 09:00

1

2

3

4

5

6

7

8

9

10

11

12

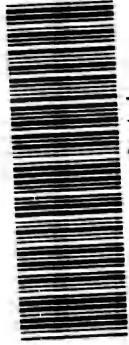
13

14

15

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

Chain of Custody Record



810-19692 Chain of Custody

Client Information
 Client Contact: Mr. Rick Larson
 Phone: 978 888 7931
 E-Mail: nathan.trowbridge@eurofinset.com
 Lab P#: Trowbridge, Nathan
 State of Origin: MA

University of Massachusetts
 Address: 224 Marston Hall
 City: Amherst
 State, Zip: MA, 01003
 Phone: 413-221-4776(Tel)
 Email: rlarson@umass.edu
 Project Name: Mass DEP / UMass PFAS Region 3
 Site:
 PO #: 3105000 - 2RM
 WO #: 3105000 - 2RM
 Project #: 81000214
 SSOW#:
 Due Date Requested:
 TAT Requested (days):
 Compliance Project: Yes No
 PWSID:
 Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Swab, Other)	Field Filtered Sample (Yes or No)	Total Number of Containers	Special Instructions/Note:
DEP Loc ID # 10015 West St WTP - finished water	4/14/22	8:30 am	G	Drinking Water	X	X	By KB 4/15/22
FIB				Drinking Water	X		

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For Months
 Special Instructions/QC Requirements:
 Time: 9:00 am
 Method of Shipment: FEDEX overnight
 Company:
 Date/Time: 4/14/22 9 am
 Received by: [Signature]
 Date/Time: 4/15/22 0500
 Received by: [Signature]
 Date/Time:
 Received by:
 Date/Time:
 Cooler Temperature(s) °C and Other Remarks: 1.3

Custody Seals Intact: Yes No
 Custody Seal No.:



Ver: 06/08/2021

MASSDEP TASK ORDER FOR LABORATORY ASSISTANCE

PWS Sampling

Analysis: **PFAS by EPA Method 537.1**

Contract Laboratory:	Eurofins Eaton Analytical, 110 South Hill Street, South Bend, IN
Lab phone # (Office and Cell) :	574-233-4777
Lab Contact 1 Name & Email:	Nathan Trowbridge
Lab Contact 2 Name & Email:	Brian Remus
Lab Task Order#:	3105000 - 2RM
MMARS Number:	MA-EQE-5000-PFASLABSERVCSBWR2020
DEP Region	NE
DEP Regional Contact:	Amy LaPusata
DEP Regional Contact Email:	amy.lapusata@mass.gov
DEP Order Date:	3/3/2022
UMass Contract Manager Approval:	Jaana Pietari
UMass Contract Manager Email:	jpietari@ramboll.com
Expedited Turn around Time	No
Umass Technical Assistance Provider (TAP)	Larry Durkin
TAP Email:	Durkineng@gmail.com
TAP Phone:	978-578-1326
PWS ID # :	3105000
PWS Name and Official Town:	Georgetown Water Department
PWS Shipping Address	C/O Marlene Ladderbush Water Department,
PWS Contact 1 & Contact 2 (PWS Owner)	Marlene Ladderbush (Utilities Director)
PWS Contact Email 1,2,3:	mladderbush@georgetownma.gov
PWS Phone 1,2,3:	(978) 888-7931 (cell)
SAMPLE_LOC_CODE	Location Name
**see below	Matrix Spike & Matrix Spike Duplicate
10015	WEST ST. WTP - FINISHED WATER
DEP Loc ID#	Location Names
	On COC

MASSDEP TASK ORDER FOR LABORATORY ASSISTANCE

PWS Sampling
 Analysis: PFAS by EPA Method 537.1

Contract Laboratory:	Eurofins Eaton Analytical, 110 South Hill Street, South Bend, IN 46617-2702		
Lab phone # (Office and Cell) :	574-233-4777		
Lab Contact 1 Name & Email:	Nathan Trowbridge	NathanTrowbridge@eurofinsET.com	
Lab Contact 2 Name & Email:	Brian Remus	Brian.Remus@EurofinsET.com	
Lab Task Order#:	3105000 - 2RM		
MMARS Number:	MA-EQE-5000-PFASLABSERVCSBWR2020		
DEP Region:	NE		
DEP Regional Contact:	Amy LaPusata		
DEP Regional Contact Email:	amy.lapusata@mass.gov		
DEP Order Date:	3/3/2022		
UMass Contract Manager Approval:	Jaana Pietari		
UMass Contract Manager Email:	jpietari@ramboll.com		
Expedited Turn around Time	No		
UMass Technical Assistance Provider (TAP)	Larry Durkin		
TAP Email:	Durkineng@gmail.com		
TAP Phone:	978-578-1326		
PWS ID # :	3105000		

PWS Name and Official Town:	Georgetown Water Department	GEORGETOWN		
PWS Shipping Address	C/O Marlene Ladderbush Water Department,	1 Moulton St	GEORGETOWN, MA	01833
PWS Contact 1 & Contact 2 (PWS Owner)	Marlene Ladderbush (Utilities Director)	Jim Gallagher (Operations Manager)		
PWS Contact Email 1,2,3:	madderbush@georgetownma.gov	jgallagher@georgetownma.gov		
PWS Phone 1,2,3:	(978) 888-7931 (cell)	(978) 352-5750		

SAMPLE_LOC_CODE	Location Name	Raw or Finished (post treatment)?	Field Blank (Y/N)	# Bottles
**see below	Matrix Spike & Matrix Spike Duplicate	Sample from any of your sample locations for these bottles	No	4
10015	WEST ST. WTP - FINISHED WATER	F	Yes	4
Total samples of drinking water sources this order:		1	1	8

<p>Instructions to Lab</p> <p>1. A field blank must be included as part of EPA Method 537.1 amy.lapusata@mass.gov pfas-testing@umass.edu</p> <p>2. Email the complete laboratory report to: jpietari@ramboll.com rlarson@umass.edu madderbush@georgetownma.gov jgallagher@georgetownma.gov christopher.nelson@mass.gov</p> <p>3. Invoice should be made out to: referencing the Lab Task Order # and MMARS numbers listed above Ms Yvette DePeiza Massachusetts DEP MassDEP Drinking Water Program 1 Winter Street, 5th floor Boston, MA 02108</p> <p>4. Email invoice to: pfas-testing@umass.edu</p>	<p>Instructions to TAPS</p> <p>Fill in all tan fields Check Field Blank locations with PWS</p> <p>**QA/QC Bottles Sample 1 is a QA/QC sample required for analysis Please fill these four bottles with sample from one of your location codes, you may choose any sampling location IDENTIFY WHICH LOCATION CODE THESE SAMPLES ARE FOR BY WRITING THE LOCATION CODE IN THE RED BOX PLEASE WRITE CLEARLY</p> <p>**QA/QC</p>	<p>Double Check Bottle Counts</p>
---	--	--

Login Sample Receipt Checklist

Client: University of Massachusetts

Job Number: 810-19692-1

Login Number: 19692

List Number: 1

Creator: Blackburn, Kelly

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	