

April 19, 2021

M.F. Hatte
Massachusetts Department of Environmental Protection
201 Ag Engineering
250 Natural Resources Rd
Amherst, Massachusetts 01003

Re: PFAS Testing of Drinking Water
Work Order: 539879

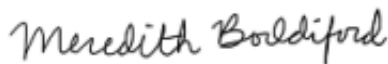
Dear M.F. Hatte:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on April 06, 2021. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4487.

Sincerely,



Meredith Boddiford for
Brielle Luthman
Project Manager

Purchase Order: 1279000-2C
Enclosures

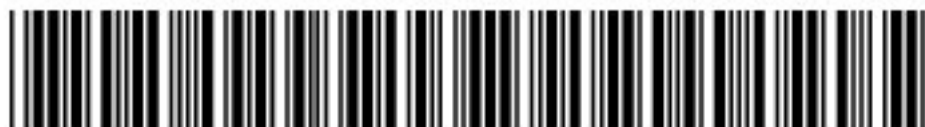


Table of Contents

Case Narrative.....	3
Chain of Custody and Supporting Documentation.....	5
Laboratory Certifications.....	8
LC-MS/MS Analysis.....	10
Case Narrative.....	11
Sample Data Summary.....	14
Quality Control Summary.....	17
Standards.....	36
Quality Control Data.....	45
Miscellaneous.....	57

Case Narrative

**Receipt Narrative
for
Massachusetts Department of Public Health
SDG: 539879**

April 19, 2021

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary:

Sample receipt: The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on April 06, 2021 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

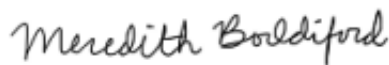
Sample Identification: The laboratory received the following samples:

<u>Laboratory ID</u>	<u>Client ID</u>
539879001	10000
539879002	FRB 10000

Case Narrative:

Sample analyses were conducted using methodology as outlined in GEL's Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: LCMSMS-Misc.



Meredith Boddiford for
Brielle Luthman
Project Manager

Chain of Custody and Supporting Documentation

SAMPLE RECEIPT & REVIEW FORM

Client: WDEP			SDG/AR/COC/Work Order: 539879			
Received By: MLS			Date Received: 4-06-21			
Carrier and Tracking Number			Circle Applicable: ☒ FedEx Express ☐ FedEx Ground ☐ UPS ☐ Field Services ☐ Courier ☐ Other			
			9381 7260 9530			
Suspected Hazard Information		Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.		
A) Shipped as a DOT Hazardous?		☒	☐	Hazard Class Shipped: _____ UN#: _____ If UN2910, Is the Radioactive Shipment Survey Compliant? Yes ___ No ___		
C) Did the RSO classify the samples as radioactive?		☒	☐	COC notation or radioactive stickers on containers equal client designation.		
D) Did the client designate samples are hazardous?		☒	☐	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM mR/Hr Classified as: Rad 1 Rad 2 Rad 3		
E) Did the RSO identify possible hazards?		☒	☐	COC notation or hazard labels on containers equal client designation.		
		☒	☐	If D or E is yes, select Hazards below: PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other: _____		
Sample Receipt Criteria			Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	☒	☐	☐		Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	☒	☐	☐		Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	☒	☐	☐		Preservation Method: Wet Ice Ice Packs Dry ice None Other: _____ *all temperatures are recorded in Celsius TEMP: 4°C
4	Daily check performed and passed on IR temperature gun?	☒	☐	☐		Temperature Device Serial #: IR3-21 Secondary Temperature Device Serial # (If Applicable): _____
5	Sample containers intact and sealed?	☒	☐	☐		Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	☒	☐	☐		Sample ID's and Containers Affected: _____ If Preservation added, Lot#: _____
7	Do any samples require Volatile Analysis?	☒	☐	☐		If Yes, are Encores or Soil Kits present for solids? Yes ___ No ___ NA ___ (If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes ___ No ___ NA ___ (If unknown, select No) Are liquid VOA vials free of headspace? Yes ___ No ___ NA ___ Sample ID's and containers affected: _____
8	Samples received within holding time?	☒	☐	☐		ID's and tests affected: _____
9	Sample ID's on COC match ID's on bottles?	☒	☐	☐		ID's and containers affected: NO ID'S ON CONTAINERS
10	Date & time on COC match date & time on bottles?	☒	☐	☐		Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	☒	☐	☐		Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	☒	☐	☐		
13	COC form is properly signed in relinquished/received sections?	☒	☐	☐		Circle Applicable: Not relinquished Other (describe)
Comments (Use Continuation Form if needed):						

Laboratory Certifications

List of current GEL Certifications as of 19 April 2021

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122021-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2019-165
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-21-19
Utah NELAP	SC000122020-34
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

LC-MS/MS Analysis

Case Narrative

**LCMSMS-Misc
Technical Case Narrative
Massachusetts Department of Public Health
SDG #: 539879**

Product: The Extraction and Analysis of Per and Polyfluoroalkyl Substances Using LCMSMS

Analytical Method: EPA 537.1

Analytical Procedure: GL-OA-E-076 REV# 10

Analytical Batches: 2112347 and 2112345

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
539879001	10000
539879002	FRB 10000
1204790679	Method Blank (MB)
1204790680	Laboratory Control Sample (LCS)
1204790681	539879001(10000) Matrix Spike (MS)
1204790682	539879001(10000) Matrix Spike Duplicate (MSD)
1204790683	539885002(MULT 4) Matrix Spike (MS)
1204790684	539885002(MULT 4) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report for

MDEP001 Massachusetts Department of Public Health

Client SDG: 539879 GEL Work Order: 539879

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- DL Indicates that sample is diluted.
- RA Indicates that sample is re-analyzed without re-extraction.
- RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Nik-Cole Elmore

Date: 19 APR 2021

Title: Analyst II

Sample Data Summary

LC-MS/MS
Certificate of Analysis
Sample Summary

Page 1 of 1

SDG Number: 539879	Date Collected: 04/05/2021 11:25	Matrix: DRINKING WATER (POTABI
Lab Sample ID: 539879001	Date Received: 04/06/2021 10:30	
Client Sample: POINT OF ENTRY	Client: MDEP001	Project: MDEP00120
Client ID: 10000	Method: EPA 537.1	SOP Ref: GL-OA-E-076
Batch ID: 2112347	Inst: LCMSMS9	Dilution: 1
Run Date: 04/08/2021 17:54	Analyst: MB2	
Prep Date: 04/07/2021 11:02	Aliquot: 286.02 mL	Final Volume: 5 mL
Data File: PFC040821042.wiff	Column:	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
763051-92-9	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3O	U	3.50	ng/L	0.874	3.50
	<i>11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid</i>					
13252-13-6	Hexafluoropropyleneoxide dimer acid (HFPO-DA)	U	1.75	ng/L	0.577	1.75
	<i>Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-</i>					
756426-58-1	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ON	U	3.50	ng/L	1.15	3.50
	<i>9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid</i>					
2991-50-6	N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	U	3.50	ng/L	1.15	3.50
2355-31-9	N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	U	3.50	ng/L	1.15	3.50
375-73-5	Perfluorobutane sulfonic acid (PFBS)	J	1.19	ng/L	0.507	1.56
335-76-2	Perfluorodecanoic acid (PFDA)	U	1.75	ng/L	0.577	1.75
307-55-1	Perfluorododecanoic acid (PFDoA)	U	1.75	ng/L	0.577	1.75
	<i>Perfluorododecanoic acid (PFDOA)</i>					
375-85-9	Perfluoroheptanoic acid (PFHpA)	J	0.853	ng/L	0.577	1.75
355-46-4	Perfluorohexane sulfonic acid (PFHxS)	J	1.14	ng/L	0.524	1.59
307-24-4	Perfluorohexanoic acid (PFHxA)	J	1.65	ng/L	0.577	1.75
375-95-1	Perfluorononanoic acid (PFNA)	U	1.75	ng/L	0.577	1.75
1763-23-1	Perfluorooctane sulfonic acid (PFOS)		1.95	ng/L	0.577	1.75
335-67-1	Perfluorooctanoic acid (PFOA)		2.03	ng/L	0.577	1.75
376-06-7	Perfluorotetradecanoic acid (PFTA)	U	1.75	ng/L	0.577	1.75
	<i>Perfluorotetradecanoic acid (PFTDA)</i>					
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	U	1.75	ng/L	0.577	1.75
2058-94-8	Perfluoroundecanoic acid (PFUnA)	U	1.75	ng/L	0.577	1.75
	<i>Perfluoroundecanoic acid (PFUnDA)</i>					
919005-14-4	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	U	1.75	ng/L	0.577	1.75
	<i>4,8-Dioxa-3H-perfluorononanoic acid (DONA)</i>					

LC-MS/MS
Certificate of Analysis
Sample Summary

Page 1 of 1

SDG Number: 539879
Lab Sample ID: 539879002

Date Collected: 04/05/2021 11:26
Date Received: 04/06/2021 10:30

Matrix: WATER

Client ID: FRB 10000
Batch ID: 2112347

Client: MDEP001
Method: EPA 537.1
Inst: LCMSMS9

Project: MDEP00120
SOP Ref: GL-OA-E-076
Dilution: 1

Run Date: 04/08/2021 18:19

Analyst: MB2

Prep Date: 04/07/2021 11:02

Aliquot: 285.14 mL

Final Volume: 5 mL

Data File: PFC040821045.wiff

Column:

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
763051-92-9	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3O	U	3.51	ng/L	0.877	3.51
	<i>11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid</i>					
13252-13-6	Hexafluoropropyleneoxide dimer acid (HFPO-DA)	U	1.75	ng/L	0.579	1.75
	<i>Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-</i>					
756426-58-1	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ON	U	3.51	ng/L	1.16	3.51
	<i>9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid</i>					
2991-50-6	N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	U	3.51	ng/L	1.16	3.51
2355-31-9	N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	U	3.51	ng/L	1.16	3.51
375-73-5	Perfluorobutane sulfonic acid (PFBS)	U	1.56	ng/L	0.509	1.56
335-76-2	Perfluorodecanoic acid (PFDA)	U	1.75	ng/L	0.579	1.75
307-55-1	Perfluorododecanoic acid (PFDoA)	U	1.75	ng/L	0.579	1.75
	<i>Perfluorododecanoic acid (PFDOA)</i>					
375-85-9	Perfluoroheptanoic acid (PFHpA)	U	1.75	ng/L	0.579	1.75
355-46-4	Perfluorohexane sulfonic acid (PFHxS)	U	1.60	ng/L	0.526	1.60
307-24-4	Perfluorohexanoic acid (PFHxA)	U	1.75	ng/L	0.579	1.75
375-95-1	Perfluorononanoic acid (PFNA)	U	1.75	ng/L	0.579	1.75
1763-23-1	Perfluorooctane sulfonic acid (PFOS)	U	1.75	ng/L	0.579	1.75
335-67-1	Perfluorooctanoic acid (PFOA)	U	1.75	ng/L	0.579	1.75
376-06-7	Perfluorotetradecanoic acid (PFTA)	U	1.75	ng/L	0.579	1.75
	<i>Perfluorotetradecanoic acid (PFTDA)</i>					
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	U	1.75	ng/L	0.579	1.75
2058-94-8	Perfluoroundecanoic acid (PFUnA)	U	1.75	ng/L	0.579	1.75
	<i>Perfluoroundecanoic acid (PFUnDA)</i>					
919005-14-4	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	U	1.75	ng/L	0.579	1.75
	<i>4,8-Dioxa-3H-perfluorononanoic acid (DONA)</i>					

Quality Control Summary

LC-MS/MS

Page 1 of 2

Surrogate Recovery Report

SDG Number: 539879

Matrix Type: DRINKING WATER

Sample ID	Client ID	13C2PFD A %REC	13C2_Pf HxA %REC	13C3_Pf PrOPrA %REC	d5-N-Et FOSAA %REC
1204790679	MB for batch 2112345	88	84	86	87
1204790680	LCS for batch 2112345	98	100	96	108
539879001	10000	87	89	88	93
1204790681	10000MS	91	108	92	97
1204790682	10000MSD	81	91	83	89
539879002	FRB 10000	91	92	85	90
1204790683	MULT 4MS	101	101	99	98
1204790684	MULT 4MSD	91	98	96	87

Surrogate	Parmname	Acceptance Limits
13C2PFDA	= Perfluoro-n-[1,2-13C2] decanoic acid	(70%-130%)
13C2_PFHxA	= Perfluoro-n-[1,2-13C2] hexanoic acid	(70%-130%)
13C3_PFPPrOPrA	= 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-13C3-propanoic acid (13C3_PFPPrOPrA)	(70%-130%)
d5-N-EtFOSAA	= N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	(70%-130%)

* Recovery outside Acceptance Limits (Not applicable to diluted samples)

Column to be used to flag recovery values

D Sample Diluted

LC-MS/MS

Page 2 of 2

Surrogate Recovery Report

SDG Number: 539879

Matrix Type: LIQUID

Sample ID	Client ID	13C2PFD A %REC	13C2_PF HxA %REC	13C3_PF PrOPrA %REC	d5-N-Et FOSAA %REC
1204790679	MB for batch 2112345	88	84	86	87
1204790680	LCS for batch 2112345	98	100	96	108
539879001	10000	87	89	88	93
1204790681	10000MS	91	108	92	97
1204790682	10000MSD	81	91	83	89
539879002	FRB 10000	91	92	85	90
1204790683	MULT 4MS	101	101	99	98
1204790684	MULT 4MSD	91	98	96	87

Surrogate	Parmname	Acceptance Limits
13C2PFDA	= Perfluoro-n-[1,2-13C2] decanoic acid	(70%-130%)
13C2_PFHxA	= Perfluoro-n-[1,2-13C2] hexanoic acid	(70%-130%)
13C3_PFPPrOPrA	= 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-13C3-propanoic acid (13C3_PFPPrOPrA)	(70%-130%)
d5-N-EtFOSAA	= N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	(70%-130%)

* Recovery outside Acceptance Limits (Not applicable to diluted samples)

Column to be used to flag recovery values

D Sample Diluted

Quality Control Summary Spike Recovery Report

SDG Number: 539879

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 2112345

Matrix: DRINKING WATER (POTABLE)

Lab Sample ID 1204790680

Instrument: LCMSMS9

Analysis Date: 04/08/2021 17:11

Dilution: 1

Analyst: MB2

Prep Batch ID: 2112345

Batch ID: 2112347

CAS No	Parmname	Amount Added ng/L	Sample Conc. ng/L	Spike Conc. ng/L	Recovery %	Acceptance Limits
13252-13-6	LCS Hexafluoropropyleneoxide dimer acid (HFPO-DA) <i>2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoroprop</i>	18.9	0.0	17.3	91	70-130
1763-23-1	LCS Perfluorooctane sulfonic acid (PFOS) <i>Perfluorooctanesulfonate (PFOS)</i>	18.9	0.0	18.4	97	70-130
2058-94-8	LCS Perfluoroundecanoic acid (PFUnA) <i>Perfluoroundecanoic acid (PFUdA)</i>	18.9	0.0	18.0	95	70-130
2355-31-9	LCS N-Methylperfluorooctane sulfonamido acetic acid (NMFPA) <i>N-methylperfluoro-1-octanesulfonamidoacetic acid</i>	18.9	0.0	17.9	95	70-130
2991-50-6	LCS N-Ethylperfluorooctane sulfonamido acetic acid (NEFPA) <i>N-ethylperfluoro-1-octanesulfonamidoacetic acid</i>	18.9	0.0	18.5	98	70-130
307-24-4	LCS Perfluorohexanoic acid (PFHxA)	18.9	0.0	18.4	97	70-130
307-55-1	LCS Perfluorododecanoic acid (PFDoA)	18.9	0.0	18.8	100	70-130
335-67-1	LCS Perfluorooctanoic acid (PFOA)	18.9	0.0	18.1	96	70-130
335-76-2	LCS Perfluorodecanoic acid (PFDA)	18.9	0.0	17.2	91	70-130
355-46-4	LCS Perfluorohexane sulfonic acid (PFHxS) <i>Perfluorohexanesulfonate (PFHxS)</i>	17.2	0.0	18.5	107	70-130
375-73-5	LCS Perfluorobutane sulfonic acid (PFBS) <i>Perfluorobutanesulfonate (PFBS)</i>	16.7	0.0	19.4	116	70-130
375-85-9	LCS Perfluoroheptanoic acid (PFHpA)	18.9	0.0	19.4	103	70-130
375-95-1	LCS Perfluorononanoic acid (PFNA)	18.9	0.0	17.9	95	70-130
376-06-7	LCS Perfluorotetradecanoic acid (PFTA) <i>Perfluorotetradecanoic acid (PFTeDA)</i>	18.9	0.0	17.7	94	70-130
72629-94-8	LCS Perfluorotridecanoic acid (PFTTrDA)	18.9	0.0	18.5	98	70-130
756426-58-1	LCS 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic <i>9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (</i>	17.6	0.0	17.7	101	70-130
763051-92-9	LCS 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic <i>11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (</i>	17.8	0.0	17.7	100	70-130
919005-14-4	LCS 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) <i>Sodium dodecafluoro-3H-4,8-dioxanonanoate (ADON</i>	18.9	0.0	19.7	104	70-130

LC-MS/MS

Page 1 of 2

Quality Control Summary Spike Recovery Report

SDG Number: 539879

Client ID: 10000MS

Lab Sample ID 1204790681

Instrument: LCMSMS9

Analyst: MB2

Sample Type: Matrix Spike

Matrix: DRINKING WATER (POTABLE)

Analysis Date: 04/08/2021 18:02

Dilution: 1

Prep Batch ID: 2112345

Batch ID: 2112347

CAS No	Parmname	Amount Added ng/L	Sample Conc. ng/L	Spike Conc. ng/L	Recovery %	Acceptance Limits
307-24-4	MS Perfluorohexanoic acid (PFHxA)	17.8	1.65 J	17.2	87	70-130
355-46-4	MS Perfluorohexane sulfonic acid (PFHxS) <i>Perfluorohexanesulfonate (PFHxS)</i>	16.2	1.14 J	16.3	93	70-130
375-73-5	MS Perfluorobutane sulfonic acid (PFBS) <i>Perfluorobutanesulfonate (PFBS)</i>	15.8	1.19 J	15.2	89	70-130
375-85-9	MS Perfluoroheptanoic acid (PFHpA)	17.8	0.853 J	18.4	99	70-130
13252-13-6	MS Hexafluoropropyleneoxide dimer acid (HFPO-DA) <i>2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoroprop</i>	17.8	0.000 U	15.4	86	70-130
2058-94-8	MS Perfluoroundecanoic acid (PFUnA) <i>Perfluoroundecanoic acid (PFUdA)</i>	17.8	0.000 U	15.8	89	70-130
2355-31-9	MS N-Methylperfluorooctane sulfonamido acetic acid (N <i>N-methylperfluoro-1-octanesulfonamidoacetic acid</i>	17.8	0.000 U	15.4	86	70-130
2991-50-6	MS N-Ethylperfluorooctane sulfonamido acetic acid (NE <i>N-ethylperfluoro-1-octanesulfonamidoacetic acid</i>	17.8	0.000 U	16.9	95	70-130
307-55-1	MS Perfluorododecanoic acid (PFDoA)	17.8	0.000 U	15.8	89	70-130
335-76-2	MS Perfluorodecanoic acid (PFDA)	17.8	0.000 U	16.7	94	70-130
375-95-1	MS Perfluorononanoic acid (PFNA)	17.8	0.335 U	16.5	91	70-130
376-06-7	MS Perfluorotetradecanoic acid (PFTA) <i>Perfluorotetradecanoic acid (PFTeDA)</i>	17.8	0.000 U	16.2	91	70-130
72629-94-8	MS Perfluorotridecanoic acid (PFTrDA)	17.8	0.000 U	15.9	89	70-130
756426-58-1	MS 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic <i>9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (</i>	16.6	0.000 U	15.2	92	70-130
763051-92-9	MS 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic <i>11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (</i>	16.8	0.000 U	14.7	88	70-130
919005-14-4	MS 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) <i>Sodium dodecafluoro-3H-4,8-dioxanonanoate (ADON</i>	17.8	0.000 U	17.6	99	70-130
1763-23-1	MS Perfluorooctane sulfonic acid (PFOS) <i>Perfluorooctanesulfonate (PFOS)</i>	17.8	1.95	16.6	82	70-130
335-67-1	MS Perfluorooctanoic acid (PFOA)	17.8	2.03	18.5	93	70-130

Quality Control Summary Spike Recovery Report

SDG Number: 539879

Client ID: 10000MSD

Lab Sample ID 1204790682

Instrument: LCMSMS9

Analyst: MB2

Sample Type: Matrix Spike Duplicate

Matrix: DRINKING WATER (POTABLE)

Analysis Date: 04/08/2021 18:11

Dilution: 1

Prep Batch ID: 2112345

Batch ID: 2112347

CAS No	Parmname	Amount Added ng/L	Sample Conc. ng/L	Spike Conc. ng/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
307-24-4	MSD Perfluorohexanoic acid (PFHxA)	17.4	1.65	J	15.4	79	70-130	11 0-30
355-46-4	MSD Perfluorohexane sulfonic acid (PFHxS) <i>Perfluorohexanesulfonate (PFHxS)</i>	15.9	1.14	J	14.3	83	70-130	13 0-30
375-73-5	MSD Perfluorobutane sulfonic acid (PFBS) <i>Perfluorobutanesulfonate (PFBS)</i>	15.4	1.19	J	13.6	81	70-130	11 0-30
375-85-9	MSD Perfluoroheptanoic acid (PFHpA)	17.4	0.853	J	15.7	85	70-130	16 0-30
13252-13-6	MSD Hexafluoropropyleneoxide dimer acid (HFPO-DA) <i>2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoroprop</i>	17.4	0.000	U	12.6	73	70-130	20 0-30
2058-94-8	MSD Perfluoroundecanoic acid (PFUnA) <i>Perfluoroundecanoic acid (PFUdA)</i>	17.4	0.000	U	13.1	75	70-130	19 0-30
2355-31-9	MSD N-Methylperfluorooctane sulfonamido acetic acid (N <i>N-methylperfluoro-1-octanesulfonamidoacetic acid</i>	17.4	0.000	U	13.0	75	70-130	17 0-30
2991-50-6	MSD N-Ethylperfluorooctane sulfonamido acetic acid (NE <i>N-ethylperfluoro-1-octanesulfonamidoacetic acid</i>	17.4	0.000	U	14.7	85	70-130	14 0-30
307-55-1	MSD Perfluorododecanoic acid (PFDoA)	17.4	0.000	U	13.9	80	70-130	13 0-30
335-76-2	MSD Perfluorodecanoic acid (PFDA)	17.4	0.000	U	14.1	81	70-130	17 0-30
375-95-1	MSD Perfluorononanoic acid (PFNA)	17.4	0.335	U	14.0	79	70-130	17 0-30
376-06-7	MSD Perfluorotetradecanoic acid (PFTA) <i>Perfluorotetradecanoic acid (PFTeDA)</i>	17.4	0.000	U	13.3	77	70-130	19 0-30
72629-94-8	MSD Perfluorotridecanoic acid (PFTrDA)	17.4	0.000	U	13.9	80	70-130	13 0-30
756426-58-1	MSD 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic <i>9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (</i>	16.2	0.000	U	13.4	83	70-130	13 0-30
763051-92-9	MSD 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic <i>11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (</i>	16.4	0.000	U	12.7	78	70-130	15 0-30
919005-14-4	MSD 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) <i>Sodium dodecafluoro-3H-4,8-dioxanonanoate (ADON</i>	17.4	0.000	U	14.8	85	70-130	18 0-30
1763-23-1	MSD Perfluorooctane sulfonic acid (PFOS) <i>Perfluorooctanesulfonate (PFOS)</i>	17.4	1.95		14.9	75	70-130	11 0-30
335-67-1	MSD Perfluorooctanoic acid (PFOA)	17.4	2.03		15.6	78	70-130	17 0-30

Quality Control Summary Spike Recovery Report

SDG Number: 539879

Client ID: MULT 4MS

Lab Sample ID 1204790683

Instrument: LCMSMS9

Analyst: MB2

Sample Type: Matrix Spike

Matrix: DRINKING WATER (POTABLE)

Analysis Date: 04/08/2021 19:02

Dilution: 1

Prep Batch ID: 2112345

Batch ID: 2112347

CAS No		Parmname	Amount Added ng/L	Sample Conc. ng/L		Spike Conc. ng/L	Recovery %	Acceptance Limits
1763-23-1	MS	Perfluorooctane sulfonic acid (PFOS) <i>Perfluorooctanesulfonate (PFOS)</i>	17.9	1.06	J	19.7	104	70-130
307-24-4	MS	Perfluorohexanoic acid (PFHxA)	17.9	0.856	J	18.4	98	70-130
335-67-1	MS	Perfluorooctanoic acid (PFOA)	17.9	1.40	J	19.7	102	70-130
375-85-9	MS	Perfluoroheptanoic acid (PFHpA)	17.9	0.980	J	19.6	104	70-130
13252-13-6	MS	Hexafluoropropyleneoxide dimer acid (HFPO-DA) <i>2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoroprop</i>	17.9	0.000	U	18.0	101	70-130
2058-94-8	MS	Perfluoroundecanoic acid (PFUnA) <i>Perfluoroundecanoic acid (PFUdA)</i>	17.9	0.000	U	17.8	99	70-130
2355-31-9	MS	N-Methylperfluorooctane sulfonamido acetic acid (N <i>N-methylperfluoro-1-octanesulfonamidoacetic acid</i>	17.9	0.000	U	16.0	90	70-130
2991-50-6	MS	N-Ethylperfluorooctane sulfonamido acetic acid (NE <i>N-ethylperfluoro-1-octanesulfonamidoacetic acid</i>	17.9	0.000	U	17.2	96	70-130
307-55-1	MS	Perfluorododecanoic acid (PFDoA)	17.9	0.000	U	16.8	94	70-130
335-76-2	MS	Perfluorodecanoic acid (PFDA)	17.9	0.000	U	19.1	107	70-130
355-46-4	MS	Perfluorohexane sulfonic acid (PFHxS) <i>Perfluorohexanesulfonate (PFHxS)</i>	16.3	0.000	U	17.9	110	70-130
375-73-5	MS	Perfluorobutane sulfonic acid (PFBS) <i>Perfluorobutanesulfonate (PFBS)</i>	15.8	0.000	U	15.3	97	70-130
375-95-1	MS	Perfluorononanoic acid (PFNA)	17.9	0.000	U	16.8	94	70-130
376-06-7	MS	Perfluorotetradecanoic acid (PFTA) <i>Perfluorotetradecanoic acid (PFTeDA)</i>	17.9	0.000	U	17.3	97	70-130
72629-94-8	MS	Perfluorotridecanoic acid (PFTTrDA)	17.9	0.000	U	17.0	95	70-130
756426-58-1	MS	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic <i>9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (</i>	16.6	0.000	U	17.6	106	70-130
763051-92-9	MS	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic <i>11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (</i>	16.8	0.000	U	16.0	95	70-130
919005-14-4	MS	4,8-Dioxa-3H-perfluorononanoic acid (ADONA) <i>Sodium dodecafluoro-3H-4,8-dioxanonanoate (ADON</i>	17.9	0.000	U	18.8	105	70-130

Quality Control Summary Spike Recovery Report

SDG Number: 539879

Client ID: MULT 4MSD

Lab Sample ID 1204790684

Instrument: LCMSMS9

Analyst: MB2

Sample Type: Matrix Spike Duplicate

Matrix: DRINKING WATER (POTABLE)

Analysis Date: 04/08/2021 19:10

Dilution: 1

Prep Batch ID: 2112345

Batch ID: 2112347

CAS No	Parmname	Amount Added ng/L	Sample Conc. ng/L	Spike Conc. ng/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits	
1763-23-1	MSD Perfluorooctane sulfonic acid (PFOS) Perfluorooctanesulfonate (PFOS)	17.8	1.06	J	17.5	92	70-130	12	0-30
307-24-4	MSD Perfluorohexanoic acid (PFHxA)	17.8	0.856	J	17.7	95	70-130	4	0-30
335-67-1	MSD Perfluorooctanoic acid (PFOA)	17.8	1.40	J	21.0	110	70-130	6	0-30
375-85-9	MSD Perfluoroheptanoic acid (PFHpA)	17.8	0.980	J	20.3	109	70-130	3	0-30
13252-13-6	MSD Hexafluoropropyleneoxide dimer acid (HFPO-DA) 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoroprop	17.8	0.000	U	15.9	89	70-130	13	0-30
2058-94-8	MSD Perfluoroundecanoic acid (PFUnA) Perfluoroundecanoic acid (PFUdA)	17.8	0.000	U	16.3	92	70-130	9	0-30
2355-31-9	MSD N-Methylperfluorooctane sulfonamido acetic acid (N N-methylperfluoro-1-octanesulfonamidoacetic acid	17.8	0.000	U	15.9	89	70-130	1	0-30
2991-50-6	MSD N-Ethylperfluorooctane sulfonamido acetic acid (NE N-ethylperfluoro-1-octanesulfonamidoacetic acid	17.8	0.000	U	15.8	89	70-130	9	0-30
307-55-1	MSD Perfluorododecanoic acid (PFDoA)	17.8	0.000	U	16.6	93	70-130	1	0-30
335-76-2	MSD Perfluorodecanoic acid (PFDA)	17.8	0.000	U	17.4	98	70-130	9	0-30
355-46-4	MSD Perfluorohexane sulfonic acid (PFHxS) Perfluorohexanesulfonate (PFHxS)	16.2	0.000	U	15.4	95	70-130	15	0-30
375-73-5	MSD Perfluorobutane sulfonic acid (PFBS) Perfluorobutanesulfonate (PFBS)	15.7	0.000	U	14.4	91	70-130	6	0-30
375-95-1	MSD Perfluorononanoic acid (PFNA)	17.8	0.000	U	17.0	96	70-130	1	0-30
376-06-7	MSD Perfluorotetradecanoic acid (PFTA) Perfluorotetradecanoic acid (PFTeDA)	17.8	0.000	U	16.7	94	70-130	4	0-30
72629-94-8	MSD Perfluorotridecanoic acid (PFTTrDA)	17.8	0.000	U	16.4	92	70-130	4	0-30
756426-58-1	MSD 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (	16.6	0.000	U	15.4	93	70-130	13	0-30
763051-92-9	MSD 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (	16.8	0.000	U	14.4	86	70-130	10	0-30
919005-14-4	MSD 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) Sodium dodecafluoro-3H-4,8-dioxanonanoate (ADON	17.8	0.000	U	19.2	108	70-130	2	0-30

Method Blank Summary

Page 1 of 1

SDG Number:	539879	Client:	MDEP001	Matrix:	DRINKING WATER (POTABI
Client ID:	MB for batch 2112345	Instrument ID:	LCMSMS9	Data File:	PFC040821036.wiff
Lab Sample ID:	1204790679	Prep Date:	04/07/2021 11:02	Analyzed:	04/08/21 17:03
Column:					

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 2112345	1204790680	PFC040821037.wiff	04/08/21	1711
02 10000	539879001	PFC040821042.wiff	04/08/21	1754
03 10000MS	1204790681	PFC040821043.wiff	04/08/21	1802
04 10000MSD	1204790682	PFC040821044.wiff	04/08/21	1811
05 FRB 10000	539879002	PFC040821045.wiff	04/08/21	1819
06 MULT 4MS	1204790683	PFC040821050.wiff	04/08/21	1902
07 MULT 4MSD	1204790684	PFC040821051.wiff	04/08/21	1910

2a
Initial Calibration Area Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 539879

Lab Code: GEL

Column: PFC040821

Instrument ID: LCMSMS9

Level	Calibration Run	Run Date	Data File
1	WPF210405-01(ICAL)	08-APR-21 11:44	PFC040821003.wiff
2	WPF210405-02(ICAL)	08-APR-21 11:52	PFC040821004.wiff
3	WPF210405-03(ICAL)	08-APR-21 12:01	PFC040821005.wiff
4	WPF210405-04(ICAL)	08-APR-21 12:10	PFC040821006.wiff
5	WPF210405-05(ICAL)	08-APR-21 12:18	PFC040821007.wiff
6	WPF210405-06(ICAL)	08-APR-21 12:27	PFC040821008.wiff
7	WPF210405-07(ICAL)	08-APR-21 12:35	PFC040821009.wiff
10	WPF210405-10(ICAL)	08-APR-21 12:44	PFC040821010.wiff
11	WPF210405-11(ICAL)	08-APR-21 12:52	PFC040821011.wiff

2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-13C3-propanoic acid (13C3_PFPPrOPrA)

1474347.7	1475025.6	1522235.5	1473476.1	1261125.0	1527168.3	1469962.3	1524238.2	1520490
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Ave. 1472007.6

N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid

3780764.2	3762799.7	3666416.1	3701556.6	3779722.8	3663798.3	3671903.4	3380928.8	3360423.4
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Ave. 3640923.7

N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid

4645753.9	4409619.9	4226577.2	4698260.3	4164869.2	4119447.0	4406042.7	4280182.6	4280245.3
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Ave. 4358999.8

2
Internal Standard Area Summary

Lab Name : GEL Laboratories LLC

GEL Job No(SDG 539879

Lab Code:

Instrument ID: LCMSMS9

Injected IS Reference ICAL PFC040821007.wiff 08-APR-21

Sample ID: 1204790679

Dilution: 1

Datafile: PFC040821036.wiff

Run Date: 08-APR-21 17:03

Parmname	Area	Reference Area	Rec	Limits	Q
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	4595703.16	4358999.78	105.4	50 - 150	
Perfluoro-n-[1,2-13C2] octanoic acid	2228271.98	2050803.36	108.7	50 - 150	
Sodium perfluoro-1-[1,2,3,4-13C4]octanesulfonate	7362050.04	7257267.92	101.4	50 - 150	

Extracted Internal Standards are compared to the average area from the initial calibration.

2
Internal Standard Area Summary

Lab Name : GEL Laboratories LLC

GEL Job No(SDG 539879

Lab Code:

Instrument ID: LCMSMS9

Injected IS Reference ICAL PFC040821007.wiff 08-APR-21

Sample ID: 1204790680

Dilution: 1

Datafile: PFC040821037.wiff

Run Date: 08-APR-21 17:11

Parmname	Area	Reference Area	Rec	Limits	Q
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	4141679.46	4358999.78	95	50 - 150	
Perfluoro-n-[1,2-13C2] octanoic acid	2012783.06	2050803.36	98.1	50 - 150	
Sodium perfluoro-1-[1,2,3,4-13C4]octanesulfonate	6650443.12	7257267.92	91.6	50 - 150	

Extracted Internal Standards are compared to the average area from the initial calibration.

2
Internal Standard Area Summary

Lab Name : GEL Laboratories LLC

GEL Job No(SDG 539879

Lab Code:

Instrument ID: LCMSMS9

Injected IS Reference ICAL PFC040821007.wiff 08-APR-21

Sample ID: 1204790681

Dilution: 1

Datafile: PFC040821043.wiff

Run Date: 08-APR-21 18:02

Parmname	Area	Reference Area	Rec	Limits	Q
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	4295584.16	4358999.78	98.5	50 - 150	
Perfluoro-n-[1,2-13C2] octanoic acid	2040178.82	2050803.36	99.5	50 - 150	
Sodium perfluoro-1-[1,2,3,4-13C4]octanesulfonate	7158818.09	7257267.92	98.6	50 - 150	

Extracted Internal Standards are compared to the average area from the initial calibration.

2
Internal Standard Area Summary

Lab Name : GEL Laboratories LLC

GEL Job No(SDG 539879

Lab Code:

Instrument ID: LCMSMS9

Injected IS Reference ICAL PFC040821007.wiff 08-APR-21

Sample ID: 1204790682

Dilution: 1

Datafile: PFC040821044.wiff

Run Date: 08-APR-21 18:11

Parmname	Area	Reference Area	Rec	Limits	Q
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	5090522.22	4358999.78	116.8	50 - 150	
Perfluoro-n-[1,2-13C2] octanoic acid	2506081.25	2050803.36	122.2	50 - 150	
Sodium perfluoro-1-[1,2,3,4-13C4]octanesulfonate	8320137.36	7257267.92	114.6	50 - 150	

Extracted Internal Standards are compared to the average area from the initial calibration.

2
Internal Standard Area Summary

Lab Name : GEL Laboratories LLC

GEL Job No(SDG 539879

Lab Code:

Instrument ID: LCMSMS9

Injected IS Reference ICAL PFC040821007.wiff 08-APR-21

Sample ID: 1204790683

Dilution: 1

Datafile: PFC040821050.wiff

Run Date: 08-APR-21 19:02

Parmname	Area	Reference Area	Rec	Limits	Q
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	4258224.45	4358999.78	97.7	50 - 150	
Perfluoro-n-[1,2-13C2] octanoic acid	2036521.61	2050803.36	99.3	50 - 150	
Sodium perfluoro-1-[1,2,3,4-13C4]octanesulfonate	6406974.42	7257267.92	88.3	50 - 150	

Extracted Internal Standards are compared to the average area from the initial calibration.

2
Internal Standard Area Summary

Lab Name : GEL Laboratories LLC

GEL Job No(SDG 539879

Lab Code:

Instrument ID: LCMSMS9

Injected IS Reference ICAL PFC040821007.wiff 08-APR-21

Sample ID: 1204790684

Dilution: 1

Datafile: PFC040821051.wiff

Run Date: 08-APR-21 19:10

Parmname	Area	Reference Area	Rec	Limits	Q
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	4563066.12	4358999.78	104.7	50 - 150	
Perfluoro-n-[1,2-13C2] octanoic acid	2055823.02	2050803.36	100.2	50 - 150	
Sodium perfluoro-1-[1,2,3,4-13C4]octanesulfonate	6971092.12	7257267.92	96.1	50 - 150	

Extracted Internal Standards are compared to the average area from the initial calibration.

2
Internal Standard Area Summary

Lab Name : GEL Laboratories LLC

GEL Job No(SDG 539879

Lab Code:

Instrument ID: LCMSMS9

Injected IS Reference ICAL PFC040821007.wiff 08-APR-21

Sample ID: 539879001

Dilution: 1

Datafile: PFC040821042.wiff

Run Date: 08-APR-21 17:54

Parmname	Area	Reference Area	Rec	Limits	Q
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	5000734.8	4358999.78	114.7	50 - 150	
Perfluoro-n-[1,2-13C2] octanoic acid	2343829.94	2050803.36	114.3	50 - 150	
Sodium perfluoro-1-[1,2,3,4-13C4]octanesulfonate	7812851.36	7257267.92	107.7	50 - 150	

Extracted Internal Standards are compared to the average area from the initial calibration.

2
Internal Standard Area Summary

Lab Name : GEL Laboratories LLC

GEL Job No(SDG 539879

Lab Code:

Instrument ID: LCMSMS9

Injected IS Reference ICAL PFC040821007.wiff 08-APR-21

Sample ID: 539879002

Dilution: 1

Datafile: PFC040821045.wiff

Run Date: 08-APR-21 18:19

Parmname	Area	Reference Area	Rec	Limits	Q
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	4855118.7	4358999.78	111.4	50 - 150	
Perfluoro-n-[1,2-13C2] octanoic acid	2252642.58	2050803.36	109.8	50 - 150	
Sodium perfluoro-1-[1,2,3,4-13C4]octanesulfonate	8017735.04	7257267.92	110.5	50 - 150	

Extracted Internal Standards are compared to the average area from the initial calibration.

2 Internal Standard Area Summary

Lab Name : GEL Laboratories LLC

GEL Job No(SDG 539879

Lab Code:

Instrument ID: LCMSMS9

Injected IS Reference ICAL PFC040821007.wiff 08-APR-21

Sample ID: 1103

Dilution: 1

Datafile: PFC040821013.wiff

Run Date: 08-APR-21 13:09

Parmname	Area	Reference Area	Rec	Limits	Q
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-13C3-propanoi	1435667.64	1472007.63	97.5	70 - 130	
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	3721949.21	3640923.7	102.2	70 - 130	
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	4368584.57	4358999.78	100.2	70 - 130	
Perfluoro-n-[1,2-13C2] octanoic acid	2105731.1	2050803.36	102.7	70 - 130	
Sodium perfluoro-1-[1,2,3,4-13C4]octanesulfonate	7474461.05	7257267.92	103	70 - 130	

Extracted Internal Standards are compared to the average area from the initial calibration.

Standards

PFC Initial Calibration

Lab Name : GEL Laboratories, LLC

Method EPA 537.1

GEL Job No. 539879

Lab Code: GEL

Column: Gemini 3u C-18

Instrument: LCMSMS9

Calibration Files

Run Dates

PFC040821003 08-APR-21 11:44
PFC040821004 08-APR-21 11:52
PFC040821005 08-APR-21 12:01
PFC040821006 08-APR-21 12:10
PFC040821007 08-APR-21 12:18
PFC040821008 08-APR-21 12:27
PFC040821009 08-APR-21 12:35
PFC040821010 08-APR-21 12:44
PFC040821011 08-APR-21 12:52

Curve Type: Linear Null

11-chloroeicosafuoro-3-oxaundecane-1-sulfonate (PF3OUdS)

124507.43	258431.37	678268.97	992407.67	1306608.01	1930136.63	2646157.81	6853613.3	12364231.26
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Slope 1.18681
Intercept 0 COD .9995

2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-13C3-propanoic acid (13C3_PFPPrOPrA)

1474347.66	1475025.61	1522235.51	1473476.12	1261124.95	1527168.28	1469962.32	1524238.18	1520490
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Slope .7192
Intercept 0 COD 1

2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid (PFPPrOPrA)

66123.67	139346.8	366523.04	560973.42	742608.58	1148916.96	1441632.48	3994313.77	8160133.1
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Slope .77427
Intercept 0 COD .9985

9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (PF3ONS)

185544.86	404572.23	1021799.32	1501925.93	2158414.06	3004738.39	4031748.13	10503728.9	18327915.38
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Slope 1.81558
Intercept 0 COD .9992

N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid

3780764.19	3762799.68	3666416.1	3701556.64	3779722.76	3663798.32	3671903.42	3380928.79	3360423.36
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Slope .83642
Intercept 0 COD 1

N-ethylperfluoro-1-octanesulfonamidoacetic acid

46868.67	95828.46	230093.39	356338.06	474705.43	697693.38	872014.85	2202962.28	4531497.16
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Slope .84247
Intercept 0 COD .9992

PFC Initial Calibration

Lab Name : GEL Laboratories, LLC

Method EPA 537.1

GEL Job No.

Lab Code: GEL

Column: Gemini 3u C-18

Instrument: LCMSMS9

Curve Type: Linear Null

N-methylperfluoro-1-octanesulfonamidoacetic acid

49089.92	91216.71	234565.27	371012.08	467053.23	733815.44	962189.49	2430694.71	4984650.95
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Slope .91471
Intercept 0 COD .9996

Perfluoro-n-[1,2-13C2] decanoic acid

2575670.06	2545415.26	2462956.3	2552398.91	2450536.19	2309380.48	2419514.38	2486857.21	2309099.17
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Slope 1.19906
Intercept 0 COD 1

Perfluoro-n-[1,2-13C2] hexanoic acid

2496164.61	2443886.98	2390986.63	2448095.76	2322440.9	2208427.78	2286741.29	2293566.55	2293030.36
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Slope 1.14908
Intercept 0 COD 1

Perfluorobutanesulfonate (PFBS)

112687.91	269110.88	746675.59	1074233.98	1405466.2	2135089.25	2769362.69	7110934.74	12900685.82
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Slope 1.32639
Intercept 0 COD .9995

Perfluorodecanoic acid (PFDA)

110439.93	225308.37	569976.01	934304.21	1229535.25	1730567.31	2124050.88	5693058.43	10666493.46
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Slope 1.08321
Intercept 0 COD .9995

Perfluorododecanoic acid (PFDoA)

117729.66	243705.38	642917.51	963946.06	1334497.62	1978258.79	2605482.36	6548020.89	12326174.04
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Slope 1.24535
Intercept 0 COD .9998

Perfluoroheptanoic acid (PFHpA)

123437.35	241762.33	581764.92	976956.78	1258522.98	1817044.67	2381399.53	6147386.29	11367822.21
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Slope 1.15824
Intercept 0 COD .9997

Perfluorohexanesulfonate (PFHxS)

111600.21	214883.71	533271.43	807766.12	1153091.34	1610817.31	2129912.75	5363856.82	10203011.62
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Slope .99917
Intercept 0 COD .9994

Perfluorohexanoic acid (PFHxA)

123493.28	233917.7	627052.83	893585.54	1245735.28	1787650.94	2363172.94	6087892.97	11844475.69
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Slope 1.17351
Intercept 0 COD .9997

PFC Initial Calibration

Lab Name : GEL Laboratories, LLC

Method EPA 537.1

GEL Job No.

Lab Code: GEL

Column: Gemini 3u C-18

Instrument: LCMSMS9

Curve Type: Linear Null

Perfluorononanoic acid (PFNA)

98727.07	215477.82	554694.21	901421.19	1190174.94	1785673.44	2259452.98	5958864.48	11509659.66
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Slope 1.13917
Intercept 0 COD .9999

Perfluorooctanesulfonate (PFOS)

132962.21	250189.37	674178.66	1022505.66	1375224.5	1988769.17	2691374.78	6850313.95	13149282.42
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Slope 1.15924
Intercept 0 COD .9994

Perfluorooctanoic acid (PFOA)

115942.16	247485.46	626660.54	942878.6	1323782.03	1852654.95	2646969.63	6784148.79	12700561.04
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Slope 1.26791
Intercept 0 COD .9996

Perfluorotetradecanoic acid (PFTeDA)

83647.84	191945.04	459330.07	705368.6	1001559.21	1429716.9	1813223.16	4831135.73	9855110.9
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Slope .94867
Intercept 0 COD .9992

Perfluorotridecanoic acid (PFTrDA)

110857.88	227402.34	609200.8	936884.66	1231557.2	1800333.37	2359404.03	5951438.91	11075449.3
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Slope 1.13074
Intercept 0 COD .9996

Perfluoroundecanoic acid (PFUdA)

103826.86	221377.12	529588.71	851239.42	1158471.15	1651647.62	2168146.03	5597340.66	10637789.54
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Slope 1.06659
Intercept 0 COD .9999

Sodium dodecafluoro-3H-4,8-dioxanonanoate (ADONA)

201353.31	447723.68	1097130.14	1665665.27	2216510.91	3206980.62	4329774.12	11081565.44	18227437.92
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Slope 1.97439
Intercept 0 COD .9968

Linear Linear fit : Y=mx +b
Notes: where b is Intercept and m is slope

COD is Coefficient of Determination
Intercept of 0 means Calibration is forced through zero

Q column used to flag COD values outside of Limit (<0.990)
* Values outside of QC Limit

Continuing Calibration Summary

Instrument ID: LCMSMS9
Data File: PFC040821012.wiff
Lab Sample ID WPF210405-08
Column ID: Gemini 3u C-18

Client SDG: 539879
Injection Date: 08-APR-21 13:01
Init. Cal. Date(s) 08-APR-21 11:44 - 08-APR-21 12:52
Method: EPA 537.1
Quant Type: ISTD

Compound	True Value	Result	Recovery	Q
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid	100	84.22	84.22	
N-ethylperfluoro-1-octanesulfonamidoacetic acid	200	189	94.5	
Perfluorohexanesulfonate (PFHxS)	91.2	73.3	80.37	
Perfluorotetradecanoic acid (PFTeDA)	100	98.42	98.42	
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	188	94	
Perfluorononanoic acid (PFNA)	100	91.94	91.94	
Perfluoroundecanoic acid (PFUdA)	100	98.77	98.77	
Perfluorodecanoic acid (PFDA)	100	102.91	102.91	
Perfluorohexanoic acid (PFHxA)	100	103.68	103.68	
11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (PF3OUdS)	94.2	81.7	86.73	
Perfluorotridecanoic acid (PFTrDA)	100	109.91	109.91	
Perfluorooctanoic acid (PFOA)	100	98.56	98.56	
Perfluorododecanoic acid (PFDoA)	100	102.15	102.15	
Perfluoroheptanoic acid (PFHpA)	100	111.16	111.16	
Perfluorobutanesulfonate (PFBS)	88.5	81.48	92.07	
Perfluorooctanesulfonate (PFOS)	100	93.48	93.48	
9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (PF3ONS)	93.2	88.97	95.46	
Sodium dodecafluoro-3H-4,8-dioxanonoate (ADONA)	100	108.53	108.53	
Perfluoro-n-[1,2-13C2] hexanoic acid	2000	1921.49	96.07	
Perfluoro-n-[1,2-13C2] decanoic acid	2000	2009.15	100.46	

Recovery criteria is 50% - 150%

Initial Calibration Summary

Instrument ID: LCMSMS9
Data File: PFC040821013.wiff
Lab Sample ID WPF210405-09
Column ID: Gemini 3u C-18

Client SDG: 539879
Injection Date: 08-APR-21 13:09
Init. Cal. Date(s) 08-APR-21 11:44 - 08-APR-21 12:52
Method: EPA 537.1
Quant Type: ISTD

Compound	True Value	Result	Recovery	Q
N-ethylperfluoro-1-octanesulfonamidoacetic acid	1000	1022.24	102.22	
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	1004.44	100.44	
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid	1000	920.6	92.06	
Perfluorotetradecanoic acid (PFTeDA)	1000	958.57	95.86	
Perfluoroundecanoic acid (PFUdA)	1000	1008.13	100.81	
Perfluorononanoic acid (PFNA)	1000	946.21	94.62	
Perfluorohexanesulfonate (PFHxS)	912	912.96	100.11	
Perfluorodecanoic acid (PFDA)	1000	1001.17	100.12	
Perfluorohexanoic acid (PFHxA)	1000	1006.65	100.67	
Perfluorooctanoic acid (PFOA)	1000	939.18	93.92	
Perfluorotridecanoic acid (PFTrDA)	1000	1057.63	105.76	
Perfluorododecanoic acid (PFDoA)	1000	1021.96	102.2	
Perfluorooctanesulfonate (PFOS)	1000	936.06	93.61	
Perfluoroheptanoic acid (PFHpA)	1000	1124.89	112.49	
11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (PF3OUdS)	942	949.11	100.75	
Perfluorobutanesulfonate (PFBS)	885	854.66	96.57	
9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (PF3ONS)	932	929.03	99.68	
Sodium dodecafluoro-3H-4,8-dioxanonoate (ADONA)	1000	1061.6	106.16	
Perfluoro-n-[1,2- ¹³ C ₂] hexanoic acid	2000	1907.2	95.36	
Perfluoro-n-[1,2- ¹³ C ₂] decanoic acid	2000	1938.38	96.92	

Recovery criteria is 70% - 130%

Continuing Calibration Summary

Instrument ID: LCMSMS9
Data File: PFC040821034.wiff
Lab Sample ID WPF210405-09
Column ID: Gemini 3u C-18

Client SDG: 539879
Injection Date: 08-APR-21 16:33
Init. Cal. Date(s) 08-APR-21 11:44 - 08-APR-21 12:52
Method: EPA 537.1
Quant Type: ISTD

Compound	True Value	Result	Recovery	Q
N-ethylperfluoro-1-octanesulfonamidoacetic acid	1000	958.74	95.87	
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	1052.97	105.3	
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid	1000	997.39	99.74	
Perfluorotetradecanoic acid (PFTeDA)	1000	961.42	96.14	
Perfluorohexanesulfonate (PFHxS)	912	839.01	92	
Perfluorodecanoic acid (PFDA)	1000	988.73	98.87	
Perfluorononanoic acid (PFNA)	1000	956.52	95.65	
Perfluoroundecanoic acid (PFUdA)	1000	1022.96	102.3	
Perfluorohexanoic acid (PFHxA)	1000	1022.2	102.22	
Perfluoroheptanoic acid (PFHpA)	1000	1039.65	103.96	
Perfluorotridecanoic acid (PFTrDA)	1000	1073.1	107.31	
11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (PF3OUdS)	942	886.69	94.13	
Perfluorododecanoic acid (PFDoA)	1000	1009.26	100.93	
Perfluorooctanoic acid (PFOA)	1000	996.34	99.63	
Perfluorooctanesulfonate (PFOS)	1000	947.81	94.78	
Perfluorobutanesulfonate (PFBS)	885	860.6	97.24	
9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (PF3ONS)	932	912.04	97.86	
Sodium dodecafluoro-3H-4,8-dioxanonoate (ADONA)	1000	1099.59	109.96	
Perfluoro-n-[1,2- ¹³ C ₂] decanoic acid	2000	1843.11	92.16	
Perfluoro-n-[1,2- ¹³ C ₂] hexanoic acid	2000	1968.6	98.43	

Recovery criteria is 70% - 130%

Continuing Calibration Summary

Instrument ID: LCMSMS9
Data File: PFC040821046.wiff
Lab Sample ID WPF210405-10
Column ID: Gemini 3u C-18

Client SDG: 539879
Injection Date: 08-APR-21 18:28
Init. Cal. Date(s) 08-APR-21 11:44 - 08-APR-21 12:52
Method: EPA 537.1
Quant Type: ISTD

Compound	True Value	Result	Recovery	Q
N-ethylperfluoro-1-octanesulfonamidoacetic acid	5000	4977.78	99.56	
Perfluoro-n-[1,2-13C2] decanoic acid	2000	1893.91	94.7	
Perfluoro-n-[1,2-13C2] hexanoic acid	2000	1995.3	99.76	
N-methylperfluoro-1-octanesulfonamidoacetic acid	5000	4793.09	95.86	
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid	5000	4981.59	99.63	
Perfluorotetradecanoic acid (PFTeDA)	5000	5356.02	107.12	
Perfluoroundecanoic acid (PFUdA)	5000	5081.74	101.63	
Perfluorohexanesulfonate (PFHxS)	4560	4711.71	103.33	
Perfluorodecanoic acid (PFDA)	5000	5131.81	102.64	
Perfluorononanoic acid (PFNA)	5000	5061.75	101.23	
Perfluorotridecanoic acid (PFTrDA)	5000	5261.2	105.22	
Perfluorohexanoic acid (PFHxA)	5000	5078.78	101.58	
Perfluoroheptanoic acid (PFHpA)	5000	5322.1	106.44	
Perfluorooctanoic acid (PFOA)	5000	5009.25	100.18	
Perfluorododecanoic acid (PFDoA)	5000	5173.1	103.46	
Perfluorooctanesulfonate (PFOS)	5000	4838.24	96.76	
11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (PF3OUdS)	4710	4740.94	100.66	
Perfluorobutanesulfonate (PFBS)	4425	4254.84	96.15	
9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (PF3ONS)	4660	4804.48	103.1	
Sodium dodecafluoro-3H-4,8-dioxanonanoate (ADONA)	5000	5394.45	107.89	

Recovery criteria is 70% - 130%

Continuing Calibration Summary

Instrument ID: LCMSMS9
Data File: PFC040821056.wiff
Lab Sample ID WPF210405-09
Column ID: Gemini 3u C-18

Client SDG: 539879
Injection Date: 08-APR-21 19:53
Init. Cal. Date(s) 08-APR-21 11:44 - 08-APR-21 12:52
Method: EPA 537.1
Quant Type: ISTD

Compound	True Value	Result	Recovery	Q
N-ethylperfluoro-1-octanesulfonamidoacetic acid	1000	1004.66	100.47	
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	1046.78	104.68	
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid	1000	993.09	99.31	
Perfluorotetradecanoic acid (PFTeDA)	1000	1059.31	105.93	
Perfluoroundecanoic acid (PFUdA)	1000	956.42	95.64	
Perfluorohexanesulfonate (PFHxS)	912	899.01	98.58	
Perfluorononanoic acid (PFNA)	1000	970.27	97.03	
Perfluorodecanoic acid (PFDA)	1000	1071.52	107.15	
Perfluorotridecanoic acid (PFTTrDA)	1000	1027.77	102.78	
Perfluorohexanoic acid (PFHxA)	1000	1004.89	100.49	
Perfluoroheptanoic acid (PFHpA)	1000	1061.33	106.13	
Perfluorododecanoic acid (PFDoA)	1000	1014.03	101.4	
Perfluorooctanoic acid (PFOA)	1000	1002.98	100.3	
11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (PF3OUdS)	942	946.55	100.48	
Perfluorooctanesulfonate (PFOS)	1000	978.83	97.88	
Perfluorobutanesulfonate (PFBS)	885	940.34	106.25	
9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (PF3ONS)	932	953.2	102.27	
Perfluoro-n-[1,2-13C2] hexanoic acid	2000	1904.21	95.21	
Sodium dodecafluoro-3H-4,8-dioxanonanoate (ADONA)	1000	1112.53	111.25	
Perfluoro-n-[1,2-13C2] decanoic acid	2000	1875.75	93.79	

Recovery criteria is 70% - 130%

Quality Control Data

LC-MS/MS
Certificate of Analysis
Sample Summary

Page 1 of 1

SDG Number: 539879	Matrix: DRINKING WATER (POTABI
Lab Sample ID: 1204790679	
Client Sample: QC for batch 2112345	Client: MDEP001
Client ID: MB for batch 2112345	Method: EPA 537.1
Batch ID: 2112347	Inst: LCMSMS9
Run Date: 04/08/2021 17:03	Analyst: MB2
Prep Date: 04/07/2021 11:02	Aliquot: 268.89 mL
Data File: PFC040821036.wiff	Final Volume: 5 mL
	Column:

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
763051-92-9	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3O	U	1.75	ng/L	0.614	1.75
	<i>11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid</i>					
13252-13-6	Hexafluoropropyleneoxide dimer acid (HFPO-DA)	U	1.86	ng/L	0.614	1.86
	<i>Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-</i>					
756426-58-1	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ON	U	1.73	ng/L	0.614	1.73
	<i>9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid</i>					
2991-50-6	N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	U	3.72	ng/L	1.23	3.72
2355-31-9	N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	U	3.72	ng/L	1.23	3.72
375-73-5	Perfluorobutane sulfonic acid (PFBS)	U	1.65	ng/L	0.614	1.65
335-76-2	Perfluorodecanoic acid (PFDA)	U	1.86	ng/L	0.614	1.86
307-55-1	Perfluorododecanoic acid (PFDoA)	U	1.86	ng/L	0.614	1.86
	<i>Perfluorododecanoic acid (PFDOA)</i>					
375-85-9	Perfluoroheptanoic acid (PFHpA)	U	1.86	ng/L	0.614	1.86
355-46-4	Perfluorohexane sulfonic acid (PFHxS)	U	1.69	ng/L	0.614	1.69
307-24-4	Perfluorohexanoic acid (PFHxA)	U	1.86	ng/L	0.614	1.86
375-95-1	Perfluorononanoic acid (PFNA)	U	1.86	ng/L	0.614	1.86
1763-23-1	Perfluorooctane sulfonic acid (PFOS)	U	1.86	ng/L	0.707	1.86
335-67-1	Perfluorooctanoic acid (PFOA)	U	1.86	ng/L	0.614	1.86
376-06-7	Perfluorotetradecanoic acid (PFTA)	U	1.86	ng/L	0.614	1.86
	<i>Perfluorotetradecanoic acid (PFTDA)</i>					
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	U	1.86	ng/L	0.614	1.86
2058-94-8	Perfluoroundecanoic acid (PFUnA)	U	1.86	ng/L	0.614	1.86
	<i>Perfluoroundecanoic acid (PFUnDA)</i>					
919005-14-4	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	U	1.86	ng/L	0.614	1.86
	<i>4,8-Dioxa-3H-perfluorononanoic acid (DONA)</i>					

LC-MS/MS
Certificate of Analysis
Sample Summary

Page 1 of 1

SDG Number: 539879		Matrix: DRINKING WATER (POTABI
Lab Sample ID: 1204790680		
Client Sample: QC for batch 2112345	Client: MDEP001	Project: MDEP00120
Client ID: LCS for batch 2112345	Method: EPA 537.1	SOP Ref: GL-OA-E-076
Batch ID: 2112347	Inst: LCMSMS9	Dilution: 1
Run Date: 04/08/2021 17:11	Analyst: MB2	
Prep Date: 04/07/2021 11:02	Aliquot: 264.82 mL	Final Volume: 5 mL
Data File: PFC040821037.wiff	Column:	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
763051-92-9	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3O		17.7	ng/L	0.623	1.78
	<i>11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid</i>					
13252-13-6	Hexafluoropropyleneoxide dimer acid (HFPO-DA)		17.3	ng/L	0.623	1.89
	<i>Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-</i>					
756426-58-1	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ON		17.7	ng/L	0.623	1.76
	<i>9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid</i>					
2991-50-6	N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)		18.5	ng/L	1.25	3.78
2355-31-9	N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)		17.9	ng/L	1.25	3.78
375-73-5	Perfluorobutane sulfonic acid (PFBS)		19.4	ng/L	0.623	1.68
335-76-2	Perfluorodecanoic acid (PFDA)		17.2	ng/L	0.623	1.89
307-55-1	Perfluorododecanoic acid (PFDoA)		18.8	ng/L	0.623	1.89
	<i>Perfluorododecanoic acid (PFDOA)</i>					
375-85-9	Perfluoroheptanoic acid (PFHpA)		19.4	ng/L	0.623	1.89
355-46-4	Perfluorohexane sulfonic acid (PFHxS)		18.5	ng/L	0.623	1.72
307-24-4	Perfluorohexanoic acid (PFHxA)		18.4	ng/L	0.623	1.89
375-95-1	Perfluorononanoic acid (PFNA)		17.9	ng/L	0.623	1.89
1763-23-1	Perfluorooctane sulfonic acid (PFOS)		18.4	ng/L	0.717	1.89
335-67-1	Perfluorooctanoic acid (PFOA)		18.1	ng/L	0.623	1.89
376-06-7	Perfluorotetradecanoic acid (PFTA)		17.7	ng/L	0.623	1.89
	<i>Perfluorotetradecanoic acid (PFTDA)</i>					
72629-94-8	Perfluorotridecanoic acid (PFTrDA)		18.5	ng/L	0.623	1.89
2058-94-8	Perfluoroundecanoic acid (PFUnA)		18.0	ng/L	0.623	1.89
	<i>Perfluoroundecanoic acid (PFUnDA)</i>					
919005-14-4	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)		19.7	ng/L	0.623	1.89
	<i>4,8-Dioxa-3H-perfluorononanoic acid (DONA)</i>					

LC-MS/MS
Certificate of Analysis
Sample Summary

Page 1 of 1

SDG Number: 539879	Date Collected: 04/05/2021 11:25	Matrix: DRINKING WATER (POTABI
Lab Sample ID: 1204790681	Date Received: 04/06/2021 10:30	
Client Sample: QC for batch 2112345	Client: MDEP001	Project: MDEP00120
Client ID: 10000MS	Method: EPA 537.1	SOP Ref: GL-OA-E-076
Batch ID: 2112347	Inst: LCMSMS9	Dilution: 1
Run Date: 04/08/2021 18:02	Analyst: MB2	
Prep Date: 04/07/2021 11:02	Aliquot: 280.82 mL	Final Volume: 5 mL
Data File: PFC040821043.wiff	Column:	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
763051-92-9	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3O		14.7	ng/L	0.890	3.56
	<i>11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid</i>					
13252-13-6	Hexafluoropropyleneoxide dimer acid (HFPO-DA)		15.4	ng/L	0.588	1.78
	<i>Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-</i>					
756426-58-1	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ON		15.2	ng/L	1.18	3.56
	<i>9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid</i>					
2991-50-6	N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)		16.9	ng/L	1.18	3.56
2355-31-9	N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)		15.4	ng/L	1.18	3.56
375-73-5	Perfluorobutane sulfonic acid (PFBS)		15.2	ng/L	0.516	1.58
335-76-2	Perfluorodecanoic acid (PFDA)		16.7	ng/L	0.588	1.78
307-55-1	Perfluorododecanoic acid (PFDoA)		15.8	ng/L	0.588	1.78
	<i>Perfluorododecanoic acid (PFDOA)</i>					
375-85-9	Perfluoroheptanoic acid (PFHpA)		18.4	ng/L	0.588	1.78
355-46-4	Perfluorohexane sulfonic acid (PFHxS)		16.3	ng/L	0.534	1.62
307-24-4	Perfluorohexanoic acid (PFHxA)		17.2	ng/L	0.588	1.78
375-95-1	Perfluorononanoic acid (PFNA)		16.5	ng/L	0.588	1.78
1763-23-1	Perfluorooctane sulfonic acid (PFOS)		16.6	ng/L	0.588	1.78
335-67-1	Perfluorooctanoic acid (PFOA)		18.5	ng/L	0.588	1.78
376-06-7	Perfluorotetradecanoic acid (PFTA)		16.2	ng/L	0.588	1.78
	<i>Perfluorotetradecanoic acid (PFTDA)</i>					
72629-94-8	Perfluorotridecanoic acid (PFTrDA)		15.9	ng/L	0.588	1.78
2058-94-8	Perfluoroundecanoic acid (PFUnA)		15.8	ng/L	0.588	1.78
	<i>Perfluoroundecanoic acid (PFUnDA)</i>					
919005-14-4	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)		17.6	ng/L	0.588	1.78
	<i>4,8-Dioxa-3H-perfluorononanoic acid (DONA)</i>					

LC-MS/MS
Certificate of Analysis
Sample Summary

Page 1 of 1

SDG Number: 539879	Date Collected: 04/05/2021 11:25	Matrix: DRINKING WATER (POTABI
Lab Sample ID: 1204790682	Date Received: 04/06/2021 10:30	
Client Sample: QC for batch 2112345	Client: MDEP001	Project: MDEP00120
Client ID: 10000MSD	Method: EPA 537.1	SOP Ref: GL-OA-E-076
Batch ID: 2112347	Inst: LCMSMS9	Dilution: 1
Run Date: 04/08/2021 18:11	Analyst: MB2	
Prep Date: 04/07/2021 11:02	Aliquot: 287.63 mL	Final Volume: 5 mL
Data File: PFC040821044.wiff	Column:	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
763051-92-9	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3O		12.7	ng/L	0.869	3.48
	<i>11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid</i>					
13252-13-6	Hexafluoropropyleneoxide dimer acid (HFPO-DA)		12.6	ng/L	0.574	1.74
	<i>Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-</i>					
756426-58-1	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ON		13.4	ng/L	1.15	3.48
	<i>9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid</i>					
2991-50-6	N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)		14.7	ng/L	1.15	3.48
2355-31-9	N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)		13.0	ng/L	1.15	3.48
375-73-5	Perfluorobutane sulfonic acid (PFBS)		13.6	ng/L	0.504	1.55
335-76-2	Perfluorodecanoic acid (PFDA)		14.1	ng/L	0.574	1.74
307-55-1	Perfluorododecanoic acid (PFDoA)		13.9	ng/L	0.574	1.74
	<i>Perfluorododecanoic acid (PFDOA)</i>					
375-85-9	Perfluoroheptanoic acid (PFHpA)		15.7	ng/L	0.574	1.74
355-46-4	Perfluorohexane sulfonic acid (PFHxS)		14.3	ng/L	0.522	1.58
307-24-4	Perfluorohexanoic acid (PFHxA)		15.4	ng/L	0.574	1.74
375-95-1	Perfluorononanoic acid (PFNA)		14.0	ng/L	0.574	1.74
1763-23-1	Perfluorooctane sulfonic acid (PFOS)		14.9	ng/L	0.574	1.74
335-67-1	Perfluorooctanoic acid (PFOA)		15.6	ng/L	0.574	1.74
376-06-7	Perfluorotetradecanoic acid (PFTA)		13.3	ng/L	0.574	1.74
	<i>Perfluorotetradecanoic acid (PFTDA)</i>					
72629-94-8	Perfluorotridecanoic acid (PFTrDA)		13.9	ng/L	0.574	1.74
2058-94-8	Perfluoroundecanoic acid (PFUnA)		13.1	ng/L	0.574	1.74
	<i>Perfluoroundecanoic acid (PFUnDA)</i>					
919005-14-4	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)		14.8	ng/L	0.574	1.74
	<i>4,8-Dioxa-3H-perfluorononanoic acid (DONA)</i>					

LC-MS/MS
Certificate of Analysis
Sample Summary

Page 1 of 1

SDG Number: 539879	Date Collected: 04/05/2021 10:00	Matrix: DRINKING WATER (POTABI
Lab Sample ID: 1204790683	Date Received: 04/06/2021 10:30	
Client Sample: QC for batch 2112345	Client: MDEP001	Project: MDEP00120
Client ID: MULT 4MS	Method: EPA 537.1	SOP Ref: GL-OA-E-076
Batch ID: 2112347	Inst: LCMSMS9	Dilution: 1
Run Date: 04/08/2021 19:02	Analyst: MB2	
Prep Date: 04/07/2021 11:02	Aliquot: 279.88 mL	Final Volume: 5 mL
Data File: PFC040821050.wiff	Column:	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
763051-92-9	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3O		16.0	ng/L	0.893	3.57
	<i>11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid</i>					
13252-13-6	Hexafluoropropyleneoxide dimer acid (HFPO-DA)		18.0	ng/L	0.590	1.79
	<i>Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-</i>					
756426-58-1	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ON		17.6	ng/L	1.18	3.57
	<i>9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid</i>					
2991-50-6	N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)		17.2	ng/L	1.18	3.57
2355-31-9	N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)		16.0	ng/L	1.18	3.57
375-73-5	Perfluorobutane sulfonic acid (PFBS)		15.3	ng/L	0.518	1.59
335-76-2	Perfluorodecanoic acid (PFDA)		19.1	ng/L	0.590	1.79
307-55-1	Perfluorododecanoic acid (PFDoA)		16.8	ng/L	0.590	1.79
	<i>Perfluorododecanoic acid (PFDOA)</i>					
375-85-9	Perfluoroheptanoic acid (PFHpA)		19.6	ng/L	0.590	1.79
355-46-4	Perfluorohexane sulfonic acid (PFHxS)		17.9	ng/L	0.536	1.63
307-24-4	Perfluorohexanoic acid (PFHxA)		18.4	ng/L	0.590	1.79
375-95-1	Perfluorononanoic acid (PFNA)		16.8	ng/L	0.590	1.79
1763-23-1	Perfluorooctane sulfonic acid (PFOS)		19.7	ng/L	0.590	1.79
335-67-1	Perfluorooctanoic acid (PFOA)		19.7	ng/L	0.590	1.79
376-06-7	Perfluorotetradecanoic acid (PFTA)		17.3	ng/L	0.590	1.79
	<i>Perfluorotetradecanoic acid (PFTDA)</i>					
72629-94-8	Perfluorotridecanoic acid (PFTrDA)		17.0	ng/L	0.590	1.79
2058-94-8	Perfluoroundecanoic acid (PFUnA)		17.8	ng/L	0.590	1.79
	<i>Perfluoroundecanoic acid (PFUnDA)</i>					
919005-14-4	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)		18.8	ng/L	0.590	1.79
	<i>4,8-Dioxa-3H-perfluorononanoic acid (DONA)</i>					

LC-MS/MS
Certificate of Analysis
Sample Summary

Page 1 of 1

SDG Number: 539879	Date Collected: 04/05/2021 10:00	Matrix: DRINKING WATER (POTABI
Lab Sample ID: 1204790684	Date Received: 04/06/2021 10:30	
Client Sample: QC for batch 2112345	Client: MDEP001	Project: MDEP00120
Client ID: MULT 4MSD	Method: EPA 537.1	SOP Ref: GL-OA-E-076
Batch ID: 2112347	Inst: LCMSMS9	Dilution: 1
Run Date: 04/08/2021 19:10	Analyst: MB2	
Prep Date: 04/07/2021 11:02	Aliquot: 280.97 mL	Final Volume: 5 mL
Data File: PFC040821051.wiff	Column:	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
763051-92-9	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3O		14.4	ng/L	0.890	3.56
	<i>11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid</i>					
13252-13-6	Hexafluoropropyleneoxide dimer acid (HFPO-DA)		15.9	ng/L	0.587	1.78
	<i>Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-</i>					
756426-58-1	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ON		15.4	ng/L	1.17	3.56
	<i>9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid</i>					
2991-50-6	N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)		15.8	ng/L	1.17	3.56
2355-31-9	N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)		15.9	ng/L	1.17	3.56
375-73-5	Perfluorobutane sulfonic acid (PFBS)		14.4	ng/L	0.516	1.58
335-76-2	Perfluorodecanoic acid (PFDA)		17.4	ng/L	0.587	1.78
307-55-1	Perfluorododecanoic acid (PFDoA)		16.6	ng/L	0.587	1.78
	<i>Perfluorododecanoic acid (PFDOA)</i>					
375-85-9	Perfluoroheptanoic acid (PFHpA)		20.3	ng/L	0.587	1.78
355-46-4	Perfluorohexane sulfonic acid (PFHxS)		15.4	ng/L	0.534	1.62
307-24-4	Perfluorohexanoic acid (PFHxA)		17.7	ng/L	0.587	1.78
375-95-1	Perfluorononanoic acid (PFNA)		17.0	ng/L	0.587	1.78
1763-23-1	Perfluorooctane sulfonic acid (PFOS)		17.5	ng/L	0.587	1.78
335-67-1	Perfluorooctanoic acid (PFOA)		21.0	ng/L	0.587	1.78
376-06-7	Perfluorotetradecanoic acid (PFTA)		16.7	ng/L	0.587	1.78
	<i>Perfluorotetradecanoic acid (PFTDA)</i>					
72629-94-8	Perfluorotridecanoic acid (PFTrDA)		16.4	ng/L	0.587	1.78
2058-94-8	Perfluoroundecanoic acid (PFUnA)		16.3	ng/L	0.587	1.78
	<i>Perfluoroundecanoic acid (PFUnDA)</i>					
919005-14-4	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)		19.2	ng/L	0.587	1.78
	<i>4,8-Dioxa-3H-perfluorononanoic acid (DONA)</i>					

Initial Calibration Blank Summary

Instrument ID: LCMSMS9
Data File: PFC040821002.wiff
Lab Sample ID ICB01
Column ID: Gemini 3u C-18

Client SDG: 539879
Injection Date: 08-APR-21 11:35
Init. Cal. Date(s) 08-APR-21 11:44 - 08-APR-21 12:52
Method: EPA 537.1
Quant Type: ESTD

Compound	True Value	Result
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	0	7864.22
N-methylperfluoro-1-octanesulfonamidoacetic acid	0	0
N-ethylperfluoro-1-octanesulfonamidoacetic acid	0	0
Perfluorobutanesulfonate (PFBS)	0	0
Perfluorodecanoic acid (PFDA)	0	0
Perfluorododecanoic acid (PFDoA)	0	0
Perfluoroheptanoic acid (PFHpA)	0	0
Perfluorohexanesulfonate (PFHxS)	0	0
Perfluorohexanoic acid (PFHxA)	0	0
Perfluorononanoic acid (PFNA)	0	0
Perfluorooctanesulfonate (PFOS)	0	0
Perfluorooctanoic acid (PFOA)	0	0
Perfluorotetradecanoic acid (PFTeDA)	0	0
Perfluorotridecanoic acid (PFTrDA)	0	0
Perfluoroundecanoic acid (PFUdA)	0	0
Perfluoro-n-[1,2- ¹³ C ₂] hexanoic acid	0	1824.43
9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (PF3ONS)	0	0
11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (PF3OUdS)	0	0
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-13C3-propanoic acid (13C3_PFPPrO)	0	1987.7
Sodium dodecafluoro-3H-4,8-dioxananoate (ADONA)	0	0
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid (PFPrOPrA)	0	0

Continuing Calibration Blank Summary

Instrument ID: LCMSMS9
Data File: PFC040821015.wiff
Lab Sample ID: CCB01
Column ID: Gemini 3u C-18

Client SDG: 539879
Injection Date: 08-APR-21 13:26
Init. Cal. Date(s): 08-APR-21 11:44 - 08-APR-21 12:52
Method: EPA 537.1
Quant Type: ESTD

Compound	True Value	Result
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	0	7981.58
N-methylperfluoro-1-octanesulfonamidoacetic acid	0	0
N-ethylperfluoro-1-octanesulfonamidoacetic acid	0	0
Perfluorobutanesulfonate (PFBS)	0	0
Perfluorodecanoic acid (PFDA)	0	0
Perfluorododecanoic acid (PFDoA)	0	0
Perfluoroheptanoic acid (PFHpA)	0	0
Perfluorohexanesulfonate (PFHxS)	0	0
Perfluorohexanoic acid (PFHxA)	0	0
Perfluorononanoic acid (PFNA)	0	0
Perfluorooctanesulfonate (PFOS)	0	0
Perfluorooctanoic acid (PFOA)	0	0
Perfluorotetradecanoic acid (PFTeDA)	0	0
Perfluorotridecanoic acid (PFTrDA)	0	0
Perfluoroundecanoic acid (PFUdA)	0	0
Perfluoro-n-[1,2- ¹³ C ₂] hexanoic acid	0	1865.95
9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (PF3ONS)	0	0
11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (PF3OUdS)	0	0
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-13C3-propanoic acid (13C3_PFPPrO)	0	1862.95
Sodium dodecafluoro-3H-4,8-dioxananoate (ADONA)	0	0
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid (PFPrOPrA)	0	0

Continuing Calibration Blank Summary

Instrument ID: LCMSMS9
Data File: PFC040821035.wiff
Lab Sample ID: CCB01
Column ID: Gemini 3u C-18

Client SDG: 539879
Injection Date: 08-APR-21 16:42
Init. Cal. Date(s): 08-APR-21 11:44 - 08-APR-21 12:52
Method: EPA 537.1
Quant Type: ESTD

Compound	True Value	Result
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	0	7560.75
N-methylperfluoro-1-octanesulfonamidoacetic acid	0	0
N-ethylperfluoro-1-octanesulfonamidoacetic acid	0	0
Perfluorobutanesulfonate (PFBS)	0	0
Perfluorodecanoic acid (PFDA)	0	0
Perfluorododecanoic acid (PFDoA)	0	0
Perfluoroheptanoic acid (PFHpA)	0	0
Perfluorohexanesulfonate (PFHxS)	0	0
Perfluorohexanoic acid (PFHxA)	0	0
Perfluorononanoic acid (PFNA)	0	0
Perfluorooctanesulfonate (PFOS)	0	0
Perfluorooctanoic acid (PFOA)	0	0
Perfluorotetradecanoic acid (PFTeDA)	0	0
Perfluorotridecanoic acid (PFTrDA)	0	0
Perfluoroundecanoic acid (PFUdA)	0	0
Perfluoro-n-[1,2- ¹³ C ₂] hexanoic acid	0	1964.74
9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (PF3ONS)	0	0
11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (PF3OUdS)	0	0
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-13C3-propanoic acid (13C3_PFPPrO)	0	2500.62
Sodium dodecafluoro-3H-4,8-dioxananoate (ADONA)	0	0
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid (PFPrOPrA)	0	0

Continuing Calibration Blank Summary

Instrument ID: LCMSMS9
Data File: PFC040821047.wiff
Lab Sample ID: CCB01
Column ID: Gemini 3u C-18

Client SDG: 539879
Injection Date: 08-APR-21 18:36
Init. Cal. Date(s): 08-APR-21 11:44 - 08-APR-21 12:52
Method: EPA 537.1
Quant Type: ESTD

Compound	True Value	Result
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	0	7618.19
N-methylperfluoro-1-octanesulfonamidoacetic acid	0	0
N-ethylperfluoro-1-octanesulfonamidoacetic acid	0	0
Perfluorobutanesulfonate (PFBS)	0	0
Perfluorodecanoic acid (PFDA)	0	0
Perfluorododecanoic acid (PFDoA)	0	0
Perfluoroheptanoic acid (PFHpA)	0	0
Perfluorohexanesulfonate (PFHxS)	0	0
Perfluorohexanoic acid (PFHxA)	0	0
Perfluorononanoic acid (PFNA)	0	0
Perfluorooctanesulfonate (PFOS)	0	0
Perfluorooctanoic acid (PFOA)	0	0
Perfluorotetradecanoic acid (PFTeDA)	0	0
Perfluorotridecanoic acid (PFTrDA)	0	0
Perfluoroundecanoic acid (PFUdA)	0	0
Perfluoro-n-[1,2- ¹³ C ₂] hexanoic acid	0	1979.55
9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (PF3ONS)	0	0
11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (PF3OUdS)	0	0
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-13C3-propanoic acid (13C3_PFPPrO)	0	1959.87
Sodium dodecafluoro-3H-4,8-dioxananoate (ADONA)	0	0
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid (PFPrOPrA)	0	0

Continuing Calibration Blank Summary

Instrument ID: LCMSMS9
Data File: PFC040821057.wiff
Lab Sample ID: CCB01
Column ID: Gemini 3u C-18

Client SDG: 539879
Injection Date: 08-APR-21 20:02
Init. Cal. Date(s): 08-APR-21 11:44 - 08-APR-21 12:52
Method: EPA 537.1
Quant Type: ESTD

Compound	True Value	Result
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	0	7234.7
N-methylperfluoro-1-octanesulfonamidoacetic acid	0	0
N-ethylperfluoro-1-octanesulfonamidoacetic acid	0	0
Perfluorobutanesulfonate (PFBS)	0	0
Perfluorodecanoic acid (PFDA)	0	0
Perfluorododecanoic acid (PFDoA)	0	0
Perfluoroheptanoic acid (PFHpA)	0	0
Perfluorohexanesulfonate (PFHxS)	0	0
Perfluorohexanoic acid (PFHxA)	0	0
Perfluorononanoic acid (PFNA)	0	0
Perfluorooctanesulfonate (PFOS)	0	0
Perfluorooctanoic acid (PFOA)	0	0
Perfluorotetradecanoic acid (PFTeDA)	0	0
Perfluorotridecanoic acid (PFTrDA)	0	0
Perfluoroundecanoic acid (PFUdA)	0	0
Perfluoro-n-[1,2- ¹³ C ₂] hexanoic acid	0	2034.56
9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (PF3ONS)	0	0
11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (PF3OUdS)	0	0
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-13C3-propanoic acid (13C3_PFPPrO)	0	1855.3
Sodium dodecafluoro-3H-4,8-dioxananoate (ADONA)	0	0
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid (PFPrOPrA)	0	0

Miscellaneous

Prep Logbook

The Extraction and Analysis of Per and Polyfluoroalkyl Substances Using LCMSMS

Batch ID: 2112345
 Analyst: Lily Darrington
 Method: EPA 537.1

Verified by: _____

Lab SOP: GL-OA-E-076 REV# 10
 Instrument: LCMSMS Manual Instrument

Sample ID	Prep Date	Initial Wt (g)	Final Wt (g)	Initial Volume (mL)	Final Volume (mL)	Prepped Factor (mL/mL)	Residual ClPh 1	
1204790679 MB	07-APR-2021 11:02:00	301.47	32.58	268.89	5	0.01859	<0.5	7
1204790680 LCS	07-APR-2021 11:02:00	297.74	32.92	264.82	5	0.01888	<0.5	7
539858001	07-APR-2021 11:02:00	310.4	33.16	277.24	5	0.01803	<0.5	7
539859001	07-APR-2021 11:02:00	300.03	33.26	266.77	5	0.01874	<0.5	7
539861001	07-APR-2021 11:02:00	306.55	33.32	273.23	5	0.0183	<0.5	7
539879001	07-APR-2021 11:02:00	319.45	33.43	286.02	5	0.01748	<0.5	7
1204790681 MS (539879001)	07-APR-2021 11:02:00	314.11	33.29	280.82	5	0.0178	<0.5	7
1204790682 MSD (539879001)	07-APR-2021 11:02:00	321.24	33.61	287.63	5	0.01738	<0.5	7
539879002	07-APR-2021 11:02:00	318.58	33.44	285.14	5	0.01754	<0.5	7
539885001	07-APR-2021 11:02:00	315.32	33.39	281.93	5	0.01773	<0.5	7
539885002	07-APR-2021 11:02:00	315.57	33.29	282.28	5	0.01771	<0.5	7
1204790683 MS (539885002)	07-APR-2021 11:02:00	313.25	33.37	279.88	5	0.01786	<0.5	7
1204790684 MSD (539885002)	07-APR-2021 11:02:00	314.23	33.26	280.97	5	0.0178	<0.5	7
539885003	07-APR-2021 11:02:00	313.61	33.25	280.36	5	0.01783	<0.5	7
539885004	07-APR-2021 11:02:00	310.05	33.29	276.76	5	0.01807	<0.5	7
539885005	07-APR-2021 11:02:00	312.8	33.32	279.48	5	0.01789	<0.5	7
539885006	07-APR-2021 11:02:00	309.25	33.39	275.86	5	0.01813	<0.5	7
538939001 - 2	08-APR-2021 11:07:00	307.46	33.36	274.1	5	0.01824	<0.5	7

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
LCS	1204790680	PFAS 20 ug/L 537 Std	IPF210322-07	.25	mL	Thermometer ID: 8125
MS	1204790681	PFAS 20 ug/L 537 Std	IPF210322-07	.25	mL	Temperature 1: 60 C
MS	1204790683	PFAS 20 ug/L 537 Std	IPF210322-07	.25	mL	Vial Lot: 3144344
MSD	1204790682	PFAS 20 ug/L 537 Std	IPF210322-07	.25	mL	Strata: 3269028
MSD	1204790684	PFAS 20 ug/L 537 Std	IPF210322-07	.25	mL	Balance: LCMSMSBAL-001
RGNT	All	TYPE I Water for PFAS	3126459	250	mL	
SURR	All	IS PDS SURR 1-4 ug/mL	IPF210325-25	.01	mL	
SURR	All	Surrogate Primary Dilution Standard	IPF210405-05	.1	mL	
INTER	All	Surrogate Primary Dilution Standard	IPF210405-05	.1	mL	
REGNT	All	Methanol HPLC Optima	210331	8	mL	
REGNT	All	TYPE I Water for PFAS	3126459	15	mL	
REGNT	All	96:4 Methanol/Water (v:v)	3137321	5	mL	

Prep Logbook

Batch ID: 2112345
Analyst: Lily Darrington
Method: EPA 537.1

Verified by: _____

Lab SOP: GL-OA-E-076 REV# 10
Instrument: LCMSMS Manual Instrument

Sample ID	Prep Date	Initial Wt (g)	Final Wt (g)	Initial Volume (mL)	Final Volume (mL)	Prepped Factor (mL/mL)	Residual ClPh 1
REGNT All	Trizma Pre--set Crystals pH 7.0			3254461	1.25	g	

GEL ORGANIC RUN LOG

INSTRUMENT ID: lcmsms9

Date: 4/08/2021

Int. Std. IPF200729-20

Extr. Injection Volume: 15uL

Method: EPA 537.1

Sequence Number: 4082021

Mobile Phase Lot#: 3281093 MEOH: 3255479

SOP: GL-OA-E-076 Rev.9

Initial Calibration Date(s): 4/8/2021

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC Flag	REFMAT
PFC040821001.wiff	PFCIBLK01	MB2	4/8/2021 11:27			1			B	
PFC040821002.wiff	PFCIBLK01	MB2	4/8/2021 11:35			1			B	
PFC040821003.wiff	WPFICAL-01	MB2	4/8/2021 11:44			1			I	WPF21040!
PFC040821004.wiff	WPFICAL-02	MB2	4/8/2021 11:52			1			I	WPF21040!
PFC040821005.wiff	WPFICAL-03	MB2	4/8/2021 12:01			1			I	WPF21040!
PFC040821006.wiff	WPFICAL-04	MB2	4/8/2021 12:10			1			I	WPF21040!
PFC040821007.wiff	WPFICAL-05	MB2	4/8/2021 12:18			1			I	WPF21040!
PFC040821008.wiff	WPFICAL-06	MB2	4/8/2021 12:27			1			I	WPF21040!
PFC040821009.wiff	WPFICAL-07	MB2	4/8/2021 12:35			1			I	WPF21040!
PFC040821010.wiff	WPFICAL-10	MB2	4/8/2021 12:44			1			I	WPF21040!
PFC040821011.wiff	WPFICAL-11	MB2	4/8/2021 12:52			1			I	WPF21040!
PFC040821012.wiff	WPFISC	MB2	4/8/2021 13:01			1			C	WPF21040!
PFC040821013.wiff	WPFICV	MB2	4/8/2021 13:09			1			C	WPF21040!
PFC040821014.wiff	Technical PFOA	MB2	4/8/2021 13:18			1			L	
PFC040821015.wiff	PFCIBLK02	MB2	4/8/2021 13:26			1			B	
PFC040821016.wiff	1204789712	MB2	4/8/2021 13:46	2111831	VARIOUS	1	VARIOUS		D	
PFC040821017.wiff	1204789713	MB2	4/8/2021 13:55	2111831	VARIOUS	1	VARIOUS		D	
PFC040821018.wiff	1204789714	MB2	4/8/2021 14:03	2111831	VARIOUS	1	VARIOUS		D	
PFC040821019.wiff	539655001	MB2	4/8/2021 14:12	2111831	42892	1	BRKL		D	
PFC040821020.wiff	539655002	MB2	4/8/2021 14:20	2111831	42892	1	BRKL		D	
PFC040821021.wiff	539655003	MB2	4/8/2021 14:29	2111831	42892	1	BRKL		D	
PFC040821022.wiff	WPFCCV	MB2	4/8/2021 14:37			1			C	WPF21040!
PFC040821023.wiff	PFCIBLK03	MB2	4/8/2021 14:46			1			B	
PFC040821024.wiff	539655004	MB2	4/8/2021 14:54	2111831	42892	1	BRKL		D	
PFC040821025.wiff	539655005	MB2	4/8/2021 15:03	2111831	42892	1	BRKL		D	
PFC040821026.wiff	539655006	MB2	4/8/2021 15:11	2111831	42892	1	BRKL		D	
PFC040821027.wiff	539655007	MB2	4/8/2021 15:20	2111831	42892	1	BRKL		D	
PFC040821028.wiff	539655008	MB2	4/8/2021 15:29	2111831	42892	1	BRKL		D	
PFC040821029.wiff	539655009	MB2	4/8/2021 15:37	2111831	42892	1	BRKL		D	
PFC040821030.wiff	539655010	MB2	4/8/2021 15:46	2111831	42892	1	BRKL		D	
PFC040821031.wiff	WPFCCV	MB2	4/8/2021 15:54			1			C	WPF21040!
PFC040821032.wiff	PFCIBLK04	MB2	4/8/2021 16:03			1			B	
PFC040821033.wiff	539655005-DUSE	MB2	4/8/2021 16:25	2111831	42892	1	BRKL	DUSE	D	
PFC040821034.wiff	WPFCCV	MB2	4/8/2021 16:33			1			C	WPF21040!
PFC040821035.wiff	PFCIBLK09	MB2	4/8/2021 16:42			1			B	
PFC040821036.wiff	1204790679	MB2	4/8/2021 17:03	2112347	VARIOUS	1	VARIOUS		D	
PFC040821037.wiff	1204790680	MB2	4/8/2021 17:11	2112347	VARIOUS	1	VARIOUS		D	
PFC040821038.wiff	539939001	MB2	4/8/2021 17:20	2112347	539939	1	CDIN		D	
PFC040821039.wiff	539858001	MB2	4/8/2021 17:28	2112347	539858	1	CDIN		D	

PFC040821040.wiff	539859001	MB2	4/8/2021 17:37	2112347	539859	1	CDIN	D	
PFC040821041.wiff	539861001	MB2	4/8/2021 17:45	2112347	539861	1	CDIN	D	
PFC040821042.wiff	539879001	MB2	4/8/2021 17:54	2112347	539879	1	MDEP	D	
PFC040821043.wiff	1204790681	MB2	4/8/2021 18:02	2112347	539879	1	MDEP	D	
PFC040821044.wiff	1204790682	MB2	4/8/2021 18:11	2112347	539879	1	MDEP	D	
PFC040821045.wiff	539879002	MB2	4/8/2021 18:19	2112347	539879	1	MDEP	D	
PFC040821046.wiff	WPFCCV	MB2	4/8/2021 18:28			1		C	WPF21040!
PFC040821047.wiff	PFCIBLK06	MB2	4/8/2021 18:36			1		B	
PFC040821048.wiff	539885001	MB2	4/8/2021 18:45	2112347	539885	1	MDEP	D	
PFC040821049.wiff	539885002	MB2	4/8/2021 18:53	2112347	539885	1	MDEP	D	
PFC040821050.wiff	1204790683	MB2	4/8/2021 19:02	2112347	539885	1	MDEP	D	
PFC040821051.wiff	1204790684	MB2	4/8/2021 19:10	2112347	539885	1	MDEP	D	
PFC040821052.wiff	539885003	MB2	4/8/2021 19:19	2112347	539885	1	MDEP	D	
PFC040821053.wiff	539885004	MB2	4/8/2021 19:28	2112347	539885	1	MDEP	D	
PFC040821054.wiff	539885005	MB2	4/8/2021 19:36	2112347	539885	1	MDEP	D	
PFC040821055.wiff	539885006	MB2	4/8/2021 19:45	2112347	539885	1	MDEP	D	
PFC040821056.wiff	WPFCCV	MB2	4/8/2021 19:53			1		C	WPF21040!
PFC040821057.wiff	PFCIBLK07	MB2	4/8/2021 20:02			1		B	
PFC040821058.wiff	PFCIBLK08	MB2	4/9/2021 8:43			1		B	
PFC040821059.wiff	PFCIBLK09	MB2	4/9/2021 8:52			1		B	
PFC040821060.wiff	WPFDISC	MB2	4/9/2021 9:00			1		C	WPF21040!
PFC040821061.wiff	PFCIBLK10	MB2	4/9/2021 9:09			1		B	
PFC040821062.wiff	539859001-DUSE	MB2	4/9/2021 9:18	2112347		1	DUSE	D	
PFC040821063.wiff	WPFCCV	MB2	4/9/2021 9:26			1		C	WPF21040!
PFC040821064.wiff	PFCIBLK11	MB2	4/9/2021 9:35			1		B	
PFC040821065.wiff	PFCIBLK12-DUSE	MB2	4/9/2021 17:00			1	DUSE	B	
PFC040821066.wiff	WPF210405-08-DUSE	MB2	4/9/2021 17:09			1	DUSE	C	
PFC040821067.wiff	PFCIBLK13	MB2	4/9/2021 17:18			1		B	
PFC040821068.wiff	WPFDISC	MB2	4/9/2021 17:26			1		C	WPF21040!
PFC040821069.wiff	PFCIBLK13	MB2	4/9/2021 17:35			1		B	
PFC040821070.wiff	1204791492	MB2	4/9/2021 17:43	2112834	VARIOUS	1	VARIOUS	D	
PFC040821071.wiff	1204791493	MB2	4/9/2021 17:52	2112834	VARIOUS	1	VARIOUS	D	
PFC040821072.wiff	539933001	MB2	4/9/2021 18:00	2112834	539933	1	CDIN	D	
PFC040821073.wiff	539939001	MB2	4/9/2021 18:09	2112834	539939	1	CDIN	D	
PFC040821074.wiff	539941001	MB2	4/9/2021 18:17	2112834	539941	1	CDIN	D	
PFC040821075.wiff	539943001	MB2	4/9/2021 18:26	2112834	539943	1	CDIN	D	
PFC040821076.wiff	539947001-DUSE	MB2	4/9/2021 18:34	2112834	539947	1	CDIN	D	
PFC040821077.wiff	539951001	MB2	4/9/2021 18:43	2112834	539951	1	MDEP	D	
PFC040821078.wiff	1204791494	MB2	4/9/2021 18:51	2112834	539951	1	MDEP	D	
PFC040821079.wiff	1204791495	MB2	4/9/2021 19:00	2112834	539951	1	MDEP	D	
PFC040821080.wiff	WPFCCV	MB2	4/9/2021 19:08			1		C	WPF21040!
PFC040821081.wiff	PFCIBLK13	MB2	4/9/2021 19:17			1		B	
PFC040821082.wiff	539951002	MB2	4/9/2021 19:25	2112834	539951	1	MDEP	D	
PFC040821083.wiff	539951003	MB2	4/9/2021 19:34	2112834	539951	1	MDEP	D	
PFC040821084.wiff	539951004	MB2	4/9/2021 19:42	2112834	539951	1	MDEP	D	
PFC040821085.wiff	539951005	MB2	4/9/2021 19:51	2112834	539951	1	MDEP	D	
PFC040821086.wiff	539951006	MB2	4/9/2021 20:00	2112834	539951	1	MDEP	D	

PFC040821087.wiff	539951007	MB2	4/9/2021 20:08	2112834	539951	1	MDEP		D	
PFC040821088.wiff	539951008	MB2	4/9/2021 20:17	2112834	539951	1	MDEP		D	
PFC040821089.wiff	539951009	MB2	4/9/2021 20:25	2112834	539951	1	MDEP		D	
PFC040821090.wiff	539951010	MB2	4/9/2021 20:34	2112834	539951	1	MDEP		D	
PFC040821091.wiff	WPFCCV	MB2	4/9/2021 20:42			1			C	WPF21040!
PFC040821092.wiff	PFCIBLK14	MB2	4/9/2021 20:51			1			B	
PFC040821093.wiff	1204792107	MB2	4/9/2021 20:59	2113363	VARIOUS	1	VARIOUS		D	
PFC040821094.wiff	1204792108	MB2	4/9/2021 21:08	2113363	VARIOUS	1	VARIOUS		D	
PFC040821095.wiff	1204792109	MB2	4/9/2021 21:16	2113363	VARIOUS	1	VARIOUS		D	
PFC040821096.wiff	539655005	MB2	4/9/2021 21:25	2113363	42892	1	BRKL		D	
PFC040821097.wiff	540163001	MB2	4/9/2021 21:33	2113363	42903	1	BRKL		D	
PFC040821098.wiff	540163002	MB2	4/9/2021 21:42	2113363	42903	1	BRKL		D	
PFC040821099.wiff	540163003	MB2	4/9/2021 21:50	2113363	42903	1	BRKL		D	
PFC040821100.wiff	540163004-DUSE	MB2	4/9/2021 21:59	2113363	42903	1	BRKL	DUSE	D	
PFC040821101.wiff	540163005	MB2	4/9/2021 22:08	2113363	42903	1	BRKL		D	
PFC040821102.wiff	540163006	MB2	4/9/2021 22:16	2113363	42903	1	BRKL		D	
PFC040821103.wiff	WPFCCV	MB2	4/9/2021 22:25			1			C	WPF21040!
PFC040821104.wiff	PFCIBLK13	MB2	4/9/2021 22:33			1			B	
PFC040821105.wiff	540163007-DUSE	MB2	4/9/2021 22:42	2113363	42903	1	BRKL	DUSE	D	
PFC040821106.wiff	540163009	MB2	4/9/2021 22:50	2113363	42903	1	BRKL		D	
PFC040821107.wiff	WPFCCV	MB2	4/9/2021 22:59			1			C	WPF21040!
PFC040821108.wiff	PFCIBLK14	MB2	4/9/2021 23:07			1			B	
PFC040821109.wiff	PFCIBLK15	MB2	4/10/2021 9:08			1			B	
PFC040821110.wiff	PFCIBLK16	MB2	4/10/2021 9:16			1			B	
PFC040821111.wiff	WPFDISC	MB2	4/10/2021 9:25			1			C	WPF21040!
PFC040821112.wiff	PFCIBLK17	MB2	4/10/2021 9:33			1			B	
PFC040821113.wiff	539947001	MB2	4/10/2021 9:42	2112834	539947	1	BRKL		D	
PFC040821114.wiff	540163004	MB2	4/10/2021 9:51	2113363	42903	1	BRKL		D	
PFC040821115.wiff	540163007	MB2	4/10/2021 9:59	2113363	42903	1	BRKL		D	
PFC040821116.wiff	WPFCCV	MB2	4/10/2021 10:08			1			C	WPF21040!
PFC040821117.wiff	PFCIBLK13	MB2	4/10/2021 10:16			1			B	

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Massachusetts Department of Environmental Protection - Drinking Water Program **PFAS**
Per- and Polyfluoroalkyl Substances (PFAS) Report

Page 1 of 2

I. PWS INFORMATION: Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: 1279000 City / Town: SOUTHWICK
PWS Name: Southwick Water Department PWS Class: COM ☒ NTNC ☐ TNC ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information	Date Collected	Collected By	
10000	POINT OF ENTRY	☐ (M)ultiple ☒ (S)ingle	☐ (R)aw ☒ (F)inished	05-APR-21 11:25	Tim Vreeland
Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:			
☐ RS ☒ SS	☐ Original ☐ Resubmitted ☒ Confirmation	(1) Reason for Resubmission	(2) Collection Date of Original Sample		
☐ Resample ☐ Reanalysis ☐ Report Correction					
SAMPLE COMMENTS - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank					

II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab Cert. #: M-SC012 Primary Lab Name: GEL Laboratories LLC Subcontracted? (Y/N) N

Analysis Lab Cert. #: Analysis Lab Name:

If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
EPA 537.1	07-APR-21 11:02	08-APR-21 17:54	1	Primary Lab:	539879001
				Subcontracted Lab:	

CAS#	REGULATED PFAS CONTAMINANTS	Result ¹ ng/L	Result ² Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	Perfluorooctane Sulfonic Acid (PFOS)	1.95		-	0.577	1.75
335-67-1	Perfluorooctanoic Acid (PFOA)	2.03			0.577	1.75
355-46-4	Perfluorohexane Sulfonic Acid (PFHxS)	1.14	J		0.524	1.59
375-95-1	Perfluorononanoic Acid (PFNA)	ND			0.577	1.75
375-85-9	Perfluorohexadecanoic Acid (PFHpA)	0.853	J		0.577	1.75
335-76-2	Perfluorodecanoic acid (PFDA)	ND			0.577	1.75
PFAS6 (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column)		3.98	--	20	-	-
UNREGULATED PFAS CONTAMINANTS						
375-73-5	Perfluorobutane sulfonic acid (PFBS)	1.19	J	-	0.507	1.56
307-55-1	Perfluorododecanoic acid (PFDoA)	ND			0.577	1.75
307-24-4	Perfluorohexanoic acid (PFHxA)	1.65	J		0.577	1.75
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND			0.577	1.75
72629-94-8	Perfluorotridecanoic acid (PFTTrDA)	ND			0.577	1.75
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND			0.577	1.75
2991-50-6	N-ethyl perfluorooctanesulfonamidoacetic acid (NtFOSAA)	ND			1.15	3.5
2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid (NmFOSAA)	ND			1.15	3.5
763051-92-9	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND			0.874	3.5
756426-58-1	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	ND			1.15	3.5
919005-14-4	4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND			0.577	1.75
13252-13-6	Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND			0.577	1.75

¹ A field reagent blank (FRB) must be analyzed and reported on a separate PFAS form if any PFAS are detected above the MRL.

² All qualifiers must be described under Lab Analysis Comments on page 2.



Per- and Polyfluoroalkyl Substances (PFAS) Report

Page 2 of 2

PWS ID#: 1279000

Lab Sample ID#:

Primary Lab:	GEL Laboratories LLC
Subcontracted Lab:	

CAS#	UNREGULATED PFAS CONTAMINANTS	Result ¹ ng/L	Result ² Qualifier	MCL * ng/L	MDL ng/L	MRL ng/L
				-		

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
¹³ C ₂ -PFHxA	89	
¹³ C ₂ -PFDA	87	
d ₅ -NEtFOSAA	93	
¹³ C ₃ -HFPO-DA	88	

Note: ¹³C₃-HFPO-DA is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☒ **Laboratory analytical report with QC attached (check one item below).**

- ☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LFSD/LFSMD or FD) and RPD.
- ☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

Lab Analysis Comments: (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
J	Value is estimated
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
Other Analysis Comments:	

* MCL or proposed MCL

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

Primary Lab Director Signature:

Meredith Boldipord

Date: 4/19/2021

If not submitting these results electronically, mail TWO copies of this report to your MassDEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner. Note that during the Massachusetts COVID-19 state of emergency, in addition to submitting by mail reports may be emailed to program.director-dwp@mass.gov.

MassDEP REVIEW STATUS (Initial & Date)	Review Comments	☐ WQTS Data Entered
☐ Accepted _____ ☐ Disapproved		