

Laboratory Certification IDs

CT: PH-0411, NH: 2239, NY: 11867, PA: 68-05519, RI: LAO00339, MA: M-CT004

Certified analyte list is available at: www.rwalab.com

Client: Bill Cookerly and Noreen Jordan
Randolph-Holbrook Joint Water
50 N. Franklin Street

Holbrook, MA 02343
617-470-1624 cookerlyb@gmail.com
781-767-1800 NJordan@Holbrookmassachusetts.us

ANALYTICAL REPORT

Project: FEE-RANDOLPHHOLBROOK-22-000006

Report Date: 7/1/2022

*June
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This Laboratory is in compliance with the NELAP requirements of procedures used except where indicated. This report contains results for the analysis tested, under the sampling conditions described on the Chain Of Custody (COC), as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

The COC form has been scanned to accompany the analytical report and is an exact copy of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact RWA Client Services at (203) 401-6743 or (877) 894-5773. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Gary M. Alexander, Team Lead
Technical Representative

SAMPLE SUMMARY

Sample ID	Customer ID	Collection Date/Time	Receipt Date
300195478	RAW WATER	6/8/2022 0900	6/9/22
300195479	FB - RAW WATER	6/8/2022 0900	6/9/22
300195480	FINISHED WATER	6/8/2022 0850	6/9/22
300195481	FB - FINISHED WATER	6/8/2022 0850	6/9/22

Case Narrative and Comments

All QC passes criteria unless noted in a Comment below.

Samples were received at the appropriate temperature and in accordance with the chain of custody unless noted.

E = Exceeds calibration range

ND = Non Detect

FB = Field Blank

RL = Minimum Reporting Level

MDL = Method Detection Limit

J = The reported result is below RL but greater than the MDL. The reported result is an estimate.

Massachusetts samples for required water quality sampling are included.

Samples and FBs were received in bottles with preservatives Trizma HCL & Trizma base per method requirements.

"FB" added at beginning/end designates "Field Blank" (Field Reagent Blank) for associated Customer ID sample. Field Blank analytes (unless noted) were shown to be less than 1/3 of the RL as per EPA537 or EPA537.1.

Method EPA537 or EPA537.1 Analyte Results, MDL and RL are adjusted to reflect the actual Final (mL) volume used.

<u>Method</u>	<u>CAS#</u>	<u>PFAS Analyte (Acronym)</u>
537, 537.1	1763-23-1	Perfluorooctanesulfonic acid (PFOS)
537, 537.1	335-67-1	Perfluorooctanoic acid (PFOA)
537, 537.1	355-46-4	Perfluorohexanesulfonic acid (PFHxS)
537, 537.1	375-95-1	Perfluorononanoic acid (PFNA)
537, 537.1	375-85-9	Perfluoroheptanoic acid (PFHpA)
537, 537.1	335-76-2	Perfluorodecanoic acid (PFDA)
537, 537.1	375-73-5	Perfluorobutanesulfonic acid (PFBS)
537, 537.1	307-55-1	Perfluorododecanoic acid (PFDoA)
537, 537.1	307-24-4	Perfluorohexanoic acid (PFHxA)
537, 537.1	376-06-7	Perfluorotetradecanoic acid (PFTA)
537, 537.1	72629-94-8	Perfluorotridecanoic acid (PFTrDA)
537, 537.1	2058-94-8	Perfluoroundecanoic acid (PFUnA)
537, 537.1	2991-50-6	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537, 537.1	2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537.1	763051-92-9	11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)
537.1	756426-58-1	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)
537.1	919005-14-4	4,8-dioxa-3H-perfluorononanoic acid (ADONA)
537.1	13252-13-6	Hexafluoropropylene oxide dimer acid (HFPO-DA)

PFAS6 (MassDEP) = sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA (only include Results at or above the RL)

Note:

IS3 = Sample# 300195479 FB for EPA 537: fails high for d3-NMeFOSAA internal standard recovery. The associated Analytes and Surrogate are qualified with "IS3" to indicate the suspect data.

Regional Water Authority

90 Sargent Drive • New Haven, Connecticut 06511-5966
 203-401-6743 or 877-894-5773 (Telephone) • Website: www.rwater.com

Sample ID: 300195478

Customer ID: RAW WATER

Collection Date: 06/08/2022 9:00

PWS ID# / LOC ID#:

Project: FEE-RANDOLPHHOLBROOK-22-000006

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	2.42	0.89	2.0	ng/L	1		EPA537	6/17/22 2245	CSS
PFHxA	307-24-4	4.61	0.68	2.0	ng/L	1		EPA537	6/17/22 2245	CSS
PFHpA	375-85-9	2.64	0.62	2.0	ng/L	1		EPA537	6/17/22 2245	CSS
PFHxS	355-46-4	3.05	0.90	2.0	ng/L	1		EPA537	6/17/22 2245	CSS
PFOA	335-67-1	5.99	0.72	2.0	ng/L	1		EPA537	6/17/22 2245	CSS
PFOS	1763-23-1	11.42	0.89	2.0	ng/L	1		EPA537	6/17/22 2245	CSS
PFNA	375-95-1	1.15	0.63	2.0	ng/L	1	J	EPA537	6/17/22 2245	CSS
PFDA	335-76-2	ND	0.72	2.0	ng/L	1		EPA537	6/17/22 2245	CSS
PFUnA	2058-94-8	ND	0.91	2.0	ng/L	1		EPA537	6/17/22 2245	CSS
NMeFOSAA	2355-31-9	ND	1.19	2.0	ng/L	1		EPA537	6/17/22 2245	CSS
NEtFOSAA	2991-50-6	ND	1.03	2.0	ng/L	1		EPA537	6/17/22 2245	CSS
PFDoA	307-55-1	ND	0.83	2.0	ng/L	1		EPA537	6/17/22 2245	CSS
PFTTrDA	72629-94-8	ND	0.90	2.0	ng/L	1		EPA537	6/17/22 2245	CSS
PFTA	376-06-7	ND	0.97	2.0	ng/L	1		EPA537	6/17/22 2245	CSS
PFAS6 (MassDEP)		23.10	2.00	2.00	ng/L					
Surrogates										
13C-PFHxA (SUR) % Recovery			99.71				70 - 130			Pass
13C-PFDA (SUR) % Recovery			95.68				70 - 130			Pass
d5-NEtFOSAA (SUR) % Recovery			89.42				70 - 130			Pass

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300195478	PFAS_537	537_EXT-220610-1	250	06/10/2022

Regional Water Authority

90 Sargent Drive • New Haven, Connecticut 06511-5966
 203-401-6743 or 877-894-5773 (Telephone) • Website: www.rwater.com

Sample ID: 300195479

Customer ID: FB - RAW WATER

Collection Date: 06/08/2022 9:00

PWS ID# / LOC ID#:

Project: FEE-RANDOLPHHOLBROOK-22-000006

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	ND	0.89	2.0	ng/L	1		EPA537	6/17/22 2258	CSS
PFHxA	307-24-4	ND	0.68	2.0	ng/L	1		EPA537	6/17/22 2258	CSS
PFHpA	375-85-9	ND	0.62	2.0	ng/L	1		EPA537	6/17/22 2258	CSS
PFHxS	355-46-4	ND	0.90	2.0	ng/L	1		EPA537	6/17/22 2258	CSS
PFOA	335-67-1	ND	0.72	2.0	ng/L	1		EPA537	6/17/22 2258	CSS
PFOS	1763-23-1	ND	0.89	2.0	ng/L	1		EPA537	6/17/22 2258	CSS
PFNA	375-95-1	ND	0.63	2.0	ng/L	1		EPA537	6/17/22 2258	CSS
PFDA	335-76-2	ND	0.72	2.0	ng/L	1		EPA537	6/17/22 2258	CSS
PFUnA	2058-94-8	ND	0.91	2.0	ng/L	1		EPA537	6/17/22 2258	CSS
NMeFOSAA	2355-31-9	ND	1.19	2.0	ng/L	1	IS3	EPA537	6/17/22 2258	CSS
NEtFOSAA	2991-50-6	ND	1.03	2.0	ng/L	1	IS3	EPA537	6/17/22 2258	CSS
PFDoA	307-55-1	ND	0.83	2.0	ng/L	1		EPA537	6/17/22 2258	CSS
PFTTrDA	72629-94-8	ND	0.90	2.0	ng/L	1		EPA537	6/17/22 2258	CSS
PFTA	376-06-7	ND	0.97	2.0	ng/L	1		EPA537	6/17/22 2258	CSS
PFAS6 (MassDEP)		ND	2.00	2.00	ng/L					
Surrogates		Qualifier	Results	Recovery Limits	Pass/Fail					
13C-PFHxA (SUR) % Recovery			91.83	70 - 130	Pass					
13C-PFDA (SUR) % Recovery			94.44	70 - 130	Pass					
d5-NEtFOSAA (SUR) % Recovery		IS3	86.53	70 - 130	Pass					

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300195479	PFAS_537	537_EXT-220610-1	250	06/10/2022

Regional Water Authority

90 Sargent Drive • New Haven, Connecticut 06511-5966
 203-401-6743 or 877-894-5773 (Telephone) • Website: www.rwater.com

Sample ID: 300195480

Customer ID: FINISHED WATER

Collection Date: 06/08/2022 8:50

PWS ID# / LOC ID#: 4244001 / 10296

Project: FEE-RANDOLPHHOLBROOK-22-000006

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	2.61	0.89	2.0	ng/L	1		EPA537	6/17/22 2310	CSS
PFHxA	307-24-4	3.99	0.68	2.0	ng/L	1		EPA537	6/17/22 2310	CSS
PFHpA	375-85-9	2.36	0.62	2.0	ng/L	1		EPA537	6/17/22 2310	CSS
PFHxS	355-46-4	3.05	0.90	2.0	ng/L	1		EPA537	6/17/22 2310	CSS
PFOA	335-67-1	5.59	0.72	2.0	ng/L	1		EPA537	6/17/22 2310	CSS
PFOS	1763-23-1	8.66	0.89	2.0	ng/L	1		EPA537	6/17/22 2310	CSS
PFNA	375-95-1	1.01	0.63	2.0	ng/L	1	J	EPA537	6/17/22 2310	CSS
PFDA	335-76-2	ND	0.72	2.0	ng/L	1		EPA537	6/17/22 2310	CSS
PFUnA	2058-94-8	ND	0.91	2.0	ng/L	1		EPA537	6/17/22 2310	CSS
NMeFOSAA	2355-31-9	ND	1.19	2.0	ng/L	1		EPA537	6/17/22 2310	CSS
NEtFOSAA	2991-50-6	ND	1.03	2.0	ng/L	1		EPA537	6/17/22 2310	CSS
PFDoA	307-55-1	ND	0.83	2.0	ng/L	1		EPA537	6/17/22 2310	CSS
PFTTrDA	72629-94-8	ND	0.90	2.0	ng/L	1		EPA537	6/17/22 2310	CSS
PFTA	376-06-7	ND	0.97	2.0	ng/L	1		EPA537	6/17/22 2310	CSS
PFAS6 (MassDEP)		19.66	2.00	2.00	ng/L					
Surrogates										
13C-PFHxA (SUR) % Recovery			106.40			70 - 130				Pass
13C-PFDA (SUR) % Recovery			106.92			70 - 130				Pass
d5-NEtFOSAA (SUR) % Recovery			97.87			70 - 130				Pass

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300195480	PFAS_537	537_EXT-220610-1	250	06/10/2022

Regional Water Authority

90 Sargent Drive • New Haven, Connecticut 06511-5966
 203-401-6743 or 877-894-5773 (Telephone) • Website: www.rwater.com

Sample ID: 300195481

Customer ID: FB - FINISHED WATER

Collection Date: 06/08/2022 8:50

PWS ID# / LOC ID#:

Project: FEE-RANDOLPHHOLBROOK-22-000006

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	ND	0.87	1.96	ng/L	0.98		EPA537	6/17/22 2323	CSS
PFHxA	307-24-4	ND	0.67	1.96	ng/L	0.98		EPA537	6/17/22 2323	CSS
PFHpA	375-85-9	ND	0.61	1.96	ng/L	0.98		EPA537	6/17/22 2323	CSS
PFHxS	355-46-4	ND	0.88	1.96	ng/L	0.98		EPA537	6/17/22 2323	CSS
PFOA	335-67-1	ND	0.71	1.96	ng/L	0.98		EPA537	6/17/22 2323	CSS
PFOS	1763-23-1	ND	0.87	1.96	ng/L	0.98		EPA537	6/17/22 2323	CSS
PFNA	375-95-1	ND	0.62	1.96	ng/L	0.98		EPA537	6/17/22 2323	CSS
PFDA	335-76-2	ND	0.71	1.96	ng/L	0.98		EPA537	6/17/22 2323	CSS
PFUnA	2058-94-8	ND	0.89	1.96	ng/L	0.98		EPA537	6/17/22 2323	CSS
NMeFOSAA	2355-31-9	ND	1.17	1.96	ng/L	0.98		EPA537	6/17/22 2323	CSS
NEtFOSAA	2991-50-6	ND	1.01	1.96	ng/L	0.98		EPA537	6/17/22 2323	CSS
PFDoA	307-55-1	ND	0.81	1.96	ng/L	0.98		EPA537	6/17/22 2323	CSS
PFTTrDA	72629-94-8	ND	0.88	1.96	ng/L	0.98		EPA537	6/17/22 2323	CSS
PFTA	376-06-7	ND	0.95	1.96	ng/L	0.98		EPA537	6/17/22 2323	CSS
PFAS6 (MassDEP)		ND	1.96	1.96	ng/L					
Surrogates			Results		Recovery Limits		Pass/Fail			
13C-PFHxA (SUR) % Recovery			102.76		70 - 130		Pass			
13C-PFDA (SUR) % Recovery			107.82		70 - 130		Pass			
d5-NEtFOSAA (SUR) % Recovery			91.73		70 - 130		Pass			

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300195481	PFAS_537	537_EXT-220610-1	256	06/10/2022

South Central Connecticut Regional Water Authority PFAS QA/QC Summary

Extraction Batch QC for: EPA 537

MA Lab Cert.#: M-CT004

Extraction Batch Date: 6/10/2022

Sample ID for LFSM/LFSMD: 300195219

Analyte	LFSM %Recovery	LFSMD %Recovery	RPD of LFSM/LFSMD	LRB (MRL is 2)		LFB 60 ng/L %Recovery
	Acceptance Range 70-130%	Acceptance Range 70-130%	Acceptance Limit <30%	Result, ng/L	Meets < 1/3 of MRL criteria?	Acceptance Range 70-130%
PFBS	107.0	107.7	0.6	N.D.	[Y]	99.4
PFHxA	96.2	105.8	8.5	N.D.	[Y]	109.9
PFHpA	103.6	103.7	0.1	N.D.	[Y]	103.2
PFHxS	108.0	108.4	0.3	N.D.	[Y]	98.9
PFOA	104.7	107.1	2.0	N.D.	[Y]	112.2
PFOS	100.5	99.9	0.6	N.D.	[Y]	94.5
PFNA	103.1	100.3	2.6	N.D.	[Y]	103.3
PFDA	105.7	109.7	3.7	N.D.	[Y]	105.9
PFUnA	106.2	103.3	2.7	N.D.	[Y]	111.8
NMeFOSAA	99.3	95.0	4.4	N.D.	[Y]	104.2
NEtFOSAA	111.2	95.5	15.1	N.D.	[Y]	98.6
PFDoA	107.2	92.0	14.7	N.D.	[Y]	98.8
PFTTrDA	104.6	93.9	10.3	N.D.	[Y]	104.1
PFTA	113.2	99.4	12.9	N.D.	[Y]	110.0

Surrogate %Recovery

¹³ C ₂ -PFHxA	¹³ C ₂ -PFDA	d ₅ -NEtFOSAA	
96.58	98.74	87.52	LFSM
107.02	110.13	93.80	LFSMD
106.85	101.38	84.03	LRB
109.34	101.52	108.86	LFB

Note: The Surrogate %Recovery for Samples and Poured Field Blanks is included on Final Reports.

All Batch QC passes method criteria unless noted in "Comments" section below
 Comments: The matrix spike data *is not* from a sample submitted on this Chain of Custody.

LRB = Laboratory Reagent Blank RPD = relative percent difference FB = Field Blank N.D. = non-detect
 LFB = Laboratory Fortified Blank MRL = Method Reporting Level Results are ng/L (ppt)
 LFSM = Laboratory Fortified Sample Matrix LFSM/LFSMD spike concentration is 20 ppt, unless noted otherwise
 LFSMD = Laboratory Fortified Sample Matrix Duplicate Surrogate Acceptance Limit is 70 - 130% Recovery