



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

Laboratory Certification IDs

CT: PH-0411, NH: 2239, NY: 11867, PA: 68-05519, RI: LAO00339, MA: M-CT004
See website, www.rwalab.com/rwa-lab-certifications, for certified analyte list.

Client: Paul Hennessy
Randolph-Holbrook Joint Water

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ANALYTICAL REPORT

Project: FEE-RANDOLPHHOLBROOK-23-000003

Report Date: 2/9/2023

13.15

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



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SAMPLE SUMMARY

Sample ID	Customer ID	Collection Date/Time	Receipt Date
300303247	RAW	1/30/2023 1100	1/31/23
300303248	FB - RAW	1/30/2023 1100	1/31/23
300303249	FINISHED	1/30/2023 1100	1/31/23
300303250	FB - FINISHED	1/30/2023 1100	1/31/23

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.

Method EPA537 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	1763-23-1	Perfluorooctanesulfonic acid (PFOS)
537	335-67-1	Perfluorooctanoic acid (PFOA)
537	355-46-4	Perfluorohexanesulfonic acid (PFHxS)
537	375-95-1	Perfluorononanoic acid (PFNA)
537	375-85-9	Perfluorohexanoic acid (PFHpA)
537	335-76-2	Perfluorodecanoic acid (PFDA)
537	375-73-5	Perfluorobutanesulfonic acid (PFBS)
537	307-55-1	Perfluorododecanoic acid (PFDoA)
537	307-24-4	Perfluorohexanoic acid (PFHxA)
537	376-06-7	Perfluorotetradecanoic acid (PFTA)
537	72629-94-8	Perfluorotridecanoic acid (PFTTrDA)
537	2058-94-8	Perfluoroundecanoic acid (PFUnA)
537	2991-50-6	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537	2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)

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

MassDEP has established a maximum contaminant level (MCL) of 20 ng/L for PFAS6.

Sample ID: 300303247

Customer ID: RAW

Collection Date: 01/30/2023 11:00

PWS ID# / LOC ID#:

Project: FEE-RANDOLPHHOLBROOK-23-000003

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	1.0		EPA537	2/7/23 0053	CSS
PFHxA	307-24-4	3.62	0.68	2.0	ng/L	1.0		EPA537	2/7/23 0053	CSS
PFHpA	375-85-9	2.29	0.62	2.0	ng/L	1.0		EPA537	2/7/23 0053	CSS
PFHxS	355-46-4	3.39	0.90	2.0	ng/L	1.0		EPA537	2/7/23 0053	CSS
PFOA	335-67-1	5.35	0.72	2.0	ng/L	1.0		EPA537	2/7/23 0053	CSS
PFOS	1763-23-1	7.88	0.89	2.0	ng/L	1.0		EPA537	2/7/23 0053	CSS
PFNA	375-95-1	1.03	0.63	2.0	ng/L	1.0	J	EPA537	2/7/23 0053	CSS
PFDA	335-76-2	ND	0.72	2.0	ng/L	1.0		EPA537	2/7/23 0053	CSS
PFUnA	2058-94-8	ND	0.91	2.0	ng/L	1.0		EPA537	2/7/23 0053	CSS
NMeFOSAA	2355-31-9	ND	1.19	2.0	ng/L	1.0		EPA537	2/7/23 0053	CSS
NEtFOSAA	2991-50-6	ND	1.03	2.0	ng/L	1.0		EPA537	2/7/23 0053	CSS
PFDaA	307-55-1	ND	0.83	2.0	ng/L	1.0		EPA537	2/7/23 0053	CSS
PFTTrDA	72629-94-8	ND	0.90	2.0	ng/L	1.0		EPA537	2/7/23 0053	CSS
PFTA	376-06-7	ND	0.97	2.0	ng/L	1.0		EPA537	2/7/23 0053	CSS
PFAS6 (MassDEP)		18.91	2.00	2.00	ng/L	1.0				
Surrogates		Results		Recovery Limits		Pass/Fail				
13C-PFHxA (SUR) % Recovery		107.74		70 - 130		Pass				
13C-PFDA (SUR) % Recovery		103.34		70 - 130		Pass				
d5-NEtFOSAA (SUR) % Recovery		91.52		70 - 130		Pass				

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300303247	PFAS_537	537_EXT-230202-1	250	02/02/2023

Sample ID: 300303248

Customer ID: FB - RAW

Collection Date: 01/30/2023 11:00

PWS ID# / LOC ID#:

Project: FEE-RANDOLPHHOLBROOK-23-000003

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	ND	0.89	2.0	ng/L	1.0		EPA537	2/7/23 0106	CSS
PFHxA	307-24-4	ND	0.68	2.0	ng/L	1.0		EPA537	2/7/23 0106	CSS
PFHpA	375-85-9	ND	0.62	2.0	ng/L	1.0		EPA537	2/7/23 0106	CSS
PFHxS	355-46-4	ND	0.90	2.0	ng/L	1.0		EPA537	2/7/23 0106	CSS
PFOA	335-67-1	ND	0.72	2.0	ng/L	1.0		EPA537	2/7/23 0106	CSS
PFOS	1763-23-1	ND	0.89	2.0	ng/L	1.0		EPA537	2/7/23 0106	CSS
PFNA	375-95-1	ND	0.63	2.0	ng/L	1.0		EPA537	2/7/23 0106	CSS
PFDA	335-76-2	ND	0.72	2.0	ng/L	1.0		EPA537	2/7/23 0106	CSS
PFUnA	2058-94-8	ND	0.91	2.0	ng/L	1.0		EPA537	2/7/23 0106	CSS
NMeFOSAA	2355-31-9	ND	1.19	2.0	ng/L	1.0		EPA537	2/7/23 0106	CSS
NEtFOSAA	2991-50-6	ND	1.03	2.0	ng/L	1.0		EPA537	2/7/23 0106	CSS
PFDoA	307-55-1	ND	0.83	2.0	ng/L	1.0		EPA537	2/7/23 0106	CSS
PFTTrDA	72629-94-8	ND	0.90	2.0	ng/L	1.0		EPA537	2/7/23 0106	CSS
PFTA	376-06-7	ND	0.97	2.0	ng/L	1.0		EPA537	2/7/23 0106	CSS
PFAS6 (MassDEP)		ND	2.00	2.00	ng/L	1.0				
Surrogates		Results		Recovery Limits		Pass/Fail				
13C-PFHxA (SUR) % Recovery		94.67		70 - 130		Pass				
13C-PFDA (SUR) % Recovery		84.46		70 - 130		Pass				
d5-NEtFOSAA (SUR) % Recovery		73.49		70 - 130		Pass				

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300303248	PFAS_537	537_EXT-230202-1	250	02/02/2023

Sample ID: 300303249

Customer ID: FINISHED

Collection Date: 01/30/2023 11:00

PWS ID# / LOC ID#: 4244001 / 10296

Project: FEE-RANDOLPHHOLBROOK-23-000003

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	2.25	0.89	2.0	ng/L	1.0		EPA537	2/7/23 0118	CSS
PFHxA	307-24-4	3.23	0.68	2.0	ng/L	1.0		EPA537	2/7/23 0118	CSS
PFHpA	375-85-9	1.88	0.62	2.0	ng/L	1.0	J	EPA537	2/7/23 0118	CSS
PFHxS	355-46-4	2.28	0.90	2.0	ng/L	1.0		EPA537	2/7/23 0118	CSS
PFOA	335-67-1	4.31	0.72	2.0	ng/L	1.0		EPA537	2/7/23 0118	CSS
PFOS	1763-23-1	6.56	0.89	2.0	ng/L	1.0		EPA537	2/7/23 0118	CSS
PFNA	375-95-1	0.82	0.63	2.0	ng/L	1.0	J	EPA537	2/7/23 0118	CSS
PFDA	335-76-2	ND	0.72	2.0	ng/L	1.0		EPA537	2/7/23 0118	CSS
PFUnA	2058-94-8	ND	0.91	2.0	ng/L	1.0		EPA537	2/7/23 0118	CSS
NMeFOSAA	2355-31-9	ND	1.19	2.0	ng/L	1.0		EPA537	2/7/23 0118	CSS
NEtFOSAA	2991-50-6	ND	1.03	2.0	ng/L	1.0		EPA537	2/7/23 0118	CSS
PFDoA	307-55-1	ND	0.83	2.0	ng/L	1.0		EPA537	2/7/23 0118	CSS
PFTTrDA	72629-94-8	ND	0.90	2.0	ng/L	1.0		EPA537	2/7/23 0118	CSS
PFTA	376-06-7	ND	0.97	2.0	ng/L	1.0		EPA537	2/7/23 0118	CSS
PFAS6 (MassDEP)		13.15	2.00	2.00	ng/L	1.0				
Surrogates					Results	Recovery Limits		Pass/Fail		
13C-PFHxA (SUR) % Recovery					102.56	70 - 130		Pass		
13C-PFDA (SUR) % Recovery					88.10	70 - 130		Pass		
d5-NEtFOSAA (SUR) % Recovery					78.53	70 - 130		Pass		

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300303249	PFAS_537	537_EXT-230202-1	250	02/02/2023

Sample ID: 300303250

Customer ID: FB - FINISHED

Collection Date: 01/30/2023 11:00

PWS ID# / LOC ID#:

Project: FEE-RANDOLPHHOLBROOK-23-000003

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	ND	0.89	2.0	ng/L	1.0		EPA537	2/7/23 0131	CSS
PFHxA	307-24-4	ND	0.68	2.0	ng/L	1.0		EPA537	2/7/23 0131	CSS
PFHpA	375-85-9	ND	0.62	2.0	ng/L	1.0		EPA537	2/7/23 0131	CSS
PFHxS	355-46-4	ND	0.90	2.0	ng/L	1.0		EPA537	2/7/23 0131	CSS
PFOA	335-67-1	ND	0.72	2.0	ng/L	1.0		EPA537	2/7/23 0131	CSS
PFOS	1763-23-1	ND	0.89	2.0	ng/L	1.0		EPA537	2/7/23 0131	CSS
PFNA	375-95-1	ND	0.63	2.0	ng/L	1.0		EPA537	2/7/23 0131	CSS
PFDA	335-76-2	ND	0.72	2.0	ng/L	1.0		EPA537	2/7/23 0131	CSS
PFUnA	2058-94-8	ND	0.91	2.0	ng/L	1.0		EPA537	2/7/23 0131	CSS
NMeFOSAA	2355-31-9	ND	1.19	2.0	ng/L	1.0		EPA537	2/7/23 0131	CSS
NEtFOSAA	2991-50-6	ND	1.03	2.0	ng/L	1.0		EPA537	2/7/23 0131	CSS
PFDoA	307-55-1	ND	0.83	2.0	ng/L	1.0		EPA537	2/7/23 0131	CSS
PFTDA	72629-94-8	ND	0.90	2.0	ng/L	1.0		EPA537	2/7/23 0131	CSS
PFTA	376-06-7	ND	0.97	2.0	ng/L	1.0		EPA537	2/7/23 0131	CSS
PFAS6 (MassDEP)		ND	2.00	2.00	ng/L	1.0				
Surrogates		Results		Recovery Limits		Pass/Fail				
13C-PFHxA (SUR) % Recovery		118.96		70 - 130		Pass				
13C-PFDA (SUR) % Recovery		104.09		70 - 130		Pass				
d5-NEtFOSAA (SUR) % Recovery		103.19		70 - 130		Pass				

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300303250	PFAS_537	537_EXT-230202-1	250	02/02/2023

South Central Connecticut Regional Water Authority PFAS QA/QC Summary

Extraction Batch QC for: EPA 537

MA Lab Cert.#: M-CT004

Extraction Batch Date: 2/2/2023

Sample ID for LFSM/LFSMD: 300303854

Analyte	LFSM %Recovery	LFSMD %Recovery	RPD of LFSM/LFSMD	LRB (MRL is 2)		LFB 20 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	104.4	88.3	14.5	ND	[Y]	101.5
PFHxA	141.0 *	103.3	26.8	ND	[Y]	120.8
PFHpA	112.8	96.5	14.3	ND	[Y]	109.6
PFHxS	114.4	118.9	3.5	ND	[Y]	120.6
PFOA	114.0	103.9	7.6	ND	[Y]	110.0
PFOS	116.4	104.2	8.9	ND	[Y]	106.6
PFNA	115.1	102.9	10.8	ND	[Y]	112.5
PFDA	111.9	101.3	9.9	ND	[Y]	109.1
PFUnA	103.2	91.9	11.5	ND	[Y]	97.0
NMeFOSAA	92.7	74.4	21.9	ND	[Y]	102.0
NEtFOSAA	102.8	84.8	19.1	ND	[Y]	106.1
PFDoA	107.6	98.2	9.1	ND	[Y]	103.5
PFTTrDA	106.5	99.8	6.5	ND	[Y]	110.4
PFTA	102.3	103.9	1.6	ND	[Y]	107.5

Surrogate %Recovery

¹³ C ₂ -PFHxA	¹³ C ₂ -PFDA	d ₅ -NEtFOSAA	
117.5	103.4	100.7	LFSM
99.4	97.9	77.4	LFSMD
115.8	99.7	90.8	LRB
101.1	97.5	96.6	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.

* LFSM fails high %REC for PFHxA. The LFSMD passes for %REC and RPD. A comment was added to the other client's Project that PFHxA result was suspect/matrix.

LRB = Laboratory Reagent Blank

RPD = relative percent difference

FB = Field Blank

ND = 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 ng/L, unless noted otherwise

LFSMD = Laboratory Fortified Sample Matrix Duplicate

Surrogate Acceptance Limit is 70 - 130 %Recovery

