

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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Randolph, MA 02368

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ANALYTICAL REPORT

Project: FEE-RANDOLPHHOLBROOK-23-000006

Report Date: 5/10/2023

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
300328115	RAW	4/3/2023 1100	4/4/23
300328116	FB - RAW	4/3/2023 1100	4/4/23
300328117	FINISHED	4/3/2023 1100	4/4/23
300328118	FB - FINISHED	4/3/2023 1100	4/4/23

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	Perfluorohepatanoic 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 (PFTrDA)
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: 300328115

Customer ID: RAW

Collection Date: 04/03/2023 11:00

PWS ID# / LOC ID#:

Project: FEE-RANDOLPHHOLBROOK-23-000006

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	2.31	0.89	2.0	ng/L	1.0		EPA537	4/12/23 1637	CSS
PFHxA	307-24-4	3.26	0.68	2.0	ng/L	1.0		EPA537	4/12/23 1637	CSS
PFHpA	375-85-9	1.84	0.62	2.0	ng/L	1.0	J	EPA537	4/12/23 1637	CSS
PFHxS	355-46-4	2.44	0.90	2.0	ng/L	1.0		EPA537	4/12/23 1637	CSS
PFOA	335-67-1	4.26	0.72	2.0	ng/L	1.0		EPA537	4/12/23 1637	CSS
PFOS	1763-23-1	5.88	0.89	2.0	ng/L	1.0		EPA537	4/12/23 1637	CSS
PFNA	375-95-1	0.73	0.63	2.0	ng/L	1.0	J	EPA537	4/12/23 1637	CSS
PFDA	335-76-2	ND	0.72	2.0	ng/L	1.0		EPA537	4/12/23 1637	CSS
PFUnA	2058-94-8	ND	0.91	2.0	ng/L	1.0		EPA537	4/12/23 1637	CSS
NMeFOSAA	2355-31-9	ND	1.19	2.0	ng/L	1.0		EPA537	4/12/23 1637	CSS
NEtFOSAA	2991-50-6	ND	1.03	2.0	ng/L	1.0		EPA537	4/12/23 1637	CSS
PFDoA	307-55-1	ND	0.83	2.0	ng/L	1.0		EPA537	4/12/23 1637	CSS
PFTrDA	72629-94-8	ND	0.90	2.0	ng/L	1.0		EPA537	4/12/23 1637	CSS
PFTA	376-06-7	ND	0.97	2.0	ng/L	1.0		EPA537	4/12/23 1637	CSS
PFAS6 (MassDEP)		12.58	2.00	2.00	ng/L	1.0				
Surrogates				Results	Recovery Limits		Pass/Fail			
13C-PFHxA (SUR) % Recovery				106.70	70 - 130		Pass			
13C-PFDA (SUR) % Recovery				105.00	70 - 130		Pass			
d5-NEtFOSAA (SUR) % Recovery				95.30	70 - 130		Pass			

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300328115	PFAS_537	537_EXT-230410-1	250	04/10/2023

Sample ID: 300328116

Customer ID: FB - RAW

Collection Date: 04/03/2023 11:00

PWS ID# / LOC ID#:

Project: FEE-RANDOLPHHOLBROOK-23-000006

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	ND	0.89	2.0	ng/L	1.0		EPA537	4/12/23 1651	CSS
PFHxA	307-24-4	ND	0.68	2.0	ng/L	1.0		EPA537	4/12/23 1651	CSS
PFHpA	375-85-9	ND	0.62	2.0	ng/L	1.0		EPA537	4/12/23 1651	CSS
PFHxS	355-46-4	ND	0.90	2.0	ng/L	1.0		EPA537	4/12/23 1651	CSS
PFOA	335-67-1	ND	0.72	2.0	ng/L	1.0		EPA537	4/12/23 1651	CSS
PFOS	1763-23-1	ND	0.89	2.0	ng/L	1.0		EPA537	4/12/23 1651	CSS
PFNA	375-95-1	ND	0.63	2.0	ng/L	1.0		EPA537	4/12/23 1651	CSS
PFDA	335-76-2	ND	0.72	2.0	ng/L	1.0		EPA537	4/12/23 1651	CSS
PFUnA	2058-94-8	ND	0.91	2.0	ng/L	1.0		EPA537	4/12/23 1651	CSS
NMeFOSAA	2355-31-9	ND	1.19	2.0	ng/L	1.0		EPA537	4/12/23 1651	CSS
NEtFOSAA	2991-50-6	ND	1.03	2.0	ng/L	1.0		EPA537	4/12/23 1651	CSS
PFDoA	307-55-1	ND	0.83	2.0	ng/L	1.0		EPA537	4/12/23 1651	CSS
PFTrDA	72629-94-8	ND	0.90	2.0	ng/L	1.0		EPA537	4/12/23 1651	CSS
PFTA	376-06-7	ND	0.97	2.0	ng/L	1.0		EPA537	4/12/23 1651	CSS
PFAS6 (MassDEP)		ND	2.00	2.00	ng/L	1.0				
Surrogates		Results	Recovery Limits		Pass/Fail					
13C-PFHxA (SUR) % Recovery		109.40	70 - 130		Pass					
13C-PFDA (SUR) % Recovery		95.80	70 - 130		Pass					
d5-NEtFOSAA (SUR) % Recovery		77.20	70 - 130		Pass					

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300328116	PFAS_537	537_EXT-230410-1	250	04/10/2023

Sample ID: 300328117

Customer ID: FINISHED

Collection Date: 04/03/2023 11:00

PWS ID# / LOC ID#: 4244001 / 10296

Project: FEE-RANDOLPHHOLBROOK-23-000006

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	2.40	0.89	2.0	ng/L	1.0		EPA537	4/12/23 1706	CSS
PFHxA	307-24-4	3.09	0.68	2.0	ng/L	1.0		EPA537	4/12/23 1706	CSS
PFHpA	375-85-9	2.01	0.62	2.0	ng/L	1.0		EPA537	4/12/23 1706	CSS
PFHxS	355-46-4	2.49	0.90	2.0	ng/L	1.0		EPA537	4/12/23 1706	CSS
PFOA	335-67-1	4.02	0.72	2.0	ng/L	1.0		EPA537	4/12/23 1706	CSS
PFOS	1763-23-1	6.40	0.89	2.0	ng/L	1.0		EPA537	4/12/23 1706	CSS
PFNA	375-95-1	0.68	0.63	2.0	ng/L	1.0	J	EPA537	4/12/23 1706	CSS
PFDA	335-76-2	ND	0.72	2.0	ng/L	1.0		EPA537	4/12/23 1706	CSS
PFUnA	2058-94-8	ND	0.91	2.0	ng/L	1.0		EPA537	4/12/23 1706	CSS
NMeFOSAA	2355-31-9	ND	1.19	2.0	ng/L	1.0		EPA537	4/12/23 1706	CSS
NEtFOSAA	2991-50-6	ND	1.03	2.0	ng/L	1.0		EPA537	4/12/23 1706	CSS
PFDoA	307-55-1	ND	0.83	2.0	ng/L	1.0		EPA537	4/12/23 1706	CSS
PFTrDA	72629-94-8	ND	0.90	2.0	ng/L	1.0		EPA537	4/12/23 1706	CSS
PFTA	376-06-7	ND	0.97	2.0	ng/L	1.0		EPA537	4/12/23 1706	CSS
PFAS6 (MassDEP)		14.92	2.00	2.00	ng/L	1.0				
Surrogates		Results	Recovery Limits		Pass/Fail					
13C-PFHxA (SUR) % Recovery		98.00	70 - 130		Pass					
13C-PFDA (SUR) % Recovery		90.50	70 - 130		Pass					
d5-NEtFOSAA (SUR) % Recovery		74.90	70 - 130		Pass					

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300328117	PFAS_537	537_EXT-230410-1	250	04/10/2023

Sample ID: 300328118

Customer ID: FB - FINISHED

Collection Date: 04/03/2023 11:00

PWS ID# / LOC ID#:

Project: FEE-RANDOLPHHOLBROOK-23-000006

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	ND	0.89	2.0	ng/L	1.0		EPA537	4/12/23 1720	CSS
PFHxA	307-24-4	ND	0.68	2.0	ng/L	1.0		EPA537	4/12/23 1720	CSS
PFHpA	375-85-9	ND	0.62	2.0	ng/L	1.0		EPA537	4/12/23 1720	CSS
PFHxS	355-46-4	ND	0.90	2.0	ng/L	1.0		EPA537	4/12/23 1720	CSS
PFOA	335-67-1	ND	0.72	2.0	ng/L	1.0		EPA537	4/12/23 1720	CSS
PFOS	1763-23-1	ND	0.89	2.0	ng/L	1.0		EPA537	4/12/23 1720	CSS
PFNA	375-95-1	ND	0.63	2.0	ng/L	1.0		EPA537	4/12/23 1720	CSS
PFDA	335-76-2	ND	0.72	2.0	ng/L	1.0		EPA537	4/12/23 1720	CSS
PFUnA	2058-94-8	ND	0.91	2.0	ng/L	1.0		EPA537	4/12/23 1720	CSS
NMeFOSAA	2355-31-9	ND	1.19	2.0	ng/L	1.0		EPA537	4/12/23 1720	CSS
NEtFOSAA	2991-50-6	ND	1.03	2.0	ng/L	1.0		EPA537	4/12/23 1720	CSS
PFDoA	307-55-1	ND	0.83	2.0	ng/L	1.0		EPA537	4/12/23 1720	CSS
PFTrDA	72629-94-8	ND	0.90	2.0	ng/L	1.0		EPA537	4/12/23 1720	CSS
PFTA	376-06-7	ND	0.97	2.0	ng/L	1.0		EPA537	4/12/23 1720	CSS
PFAS6 (MassDEP)		ND	2.00	2.00	ng/L	1.0				
Surrogates		Results	Recovery Limits		Pass/Fail					
13C-PFHxA (SUR) % Recovery		114.30	70 - 130		Pass					
13C-PFDA (SUR) % Recovery		101.40	70 - 130		Pass					
d5-NEtFOSAA (SUR) % Recovery		89.50	70 - 130		Pass					

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300328118	PFAS_537	537_EXT-230410-1	250	04/10/2023



90 Sargent Dr, New Haven, CT 06511
 Phone: 203-401-2700
 Fax: 203-401-6799

Chain of Custody Form

Company Name
**RANDOLPH/HOLBROOK
 JOINT WATER**

Company Address
**275 POND ST.
 RANDOLPH, MA 02368**

Sampler

PO Number

RWA LIMS Number	Date Collected	Time Collected	Sample ID / Sample Location	Number of Bottles
300328115	4/3/23	11AM	① RAW	5
117	4/3/23	11AM	② FINISHED	5

State Sample Collected:
 CT ___ NY ___ Other (specify) _____
 Thermometer ID: _____
 Evidence of Cooling (Circle): Y or N
 Cooler Temp °C: 3-7
 Container & Preservative Meet Criteria (Circle): Yes No

Remarks
Field Blank #
300328116
118
NOT FOR COMPLIANCE
MA DEP COMPLIANCE

Test Requested, Container, & Preservative
 EPA 537.1 - Poured Field Blank
 & Tris (Hydroxymethyl) Aminomethane
 EPA 537.1
 & Tris (Hydroxymethyl) Aminomethane
 250mL Plastic w/Tris Hydrochloride
 4
 EPA 537.1
 & Tris (Hydroxymethyl) Aminomethane
 250mL Plastic w/Tris Hydrochloride
 1

Comments:
 Lot # SUCNI 650
 Lot # 179099
Feb - Randolph Holbrook - 23 - 00006

Relinquished By (Signature): [Signature]
 Date & Time: 4/3/23 11:30 AM
 Relinquished by (Signature): Fed Ex
 Date & Time: 4/4/23 11:30 AM
 Received By (Signature): [Signature]
 Date & Time: 4/3/23 11:30 AM
 Received By (Signature): [Signature]
 Date & Time: 4/4/23 11:30 AM

South Central Connecticut Regional Water Authority PFAS QA/QC Summary

Extraction Batch QC for: EPA 537

MA Lab Cert.#: M-CT004

Extraction Batch Date: 4/10/2023

Sample ID for LFSM/LFSMD: 300327098

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	101.0	113.6	11.7	ND	[Y]	108.3
PFHxA	110.9	120.5	8.2	ND	[Y]	115.9
PFHpA	114.6	121.0	5.4	ND	[Y]	117.3
PFHxS	119.0	126.7	6.2	ND	[Y]	127.0
PFOA	96.1	107.6	10.8	ND	[Y]	106.4
PFOS	102.4	110.3	7.4	ND	[Y]	109.6
PFNA	104.8	117.3	11.3	ND	[Y]	108.0
PFDA	97.1	107.7	10.3	ND	[Y]	101.6
PFUnA	95.7	105.9	10.2	ND	[Y]	98.9
NMeFOSAA	95.1	91.0	4.4	ND	[Y]	91.9
NEtFOSAA	87.2	87.8	0.7	ND	[Y]	84.7
PFDoA	101.2	109.3	7.7	ND	[Y]	103.3
PFTTrDA	93.8	101.6	8.0	ND	[Y]	100.7
PFTA	95.7	100.6	5.0	ND	[Y]	99.2

Surrogate %Recovery

¹³ C ₂ -PFHxA	¹³ C ₂ -PFDA	d ₅ -NEtFOSAA	
104.30	90.60	72.40	LFSM
119.20	103.20	80.90	LFSMD
110.60	90.90	78.20	LRB
115.60	97.80	91.00	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

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