

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](http://www.rwalab.com/rwa-lab-certifications), for certified analyte list.

**Client:** Paul Hennessy  
Randolph-Holbrook Joint Water

275 Pond St  
Randolph, MA 02368

781-964-9292  
[phennessy@holbrookmassachusetts.us](mailto:phennessy@holbrookmassachusetts.us)

## ANALYTICAL REPORT

**Project: FEE-RANDOLPHHOLBROOK-24-000012**

**Report Date: 11/8/2024**

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.



Richard Sibley  
Laboratory Manager  
Technical Representative

**SAMPLE SUMMARY**

<b>Sample ID</b>	<b>Customer ID</b>	<b>Collection Date/Time</b>	<b>Receipt Date</b>
300616110	RAW	10/17/2024 1400	10/18/24
300616111	FIELD BLANK- RAW	10/17/2024 1400	10/18/24
300616112	FINISHED	10/17/2024 1400	10/18/24
300616113	FIELD BLANK - FINISHED	10/17/2024 1400	10/18/24

**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.

Method	CAS#	PFAS Analyte (Acronym)
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	Perfluorohepatanoic 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-PF3OUdS)
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)

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

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

Sample ID: 300616110

Customer ID: RAW

Collection Date: 10/17/2024 14:00

PWS ID# / LOC ID#: RAW

Project: FEE-RANDOLPHHOLBROOK-24-000012

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	2.21	0.97	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
PFHxA	307-24-4	3.59	0.77	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
HFPO-DA	13252-13-6	ND	1.16	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
PFHpA	375-85-9	1.89	0.71	2.04	ng/L	1.02	J	EPA537.1	10/25/24 0133	CSS
PFHxS	355-46-4	2.44	0.85	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
ADONA	919005-14-4	ND	0.64	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
PFOA	335-67-1	4.18	0.78	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
PFOS	1763-23-1	7.92	1.03	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
PFNA	375-95-1	0.99	0.73	2.04	ng/L	1.02	J	EPA537.1	10/25/24 0133	CSS
9CI-PF3ONS	756426-58-1	ND	0.86	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
PFDA	335-76-2	ND	0.77	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
PFUnA	2058-94-8	ND	0.96	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
11CI-PF3OUdS	763051-92-9	ND	1.06	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
NMeFOSAA	2355-31-9	ND	1.17	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
NEtFOSAA	2991-50-6	ND	1.17	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
PFDoA	307-55-1	ND	0.92	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
PFTrDA	72629-94-8	ND	0.95	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
PFTA	376-06-7	ND	1.06	2.04	ng/L	1.02		EPA537.1	10/25/24 0133	CSS
PFAS6 (MassDEP)		14.54	2.04	2.04	ng/L	1.02				
Surrogates		Results	Recovery Limits		Pass/Fail					
13C-PFHxA (SUR) % Recovery		113.80	70 - 130		Pass					
13C3-HFPO-DA (SUR) % Recovery		111.60	70 - 130		Pass					
13C-PFDA (SUR) % Recovery		94.40	70 - 130		Pass					
d5-NEtFOSAA (SUR) % Recovery		93.10	70 - 130		Pass					

**Sample Extraction Data:**

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300616110	PFAS_537	537_EXT-241021-1	244	10/21/2024

Sample ID: 300616111

Customer ID: Field Blank - Raw

Collection Date: 10/17/2024 14:00

PWS ID# / LOC ID#: FIELD BLANK

Project: FEE-RANDOLPHHOLBROOK-24-000012

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	ND	0.95	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
PFHxA	307-24-4	ND	0.75	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
HFPO-DA	13252-13-6	ND	1.14	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
PFHpA	375-85-9	ND	0.70	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
PFHxS	355-46-4	ND	0.83	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
ADONA	919005-14-4	ND	0.63	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
PFOA	335-67-1	ND	0.76	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
PFOS	1763-23-1	ND	1.01	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
PFNA	375-95-1	ND	0.72	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
9CI-PF3ONS	756426-58-1	ND	0.84	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
PFDA	335-76-2	ND	0.75	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
PFUnA	2058-94-8	ND	0.94	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
11CI-PF3OUdS	763051-92-9	ND	1.04	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
NMeFOSAA	2355-31-9	ND	1.15	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
NEtFOSAA	2991-50-6	ND	1.15	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
PFDoA	307-55-1	ND	0.90	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
PFTrDA	72629-94-8	ND	0.93	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
PFTA	376-06-7	ND	1.04	2.0	ng/L	1.0		EPA537.1	10/25/24 0149	CSS
PFAS6 (MassDEP)		ND	2.0	2.0	ng/L	1.0				
Surrogates		Results	Recovery Limits		Pass/Fail					
13C-PFHxA (SUR) % Recovery		102.40	70 - 130		Pass					
13C3-HFPO-DA (SUR) % Recovery		92.30	70 - 130		Pass					
13C-PFDA (SUR) % Recovery		106.20	70 - 130		Pass					
d5-NEtFOSAA (SUR) % Recovery		84.90	70 - 130		Pass					

**Sample Extraction Data:**

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300616111	PFAS_537	537_EXT-241021-1	250	10/21/2024

Sample ID: 300616112

Customer ID: Finished

Collection Date: 10/17/2024 14:00

PWS ID# / LOC ID#: 4244001/10296

Project: FEE-RANDOLPHHOLBROOK-24-000012

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	2.21	0.95	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
PFHxA	307-24-4	3.60	0.75	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
HFPO-DA	13252-13-6	ND	1.14	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
PFHpA	375-85-9	2.04	0.70	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
PFHxS	355-46-4	2.28	0.83	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
ADONA	919005-14-4	ND	0.63	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
PFOA	335-67-1	4.96	0.76	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
PFOS	1763-23-1	8.38	1.01	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
PFNA	375-95-1	0.94	0.72	2.0	ng/L	1.0	J	EPA537.1	10/25/24 0204	CSS
9CI-PF3ONS	756426-58-1	ND	0.84	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
PFDA	335-76-2	ND	0.75	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
PFUnA	2058-94-8	ND	0.94	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
11CI-PF3OUdS	763051-92-9	ND	1.04	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
NMeFOSAA	2355-31-9	ND	1.15	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
NEtFOSAA	2991-50-6	ND	1.15	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
PFDoA	307-55-1	ND	0.90	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
PFTrDA	72629-94-8	ND	0.93	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
PFTA	376-06-7	ND	1.04	2.0	ng/L	1.0		EPA537.1	10/25/24 0204	CSS
PFAS6 (MassDEP)		17.66	2.00	2.0	ng/L	1.0				
Surrogates		Results	Recovery Limits		Pass/Fail					
13C-PFHxA (SUR) % Recovery		112.30	70 - 130		Pass					
13C3-HFPO-DA (SUR) % Recovery		112.20	70 - 130		Pass					
13C-PFDA (SUR) % Recovery		112.10	70 - 130		Pass					
d5-NEtFOSAA (SUR) % Recovery		94.50	70 - 130		Pass					

**Sample Extraction Data:**

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300616112	PFAS_537	537_EXT-241021-1	250	10/21/2024

Sample ID: 300616113

Customer ID: Field Blank - Finished

Collection Date: 10/17/2024 14:00

PWS ID# / LOC ID#: FIELD BLANK

Project: FEE-RANDOLPHHOLBROOK-24-000012

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	ND	0.95	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
PFHxA	307-24-4	ND	0.75	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
HFPO-DA	13252-13-6	ND	1.14	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
PFHpA	375-85-9	ND	0.70	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
PFHxS	355-46-4	ND	0.83	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
ADONA	919005-14-4	ND	0.63	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
PFOA	335-67-1	ND	0.76	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
PFOS	1763-23-1	ND	1.01	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
PFNA	375-95-1	ND	0.72	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
9CI-PF3ONS	756426-58-1	ND	0.84	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
PFDA	335-76-2	ND	0.75	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
PFUnA	2058-94-8	ND	0.94	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
11CI-PF3OUdS	763051-92-9	ND	1.04	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
NMeFOSAA	2355-31-9	ND	1.15	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
NEtFOSAA	2991-50-6	ND	1.15	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
PFDoA	307-55-1	ND	0.90	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
PFTrDA	72629-94-8	ND	0.93	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
PFTA	376-06-7	ND	1.04	2.0	ng/L	1.0		EPA537.1	10/25/24 0220	CSS
PFAS6 (MassDEP)		ND	2.0	2.0	ng/L	1.0				
Surrogates		Results	Recovery Limits		Pass/Fail					
13C-PFHxA (SUR) % Recovery		97.80	70 - 130		Pass					
13C3-HFPO-DA (SUR) % Recovery		92.40	70 - 130		Pass					
13C-PFDA (SUR) % Recovery		100.50	70 - 130		Pass					
d5-NEtFOSAA (SUR) % Recovery		93.20	70 - 130		Pass					

**Sample Extraction Data:**

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300616113	PFAS_537	537_EXT-241021-1	250	10/21/2024

90 Sargent Dr, New Haven, CT 06511  
 Lab Billing: 203-401-2709  
 Lab Manager Phone: 203-401-2700  
 Client Services Phone: 203-401-6743

**Chain of Custody Form**

Contact Address (please include email address)

RANDOLPH/HOLBROOK  
 JOINT WATER

Sampling Address (if different from Contact information)

275 RAND ST.  
 RANDOLPH, MA  
 02368

Sampler

PAUL HENNESSY

Additional Information

LIMS Number (For RWA USE ONLY)

3006/6110  
 111  
 112  
 113

Date Collected

10/17/24

Time Collected

2PM

Sample ID / Sample Location

① RAW  
 Poured Field Blank  
 ② FINISHED  
 Poured Field Blank

Number of Bottles

4

PFAS (SEE COMMENT) PFAS14  
 250mL Plastic w/Tris Hydrochloride & Tris (Hydroxymethyl) Aminomethane

PFAS - Poured Field Blank  
 250mL Plastic w/Tris Hydrochloride & Tris (Hydroxymethyl) Aminomethane

4

1

4

1

Relinquished By (Signature):

Paul Hennessy

Date & Time: 10/17/24 2:15PM

Received By (Signature):

10/18/24 @ 10:18

Date & Time: 10/18/24 @ 10:18

Relinquished by (Signature):

Lot # SLCQ 2107  
 SLCQ 2107

Date & Time:

Received By (Signature):

Date & Time:

PFAS14

Sample bottle and Preservative Lot Numbers

Free-Randolph/holdbook-24-00012

State Sample Collected:

CT Other (specify) MA

Sample Temp °C: (must be received at or below 10°C within the first 48 hours) 6.9

Evidence of Cooling (Circle): P or N (only required if sampled date = receive date.)

Sample receipt condition circle: Acceptable / Not Acceptable

If not acceptable contact client service

NOT FOR COMPLIANCE

MA DEP COMPLIANCE

# South Central Connecticut Regional Water Authority PFAS QA/QC Summary

Extraction Batch QC for: EPA 537.1

MA Lab Cert.#: M-CT004

Extraction Batch Date: 10/21/2024

Sample ID for LFSM/LFSMD: 300613842

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	107.9	101.4	5.5	ND	[ Y ]	78.2
PFHxA	102.0	111.1	7.9	ND	[ Y ]	94.3
HFPO-DA	98.1	105.4	7.1	ND	[ Y ]	89.4
PFHpA	101.1	114.3	11.8	ND	[ Y ]	91.3
PFHxS	101.3	101.7	0.4	ND	[ Y ]	99.3
ADONA	114.7	108.2	5.8	ND	[ Y ]	79.1
PFOA	96.5	96.9	0.3	ND	[ Y ]	92.1
PFOS	103.7	96.5	6.2	ND	[ Y ]	90.8
PFNA	106.0	113.4	6.7	ND	[ Y ]	105.6
9CI-PF3ONS	95.1	84.0	12.5	ND	[ Y ]	86.6
PFDA	94.4	99.3	5.0	ND	[ Y ]	89.4
PFUnA	94.7	82.6	13.6	ND	[ Y ]	86.9
11CI-PF3OUdS	90.7	80.0	12.5	ND	[ Y ]	83.9
NMeFOSAA	94.4	91.1	3.6	ND	[ Y ]	88.5
NEtFOSAA	92.9	84.9	9.0	ND	[ Y ]	84.9
PFDoA	89.3	89.2	0.1	ND	[ Y ]	92.6
PFTTrDA	88.2	90.6	2.7	ND	[ Y ]	91.0
PFTA	90.2	92.7	2.8	ND	[ Y ]	94.0

### Surrogate %Recovery

<sup>13</sup> C <sub>2</sub> -PFHxA	<sup>13</sup> C <sub>3</sub> -HFPO-DA	<sup>13</sup> C <sub>2</sub> -PFDA	<sup>d</sup> <sub>5</sub> -NEtFOSAA	
102.70	96.80	100.40	97.00	LFSM
110.40	102.60	107.50	90.90	LFSMD
109.70	98.70	107.50	99.70	LRB
90.90	88.80	87.90	84.00	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 in this upload batch.

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