

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

275 Pond St
Randolph, MA 02368

781-964-9292
phennessy@holbrookmassachusetts.us

ANALYTICAL REPORT

Project: FEE-RANDOLPHHOLBROOK-24-000014

Report Date: 1/8/2025

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

Sample ID	Customer ID	Collection Date/Time	Receipt Date
300639061	RAW	12/10/2024 1400	12/11/24
300639062	FIELD BLANK - RAW	12/10/2024 1400	12/11/24
300639063	FINISHED	12/10/2024 1400	12/11/24
300639064	FIELD BLANK - FINISHED	12/10/2024 1400	12/11/24

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-chloroeicosafluoro-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: 300639061

Customer ID: RAW

Collection Date: 12/10/2024 14:00

PWS ID# / LOC ID#: RAW

Project: FEE-RANDOLPHHOLBROOK-24-000014

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	2.31	0.97	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
PFHxA	307-24-4	4.14	0.77	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
HFPO-DA	13252-13-6	ND	1.16	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
PFHpA	375-85-9	2.27	0.71	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
PFHxS	355-46-4	2.45	0.85	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
ADONA	919005-14-4	ND	0.64	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
PFOA	335-67-1	5.32	0.78	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
PFOS	1763-23-1	7.63	1.03	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
PFNA	375-95-1	1.03	0.73	2.04	ng/L	1.02	J	EPA537.1	12/18/24 0733	CSS
9CI-PF3ONS	756426-58-1	ND	0.86	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
PFDA	335-76-2	ND	0.77	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
PFUnA	2058-94-8	ND	0.96	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
11CI-PF3OUdS	763051-92-9	ND	1.06	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
NMeFOSAA	2355-31-9	ND	1.17	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
NEtFOSAA	2991-50-6	ND	1.17	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
PFDoA	307-55-1	ND	0.92	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
PFTrDA	72629-94-8	ND	0.95	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
PFTA	376-06-7	ND	1.06	2.04	ng/L	1.02		EPA537.1	12/18/24 0733	CSS
PFAS6 (MassDEP)		17.67	2.04	2.04	ng/L	1.02				
Surrogates					Results	Recovery Limits			Pass/Fail	
13C-PFHxA (SUR) % Recovery					91.23	70 - 130			Pass	
13C3-HFPO-DA (SUR) % Recovery					108.51	70 - 130			Pass	
13C-PFDA (SUR) % Recovery					90.25	70 - 130			Pass	
d5-NEtFOSAA (SUR) % Recovery					85.98	70 - 130			Pass	

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300639061	PFAS_537	537_EXT-241211-1	244	12/11/2024

Sample ID: 300639062

Customer ID: FIELD BLANK - RAW

Collection Date: 12/10/2024 14:00

PWS ID# / LOC ID#: FIELD BLANK

Project: FEE-RANDOLPHHOLBROOK-24-000014

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	12/18/24 0746	CSS
PFHxA	307-24-4	ND	0.75	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
HFPO-DA	13252-13-6	ND	1.14	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
PFHpA	375-85-9	ND	0.70	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
PFHxS	355-46-4	ND	0.83	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
ADONA	919005-14-4	ND	0.63	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
PFOA	335-67-1	ND	0.76	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
PFOS	1763-23-1	ND	1.01	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
PFNA	375-95-1	ND	0.72	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
9CI-PF3ONS	756426-58-1	ND	0.84	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
PFDA	335-76-2	ND	0.75	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
PFUnA	2058-94-8	ND	0.94	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
11CI-PF3OUdS	763051-92-9	ND	1.04	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
NMeFOSAA	2355-31-9	ND	1.15	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
NEtFOSAA	2991-50-6	ND	1.15	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
PFDoA	307-55-1	ND	0.90	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
PFTrDA	72629-94-8	ND	0.93	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
PFTA	376-06-7	ND	1.04	2.0	ng/L	1.0		EPA537.1	12/18/24 0746	CSS
PFAS6 (MassDEP)		ND	2.0	2.0	ng/L	1.0				
Surrogates		Results	Recovery Limits		Pass/Fail					
13C-PFHxA (SUR) % Recovery		92.18	70 - 130		Pass					
13C3-HFPO-DA (SUR) % Recovery		94.64	70 - 130		Pass					
13C-PFDA (SUR) % Recovery		99.25	70 - 130		Pass					
d5-NEtFOSAA (SUR) % Recovery		101.91	70 - 130		Pass					

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300639062	PFAS_537	537_EXT-241211-1	250	12/11/2024

Sample ID: 300639063

Customer ID: FINISHED

Collection Date: 12/10/2024 14:00

PWS ID# / LOC ID#: 4244001/10296

Project: FEE-RANDOLPHHOLBROOK-24-000014

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	2.27	0.95	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
PFHxA	307-24-4	4.00	0.75	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
HFPO-DA	13252-13-6	ND	1.14	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
PFHpA	375-85-9	2.19	0.70	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
PFHxS	355-46-4	2.82	0.83	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
ADONA	919005-14-4	ND	0.63	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
PFOA	335-67-1	4.64	0.76	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
PFOS	1763-23-1	8.27	1.01	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
PFNA	375-95-1	0.77	0.72	2.0	ng/L	1.0	J	EPA537.1	12/18/24 0800	CSS
9CI-PF3ONS	756426-58-1	ND	0.84	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
PFDA	335-76-2	ND	0.75	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
PFUnA	2058-94-8	ND	0.94	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
11CI-PF3OUdS	763051-92-9	ND	1.04	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
NMeFOSAA	2355-31-9	ND	1.15	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
NEtFOSAA	2991-50-6	ND	1.15	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
PFDoA	307-55-1	ND	0.90	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
PFTrDA	72629-94-8	ND	0.93	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
PFTA	376-06-7	ND	1.04	2.0	ng/L	1.0		EPA537.1	12/18/24 0800	CSS
PFAS6 (MassDEP)		17.92	2.00	2.00	ng/L	1.0				
Surrogates		Results	Recovery Limits		Pass/Fail					
13C-PFHxA (SUR) % Recovery		87.71	70 - 130		Pass					
13C3-HFPO-DA (SUR) % Recovery		106.16	70 - 130		Pass					
13C-PFDA (SUR) % Recovery		91.58	70 - 130		Pass					
d5-NEtFOSAA (SUR) % Recovery		86.43	70 - 130		Pass					

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300639063	PFAS_537	537_EXT-241211-1	250	12/11/2024

Sample ID: 300639064

Customer ID: FIELD BLANK - FINISHED

Collection Date: 12/10/2024 14:00

PWS ID# / LOC ID#: FIELD BLANK

Project: FEE-RANDOLPHHOLBROOK-24-000014

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	ND	0.93	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
PFHxA	307-24-4	ND	0.74	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
HFPO-DA	13252-13-6	ND	1.12	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
PFHpA	375-85-9	ND	0.69	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
PFHxS	355-46-4	ND	0.81	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
ADONA	919005-14-4	ND	0.62	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
PFOA	335-67-1	ND	0.74	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
PFOS	1763-23-1	ND	0.99	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
PFNA	375-95-1	ND	0.71	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
9CI-PF3ONS	756426-58-1	ND	0.82	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
PFDA	335-76-2	ND	0.74	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
PFUnA	2058-94-8	ND	0.92	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
11CI-PF3OUdS	763051-92-9	ND	1.02	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
NMeFOSAA	2355-31-9	ND	1.13	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
NEtFOSAA	2991-50-6	ND	1.13	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
PFDoA	307-55-1	ND	0.88	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
PFTrDA	72629-94-8	ND	0.91	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
PFTA	376-06-7	ND	1.02	1.96	ng/L	0.98		EPA537.1	12/18/24 0813	CSS
PFAS6 (MassDEP)		ND	1.96	1.96	ng/L	0.98				
Surrogates			Results	Recovery Limits	Pass/Fail					
13C-PFHxA (SUR) % Recovery			78.14	70 - 130	Pass					
13C3-HFPO-DA (SUR) % Recovery			82.93	70 - 130	Pass					
13C-PFDA (SUR) % Recovery			95.21	70 - 130	Pass					
d5-NEtFOSAA (SUR) % Recovery			86.40	70 - 130	Pass					

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300639064	PFAS_537	537_EXT-241211-1	254	12/11/2024



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 POND ST.
 RANDOLPH, MA
 02368

Sampler
 PAM HENNESSY

Additional Information

LIMS Number (For RWA USE ONLY)	Date Collected	Time Collected	Sample ID / Sample Location
300639061	12/10/24	2 PM	RAW ①
062	↓	↓	Poured Field Blank ①
063	↓	↓	FINISHED ②
064	↓	↓	POURED FIELD BLANK ②

Number of Bottles

PFAS (SEE COMMENT) PFAS14
 250mL Plastic w/Tris Hydrochloride & Tris (Hydroxymethyl) Aminomethane 4

PFAS - Poured Field Blank
 250mL Plastic w/Tris Hydrochloride & Tris (Hydroxymethyl) Aminomethane 1

Relinquished By (Signature):
 Pam Hennessy
Date & Time: 12/10/24 2 PM

Received By (Signature):
 [Signature]
Date & Time: 12/11/24 2 PM

Relinquished by (Signature):
 FedEx
Date & Time:

Received By (Signature):
 [Signature]
Date & Time: 12/11/24 1144

Test Requested, Container, & Preservative	Number of Bottles	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		

State Sample Collected:
 CT ___ Other (specify) ___

Sample Temp °C: (must be received at or below 10°C within the first 48 hours) 1.1

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
 " " " "

Sample bottle and Preservative Lot Numbers
 SLCR0485
 SLCCQ4974
 PFAS14
 See Randolph/Holbrook-24-00014

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: 12/11/2024

Sample ID for LFSM/LFSMD: 300638408

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	81.0	83.4	2.6	ND	[Y]	83.4
PFHxA	84.7	81.7	3.2	ND	[Y]	83.6
HFPO-DA	86.9	88.7	2.0	ND	[Y]	80.6
PFHpA	93.3	96.2	2.9	ND	[Y]	89.1
PFHxS	80.3	92.5	13.3	ND	[Y]	85.0
ADONA	86.5	84.9	1.9	ND	[Y]	84.5
PFOA	87.0	86.8	0.2	ND	[Y]	92.5
PFOS	94.8	92.7	2.1	ND	[Y]	90.7
PFNA	85.0	84.6	0.4	ND	[Y]	91.7
9CI-PF3ONS	83.2	77.8	6.8	ND	[Y]	83.1
PFDA	80.6	80.9	0.3	ND	[Y]	88.1
PFUnA	81.0	82.2	1.4	ND	[Y]	86.0
11CI-PF3OUdS	80.0	73.4	8.5	ND	[Y]	88.4
NMeFOSAA	84.0	75.5	10.7	ND	[Y]	77.5
NEtFOSAA	85.7	75.8	12.3	ND	[Y]	75.3
PFDaA	84.8	83.4	1.7	ND	[Y]	88.5
PFTTrDA	86.7	79.5	8.7	ND	[Y]	90.4
PFTA	80.5	76.0	5.8	ND	[Y]	85.9

Surrogate %Recovery

¹³ C ₂ -PFHxA	¹³ C ₃ -HFPO-DA	¹³ C ₂ -PFDA	^d ₅ -NEtFOSAA	
84.98	90.16	93.56	89.99	LFSM
92.79	98.80	97.18	92.65	LFSMD
79.99	86.48	85.92	84.27	LRB
85.82	87.41	93.26	80.37	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