Regional Water Authority

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

275 Pond St
Randolph, MA 02368

781-964-9292
phennessy@holbrookmassachusetts.us

ANALYTICAL REPORT

Project: FEE-RANDOLPHHOLBROOK-25-000001

Report Date: 2/7/2025

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

Regional Water Authority
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SAMPLE SUMMARY

Sample ID	Customer ID	Collection Date/Time	Receipt Date
300651303	RAW	1/15/2025 1400	1/17/25
300651304	FIELD BLANK - RAW	1/15/2025 1400	1/17/25
300651305	FINISHED	1/15/2025 1400	1/17/25
300651306	FIELD BLANK - FINISHED	1/15/2025 1400	1/17/25

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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 (Acronymn)
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.

Regional Water Authority

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Sample ID: 300651303

Collection Date: 01/15/2025 14:00

Customer ID: RAW

PWS ID# / LOC ID#: RAW

Project: FEE-RANDOLPHHOLBROOK-25-000001

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	2.18	0.96	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
PFHxA	307-24-4	3.79	0.76	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
HFPO-DA	13252-13-6	ND	1.15	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
PFHpA	375-85-9	1.92	0.71	2.02	ng/L	1.01	J	EPA537.1	1/27/25 1927	CSS
PFHxS	355-46-4	2.78	0.84	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
ADONA	919005-14-4	ND	0.64	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
PFOA	335-67-1	4.30	0.77	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
PFOS	1763-23-1	6.24	1.02	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
PFNA	375-95-1	0.75	0.73	2.02	ng/L	1.01	J	EPA537.1	1/27/25 1927	CSS
9Cl-PF3ONS	756426-58-1	ND	0.85	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
PFDA	335-76-2	ND	0.76	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
PFUnA	2058-94-8	ND	0.95	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
11Cl-PF3OUdS	763051-92-9	ND	1.05	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
NMeFOSAA	2355-31-9	ND	1.16	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
NEtFOSAA	2991-50-6	ND	1.16	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
PFDoA	307-55-1	ND	0.91	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
PFTrDA	72629-94-8	ND	0.94	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
PFTA	376-06-7	ND	1.05	2.02	ng/L	1.01		EPA537.1	1/27/25 1927	CSS
PFAS6 (MassDEP)		13.32	2.02	2.02	ng/L	1.01				

Surrogates	Results	Recovery Limits	Pass/Fail
13C-PFHxA (SUR) % Recovery	98.05	70 - 130	Pass
13C3-HFPO-DA (SUR) % Recovery	93.15	70 - 130	Pass
13C-PFDA (SUR) % Recovery	84.12	70 - 130	Pass
d5-NEtFOSAA (SUR) % Recovery	93.39	70 - 130	Pass

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300651303	PFAS_537	537_EXT-250124-1	248	01/23/2025

Regional Water Authority

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203-401-6743 or 877-894-5773 (Telephone) • Website: www.rwater.com

Sample ID: 300651304

Collection Date: 01/15/2025 14:00

Customer ID: FIELD BLANK - RAW

PWS ID# / LOC ID#: FIELD BLANK

Project: FEE-RANDOLPHHOLBROOK-25-000001

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	ND	0.94	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
PFHxA	307-24-4	ND	0.74	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
HFPO-DA	13252-13-6	ND	1.13	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
PFHpA	375-85-9	ND	0.69	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
PFHxS	355-46-4	ND	0.82	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
ADONA	919005-14-4	ND	0.62	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
PFOA	335-67-1	ND	0.75	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
PFOS	1763-23-1	ND	1.00	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
PFNA	375-95-1	ND	0.71	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
9Cl-PF3ONS	756426-58-1	ND	0.83	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
PFDA	335-76-2	ND	0.74	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
PFUnA	2058-94-8	ND	0.93	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
11Cl-PF3OUdS	763051-92-9	ND	1.03	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
NMeFOSAA	2355-31-9	ND	1.14	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
NEtFOSAA	2991-50-6	ND	1.14	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
PFDoA	307-55-1	ND	0.89	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
PFTrDA	72629-94-8	ND	0.92	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
PFTA	376-06-7	ND	1.03	1.98	ng/L	0.99		EPA537.1	1/27/25 1940	CSS
PFAS6 (MassDEP)		ND	1.98	1.98	ng/L	0.99				

Surrogates	Results	Recovery Limits	Pass/Fail
13C-PFHxA (SUR) % Recovery	102.31	70 - 130	Pass
13C3-HFPO-DA (SUR) % Recovery	96.59	70 - 130	Pass
13C-PFDA (SUR) % Recovery	102.31	70 - 130	Pass
d5-NEtFOSAA (SUR) % Recovery	103.93	70 - 130	Pass

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300651304	PFAS_537	537_EXT-250124-1	252	01/23/2025

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Sample ID: 300651305

Collection Date: 01/15/2025 14:00

Customer ID: FINISHED

PWS ID# / LOC ID#: 4244001/10296

Project: FEE-RANDOLPHHOLBROOK-25-000001

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	3.49	0.95	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
PFHxA	307-24-4	3.58	0.75	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
HFPO-DA	13252-13-6	ND	1.14	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
PFHpA	375-85-9	1.94	0.70	2.0	ng/L	1.0	J	EPA537.1	1/27/25 1954	CSS
PFHxS	355-46-4	3.31	0.83	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
ADONA	919005-14-4	ND	0.63	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
PFOA	335-67-1	4.54	0.76	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
PFOS	1763-23-1	7.49	1.01	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
PFNA	375-95-1	0.76	0.72	2.0	ng/L	1.0	J	EPA537.1	1/27/25 1954	CSS
9Cl-PF3ONS	756426-58-1	ND	0.84	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
PFDA	335-76-2	ND	0.75	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
PFUnA	2058-94-8	ND	0.94	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
11Cl-PF3OUdS	763051-92-9	ND	1.04	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
NMeFOSAA	2355-31-9	ND	1.15	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
NEtFOSAA	2991-50-6	ND	1.15	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
PFDoA	307-55-1	ND	0.90	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
PFTrDA	72629-94-8	ND	0.93	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
PFTA	376-06-7	ND	1.04	2.0	ng/L	1.0		EPA537.1	1/27/25 1954	CSS
PFAS6 (MassDEP)		15.34	2.00	2.00	ng/L	1.0				

Surrogates	Results	Recovery Limits	Pass/Fail
13C-PFHxA (SUR) % Recovery	104.62	70 - 130	Pass
13C3-HFPO-DA (SUR) % Recovery	99.73	70 - 130	Pass
13C-PFDA (SUR) % Recovery	90.93	70 - 130	Pass
d5-NEtFOSAA (SUR) % Recovery	89.25	70 - 130	Pass

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300651305	PFAS_537	537_EXT-250124-1	250	01/23/2025

Regional Water Authority

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Sample ID: 300651306

Collection Date: 01/15/2025 14:00

Customer ID: FIELD BLANK - FINISHED

PWS ID# / LOC ID#: FIELD BLANK

Project: FEE-RANDOLPHHOLBROOK-25-000001

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	1/27/25 2007	CSS
PFHxA	307-24-4	ND	0.74	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
HFPO-DA	13252-13-6	ND	1.12	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
PFHpA	375-85-9	ND	0.69	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
PFHxS	355-46-4	ND	0.81	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
ADONA	919005-14-4	ND	0.62	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
PFOA	335-67-1	ND	0.74	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
PFOS	1763-23-1	ND	0.99	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
PFNA	375-95-1	ND	0.71	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
9Cl-PF3ONS	756426-58-1	ND	0.82	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
PFDA	335-76-2	ND	0.74	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
PFUnA	2058-94-8	ND	0.92	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
11Cl-PF3OUdS	763051-92-9	ND	1.02	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
NMeFOSAA	2355-31-9	ND	1.13	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
NEtFOSAA	2991-50-6	ND	1.13	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
PFDoA	307-55-1	ND	0.88	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
PFTrDA	72629-94-8	ND	0.91	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
PFTA	376-06-7	ND	1.02	1.96	ng/L	0.98		EPA537.1	1/27/25 2007	CSS
PFAS6 (MassDEP)		ND	1.96	1.96	ng/L	0.98				

Surrogates	Results	Recovery Limits	Pass/Fail
13C-PFHxA (SUR) % Recovery	96.87	70 - 130	Pass
13C3-HFPO-DA (SUR) % Recovery	94.60	70 - 130	Pass
13C-PFDA (SUR) % Recovery	93.48	70 - 130	Pass
d5-NEtFOSAA (SUR) % Recovery	99.66	70 - 130	Pass

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300651306	PFAS_537	537_EXT-250124-1	254	01/23/2025

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

Chain of Custody Form

Company Name	Company Address
RANDOLPH/HOLBROOK JOINT WATER	275 POND ST. RANDOLPH, MA 02368
Sampler	**PO Number**
PAUL HENNESSY	

Test Requested, Container, & Preservative

State Sample Collected:
CT___ NY___ Other(specify)____

Thermometer ID:

Evidence of Cooling (Circle): (Y) or N
Cooler Temp °C: 1.0

Container & Preservative Meet Criteria (Circle): (Yes)/ No

RWA LIMS Number	Date Collected	Time Collected	Sample ID / Sample Location	Number of Bottles	EPA 537.1 PFAS14 250mL Plastic w/Trizma & Tris (Hydroxymethyl) Aminomethane	EPA 537.1 - Poured Field Blank 250mL Plastic w/Trizma & Tris (Hydroxymethyl) Aminomethane	Field Blank #				Remarks
30065303	1/15/25	2PM	(1) RAW	5	4	1	30065304				NOT FOR COMPLIANCE
305	1/15/25	2PM	(2) FINISHED	5	4	1		306			MA DEP COMPLIANCE

Relinquished By (Signature):	Relinquished by (Signature):
PAUL HENNESSY	Fed Ex
Date & Time: 1/15/25 215PM	Date & Time:
Received By (Signature):	Received By (Signature):
Date & Time:	Date & Time: 1/17/25 0825

Comments:
Lot # ~~SLCP5873~~ SLRC 0485
Lot # ~~SLCQ3831~~ SLC Q 4974

PFAS14

Fee-Randolphholbrook-25-000001

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: 1/23/2025 **Sample ID for LFSM/LFSMD:** 300652805

Analyte	LFSM %Recovery	LFSMD %Recovery	RPD of LFSM/LFSMD	LRB (MRL is 2)		LFB 10 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	122.3	101.5	18.6	ND	[Y]	99.8
PFHxA	106.5	99.1	3.3	ND	[Y]	87.9
HFPO-DA	93.4	81.4	13.8	ND	[Y]	77.5
PFHpA	95.6	96.6	1.1	ND	[Y]	84.6
PFHxS	111.5	115.7	3.7	ND	[Y]	89.7
ADONA	100.8	96.7	4.1	ND	[Y]	90.4
PFOA	94.1	98.6	4.7	ND	[Y]	93.7
PFOS	93.0	92.7	0.3	ND	[Y]	89.8
PFNA	101.2	94.7	6.7	ND	[Y]	90.1
9Cl-PF3ONS	95.0	91.3	4.0	ND	[Y]	93.0
PFDA	93.9	92.5	1.4	ND	[Y]	86.9
PFUnA	97.5	94.5	3.2	ND	[Y]	87.8
11Cl-PF3OUdS	99.7	88.8	11.6	ND	[Y]	94.9
NMeFOSAA	89.0	91.6	2.9	ND	[Y]	94.7
NEtFOSAA	100.3	87.1	14.0	ND	[Y]	99.7
PFDoA	101.3	92.9	8.7	ND	[Y]	95.0
PFTrDA	81.9	91.6	11.2	ND	[Y]	79.4
PFTA	85.4	89.9	5.1	ND	[Y]	79.4

Surrogate %Recovery

$^{13}C_2$-PFHxA	$^{13}C_3$-HFPO-DA	$^{13}C_2$-PFDA	$^{d}_5$-NEtFOSAA	
90.82	87.51	92.90	91.96	LFSM
104.46	96.18	90.37	100.53	LFSMD
86.24	84.83	89.28	92.06	LRB
92.08	79.00	88.00	98.40	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. Sample# 300652806 Field Blank for EPA 537.1 for 300652805: sample bottle preservation pH check of 8.0 was above expected range of 6.5 to 7.5 units. This did not affect the results of the analysis.

Sample# 300652805 for EPA 537.1: PFBS peak deleted, results incorrect due to matrix interference.

LRB = Laboratory Reagent Blank

LFB = Laboratory Fortified Blank

LFSM = Laboratory Fortified Sample Matrix

LFSMD = Laboratory Fortified Sample Matrix Duplicate

RPD = relative percent difference

MRL = Method Reporting Level

FB = Field Blank

ND = Non-Detect

Results are ng/L (ppt)

LFSM/LFSMD spike concentration is 20 ng/L, unless noted otherwise

Surrogate Acceptance Limit is 70 - 130% Recovery