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-24-000007

Report Date: 6/21/2024

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

Regional Water Authority
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SAMPLE SUMMARY

Sample ID	Customer ID	Collection Date/Time	Receipt Date
300543299	Raw	6/6/2024 1400	6/7/24
300543300	Field Blank - Raw	6/6/2024 1400	6/7/24
300543301	Finished	6/6/2024 1400	6/7/24
300543302	Field Blank - Finished	6/6/2024 1400	6/7/24

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

Sample ID: 300543299

Collection Date: 06/06/2024 14:00

Customer ID: Raw

PWS ID# / LOC ID#: Raw

Project: FEE-RANDOLPHHOLBROOK-24-000007

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	1.79	0.96	2.02	ng/L	1.01	J	EPA537.1	6/12/24 1338	CSS
PFHxA	307-24-4	3.28	0.76	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
HFPO-DA	13252-13-6	ND	1.15	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
PFHpA	375-85-9	1.36	0.71	2.02	ng/L	1.01	J	EPA537.1	6/12/24 1338	CSS
PFHxS	355-46-4	2.33	0.84	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
ADONA	919005-14-4	ND	0.64	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
PFOA	335-67-1	5.12	0.77	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
PFOS	1763-23-1	9.79	1.02	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
PFNA	375-95-1	0.91	0.73	2.02	ng/L	1.01	J	EPA537.1	6/12/24 1338	CSS
9Cl-PF3ONS	756426-58-1	ND	0.85	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
PFDA	335-76-2	ND	0.76	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
PFUnA	2058-94-8	ND	0.95	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
11Cl-PF3OUdS	763051-92-9	ND	1.05	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
NMeFOSAA	2355-31-9	ND	1.16	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
NEtFOSAA	2991-50-6	ND	1.16	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
PFDoA	307-55-1	ND	0.91	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
PFTrDA	72629-94-8	ND	0.94	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
PFTA	376-06-7	ND	1.05	2.02	ng/L	1.01		EPA537.1	6/12/24 1338	CSS
PFAS6 (MassDEP)		17.24	2.02	2.02	ng/L	1.01				

Surrogates	Results	Recovery Limits	Pass/Fail
13C-PFHxA (SUR) % Recovery	92.70	70 - 130	Pass
13C3-HFPO-DA (SUR) % Recovery	99.65	70 - 130	Pass
13C-PFDA (SUR) % Recovery	95.91	70 - 130	Pass
d5-NEtFOSAA (SUR) % Recovery	93.70	70 - 130	Pass

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300543299	PFAS_537	537_EXT-240610-1	248	06/10/2024

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

Sample ID: 300543300

Collection Date: 06/06/2024 14:00

Customer ID: Field Blank - Raw

PWS ID# / LOC ID#: Field Blank - Raw

Project: FEE-RANDOLPHHOLBROOK-24-000007

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	6/12/24 1351	CSS
PFHxA	307-24-4	ND	0.74	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
HFPO-DA	13252-13-6	ND	1.13	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
PFHpA	375-85-9	ND	0.69	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
PFHxS	355-46-4	ND	0.82	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
ADONA	919005-14-4	ND	0.62	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
PFOA	335-67-1	ND	0.75	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
PFOS	1763-23-1	ND	1.00	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
PFNA	375-95-1	ND	0.71	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
9Cl-PF3ONS	756426-58-1	ND	0.83	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
PFDA	335-76-2	ND	0.74	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
PFUnA	2058-94-8	ND	0.93	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
11Cl-PF3OUdS	763051-92-9	ND	1.03	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
NMeFOSAA	2355-31-9	ND	1.14	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
NEtFOSAA	2991-50-6	ND	1.14	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
PFDoA	307-55-1	ND	0.89	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
PFTrDA	72629-94-8	ND	0.92	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
PFTA	376-06-7	ND	1.03	1.98	ng/L	0.99		EPA537.1	6/12/24 1351	CSS
PFAS6 (MassDEP)		ND	1.98	1.98	ng/L	0.99				

Surrogates	Results	Recovery Limits	Pass/Fail
13C-PFHxA (SUR) % Recovery	95.82	70 - 130	Pass
13C3-HFPO-DA (SUR) % Recovery	79.64	70 - 130	Pass
13C-PFDA (SUR) % Recovery	98.24	70 - 130	Pass
d5-NEtFOSAA (SUR) % Recovery	92.23	70 - 130	Pass

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300543300	PFAS_537	537_EXT-240610-1	252	06/10/2024

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Sample ID: 300543301

Collection Date: 06/06/2024 14:00

Customer ID: Finished

PWS ID# / LOC ID#: 4244001/10296

Project: FEE-RANDOLPHHOLBROOK-24-000007

Analyte	CAS#	Results	MDL	RL	Units	Dilution	Qualifier	Method	Date Time/ Analyzed	Analyst
PFBS	375-73-5	1.87	0.96	2.02	ng/L	1.01	J	EPA537.1	6/12/24 1405	CSS
PFHxA	307-24-4	2.82	0.76	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
HFPO-DA	13252-13-6	ND	1.15	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
PFHpA	375-85-9	2.13	0.71	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
PFHxS	355-46-4	2.16	0.84	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
ADONA	919005-14-4	ND	0.64	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
PFOA	335-67-1	4.59	0.77	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
PFOS	1763-23-1	9.08	1.02	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
PFNA	375-95-1	0.98	0.73	2.02	ng/L	1.01	J	EPA537.1	6/12/24 1405	CSS
9Cl-PF3ONS	756426-58-1	ND	0.85	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
PFDA	335-76-2	ND	0.76	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
PFUnA	2058-94-8	ND	0.95	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
11Cl-PF3OUdS	763051-92-9	ND	1.05	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
NMeFOSAA	2355-31-9	ND	1.16	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
NEtFOSAA	2991-50-6	ND	1.16	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
PFDoA	307-55-1	ND	0.91	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
PFTrDA	72629-94-8	ND	0.94	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
PFTA	376-06-7	ND	1.05	2.02	ng/L	1.01		EPA537.1	6/12/24 1405	CSS
PFAS6 (MassDEP)		17.96	2.02	2.02	ng/L	1.01				

Surrogates	Results	Recovery Limits	Pass/Fail
13C-PFHxA (SUR) % Recovery	90.49	70 - 130	Pass
13C3-HFPO-DA (SUR) % Recovery	103.27	70 - 130	Pass
13C-PFDA (SUR) % Recovery	90.54	70 - 130	Pass
d5-NEtFOSAA (SUR) % Recovery	88.36	70 - 130	Pass

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300543301	PFAS_537	537_EXT-240610-1	248	06/10/2024

Regional Water Authority

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

Sample ID: 300543302

Collection Date: 06/06/2024 14:00

Customer ID: Field Blank - Finished

PWS ID# / LOC ID#: Field Blank - Finished

Project: FEE-RANDOLPHHOLBROOK-24-000007

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	6/12/24 1418	CSS
PFHxA	307-24-4	ND	0.75	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
HFPO-DA	13252-13-6	ND	1.14	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
PFHpA	375-85-9	ND	0.70	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
PFHxS	355-46-4	ND	0.83	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
ADONA	919005-14-4	ND	0.63	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
PFOA	335-67-1	ND	0.76	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
PFOS	1763-23-1	ND	1.01	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
PFNA	375-95-1	ND	0.72	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
9Cl-PF3ONS	756426-58-1	ND	0.84	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
PFDA	335-76-2	ND	0.75	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
PFUnA	2058-94-8	ND	0.94	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
11Cl-PF3OUdS	763051-92-9	ND	1.04	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
NMeFOSAA	2355-31-9	ND	1.15	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
NEtFOSAA	2991-50-6	ND	1.15	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
PFDoA	307-55-1	ND	0.90	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
PFTrDA	72629-94-8	ND	0.93	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
PFTA	376-06-7	ND	1.04	2.0	ng/L	1.0		EPA537.1	6/12/24 1418	CSS
PFAS6 (MassDEP)		ND	2.00	2.0	ng/L	1.0				

Surrogates	Results	Recovery Limits	Pass/Fail
13C-PFHxA (SUR) % Recovery	91.15	70 - 130	Pass
13C3-HFPO-DA (SUR) % Recovery	93.35	70 - 130	Pass
13C-PFDA (SUR) % Recovery	94.05	70 - 130	Pass
d5-NEtFOSAA (SUR) % Recovery	86.31	70 - 130	Pass

Sample Extraction Data:

Lab Number (Field ID)	Prep Method	Batch	Final (mL)	Date
300543302	PFAS_537	537_EXT-240610-1	250	06/10/2024

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	

RWA LIMS Number	Date Collected	Time Collected	Sample ID / Sample Location	Number of Bottles	Test Requested, Container, & Preservative: PFAS 14 — 250mL Plastic w/Tris HydroChloride & Tris (Hydroxymethyl) Aminomethane	Test Requested, Container, & Preservative: PFAS Poured Field Blank — 250mL Plastic w/Tris HydroChloride & Tris (Hydroxymethyl) Aminomethane	Field Blank #				
300543299	6/6/24	2PM	① RAW	5	4	1	300543300				NOT FOR COMPLIANCE
301	6/6/24	2PM	② FINISHED	5	4	1			302		MA DEP COMPLIANCE

State Sample Collected: CT__ NY___ Other(specify)__

Evidence of Cooling (Circle): (Y) or N

Cooler Temp °C: 3.2

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

LOT # SLCN1650

LOT # SLCN1665

Relinquished By (Signature): PAUL HENNESSY		Relinquished by (Signature): Fed Ex	
Date & Time: 6/6/24 2:10 PM		Date & Time:	
Received By (Signature):		Received By (Signature):	
Date & Time:		Date & Time: 6/7/24 1415	

Comments: PFAS 14

Fee-Randolph/Holbrook-24-000007

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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: 6/10/2024 **Sample ID for LFSM/LFSMD:** 300542712

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	105.6	92.1	12.9	ND	[Y]	98.2
PFHxA	92.3	108.3	14.7	ND	[Y]	105.5
HFPO-DA	86.9	99.0	13.0	ND	[Y]	93.5
PFHpA	86.2	107.3	20.7	ND	[Y]	105.3
PFHxS	87.3	96.1	8.9	ND	[Y]	94.5
ADONA	85.1	97.1	13.1	ND	[Y]	99.9
PFOA	101.1	114.5	11.2	ND	[Y]	94.2
PFOS	115.5	98.7	14.6	ND	[Y]	81.8
PFNA	85.6	107.5	22.5	ND	[Y]	98.9
9Cl-PF3ONS	96.2	97.6	1.4	ND	[Y]	91.6
PFDA	83.6	97.6	15.4	ND	[Y]	104.1
PFUnA	85.8	93.3	8.3	ND	[Y]	88.4
11Cl-PF3OUdS	93.5	100.9	7.7	ND	[Y]	97.6
NMeFOSAA	90.4	100.7	10.8	ND	[Y]	97.2
NEtFOSAA	83.0	91.1	9.4	ND	[Y]	97.2
PFDoA	91.7	112.0	19.9	ND	[Y]	99.8
PFTrDA	92.9	111.4	18.1	ND	[Y]	103.8
PFTA	94.6	104.4	9.9	ND	[Y]	114.3

Surrogate %Recovery

$^{13}C_2$-PFHxA	$^{13}C_3$-HFPO-DA	$^{13}C_2$-PFDA	$^{d}_{5}$-NEtFOSAA	
87.86	76.39	88.27	90.74	LFSM
102.79	97.63	101.04	96.49	LFSMD
91.66	76.53	99.56	87.36	LRB
99.17	86.32	103.24	98.10	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