

November 18, 2021

John Zbell  
Weston & Sampson  
712 Brook Street, Suite 103  
Rocky Hill, CT 06067

Project Location: Farmington WPCF  
Client Job Number:  
Project Number: ENG21-0609  
Laboratory Work Order Number: 2111597

Enclosed are results of analyses for samples as received by the laboratory on September 28, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kerry K. McGee  
Project Manager

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39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Weston & Sampson  
712 Brook Street, Suite 103  
Rocky Hill, CT 06067  
ATTN: John Zbell

REPORT DATE: 11/18/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: ENG21-0609

**ANALYTICAL SUMMARY**

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WORK ORDER NUMBER: 2111597

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Farmington WPCF

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Farmington WPCF-Upstream-09282021	2111597-01	Surface Water		SOP-454 PFAS	
Farmington WPCF-Downstream-09282021	2111597-02	Surface Water		SOP-454 PFAS	

**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

REVISED REPORT 11-18-21: Per client request PFAS results reported to the MDL.

**SOP-454 PFAS**

**Qualifications:**

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**PF-17**

Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

**Analyte & Samples(s) Qualified:**

**M3HFPO-DA**

2111597-01[Farmington WPCF-Upstream-09282021], 2111597-02[Farmington WPCF-Downstream-09282021], B291389-BLK1

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**S-29**

Extracted Internal Standard is outside of control limits.

**Analyte & Samples(s) Qualified:**

**M3HFPO-DA**

B291389-BS1, B291389-BSD1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington  
Technical Representative

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Farmington WPCF

Sample Description:

Work Order: 2111597

Date Received: 9/28/2021

Field Sample #: Farmington WPCF-Upstream-09282021

Sampled: 9/28/2021 13:36

Sample ID: 2111597-01

Sample Matrix: Surface Water

## Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	5.1	1.9	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluorobutanesulfonic acid (PFBS)	ND	5.1	0.72	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluoropentanoic acid (PFPeA)	ND	5.1	1.0	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluorohexanoic acid (PFHxA)	1.1	5.1	0.99	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
11Cl-PF3OUdS (F53B Minor)	ND	5.1	1.6	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
9Cl-PF3ONS (F53B Major)	ND	5.1	1.0	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.1	0.89	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.1	0.61	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	5.1	1.6	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluorodecanoic acid (PFDA)	ND	5.1	1.3	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluorododecanoic acid (PFDoA)	ND	5.1	1.1	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	5.1	0.59	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluoroheptanesulfonic acid (PFHpS)	ND	5.1	2.4	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
N-EtFOSAA	ND	5.1	1.6	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
N-MeFOSAA	ND	5.1	1.9	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluorotetradecanoic acid (PFTA)	ND	5.1	0.94	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluorotridecanoic acid (PFTTrDA)	ND	5.1	0.71	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	5.1	0.72	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluorodecanesulfonic acid (PFDS)	ND	5.1	0.84	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluorooctanesulfonamide (FOSA)	ND	5.1	1.1	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluorononanesulfonic acid (PFNS)	ND	5.1	0.43	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	5.1	0.80	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluoro-1-butanefulfonamide (FBSA)	ND	5.1	0.49	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluorohexanesulfonic acid (PFHxS)	ND	5.1	0.87	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	5.1	1.1	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	5.1	0.88	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	5.1	0.94	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluoropentanesulfonic acid (PFPeS)	ND	5.1	0.66	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluoroundecanoic acid (PFUnA)	ND	5.1	0.95	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	5.1	0.71	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluoroheptanoic acid (PFHpA)	ND	5.1	0.88	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluorooctanoic acid (PFOA)	1.8	5.1	1.7	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluorooctanesulfonic acid (PFOS)	ND	5.1	1.5	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH
Perfluorononanoic acid (PFNA)	ND	5.1	0.89	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:17	BLH

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Project Location: Farmington WPCF

Sample Description:

Work Order: 2111597

Date Received: 9/28/2021

Field Sample #: Farmington WPCF-Downstream-09282021

Sampled: 9/28/2021 13:42

Sample ID: 2111597-02

Sample Matrix: Surface Water

## Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	2.5	5.1	1.9	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluorobutanesulfonic acid (PFBS)	ND	5.1	0.72	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluoropentanoic acid (PFPeA)	1.5	5.1	1.0	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluorohexanoic acid (PFHxA)	1.7	5.1	0.99	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
11Cl-PF3OUdS (F53B Minor)	ND	5.1	1.6	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
9Cl-PF3ONS (F53B Major)	ND	5.1	1.0	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.1	0.89	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.1	0.61	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	5.1	1.6	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluorodecanoic acid (PFDA)	ND	5.1	1.3	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluorododecanoic acid (PFDoA)	ND	5.1	1.1	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	5.1	0.59	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluoroheptanesulfonic acid (PFHpS)	ND	5.1	2.4	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
N-EtFOSAA	ND	5.1	1.6	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
N-MeFOSAA	ND	5.1	1.9	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluorotetradecanoic acid (PFTA)	ND	5.1	0.94	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluorotridecanoic acid (PFTTrDA)	ND	5.1	0.71	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	5.1	0.72	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluorodecanesulfonic acid (PFDS)	ND	5.1	0.83	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluorooctanesulfonamide (FOSA)	ND	5.1	1.1	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluorononanesulfonic acid (PFNS)	ND	5.1	0.43	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	5.1	0.80	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluoro-1-butanefulfonamide (FBSA)	ND	5.1	0.49	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluorohexanesulfonic acid (PFHxS)	0.93	5.1	0.87	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	5.1	1.1	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	5.1	0.87	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	5.1	0.94	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluoropentanesulfonic acid (PFPeS)	ND	5.1	0.66	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluoroundecanoic acid (PFUnA)	ND	5.1	0.94	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	5.1	0.71	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluoroheptanoic acid (PFHpA)	ND	5.1	0.88	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluorooctanoic acid (PFOA)	2.2	5.1	1.7	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluorooctanesulfonic acid (PFOS)	1.8	5.1	1.5	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH
Perfluorononanoic acid (PFNA)	ND	5.1	0.88	ng/L	1	U	SOP-454 PFAS	10/1/21	10/12/21 18:25	BLH

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### Sample Extraction Data

Prep Method: SOP 454-PFAAS    Analytical Method: SOP-454 PFAS

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
2111597-01 [Farmington WPCF-Upstream-09282021]	B291389	97.6	1.00	10/01/21
2111597-02 [Farmington WPCF-Downstream-09282021]	B291389	97.8	1.00	10/01/21

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**QUALITY CONTROL**
**Semivolatile Organic Compounds by - LC/MS-MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B291389 - SOP 454-PFAAS**
**Blank (B291389-BLK1)**

Prepared: 10/01/21 Analyzed: 10/12/21

Perfluorobutanoic acid (PFBA)	ND	2.0	ng/L							U
Perfluorobutanesulfonic acid (PFBS)	ND	2.0	ng/L							U
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L							U
Perfluorohexanoic acid (PFHxA)	ND	2.0	ng/L							U
11Cl-PF3OUdS (F53B Minor)	ND	2.0	ng/L							U
9Cl-PF3ONS (F53B Major)	ND	2.0	ng/L							U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	2.0	ng/L							U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	2.0	ng/L							U
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	2.0	ng/L							U
Perfluorodecanoic acid (PFDA)	ND	2.0	ng/L							U
Perfluorododecanoic acid (PFDoA)	ND	2.0	ng/L							U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	2.0	ng/L							U
Perfluoroheptanesulfonic acid (PFHpS)	ND	2.0	ng/L							U
N-EtFOSAA	ND	2.0	ng/L							U
N-MeFOSAA	ND	2.0	ng/L							U
Perfluorotetradecanoic acid (PFTA)	ND	2.0	ng/L							U
Perfluorotridecanoic acid (PFTrDA)	ND	2.0	ng/L							U
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	2.0	ng/L							U
Perfluorodecanesulfonic acid (PFDS)	ND	2.0	ng/L							U
Perfluorooctanesulfonamide (FOSA)	ND	2.0	ng/L							U
Perfluorononanesulfonic acid (PFNS)	ND	2.0	ng/L							U
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	2.0	ng/L							U
Perfluoro-1-butanesulfonamide (FBSA)	ND	2.0	ng/L							U
Perfluorohexanesulfonic acid (PFHxS)	ND	2.0	ng/L							U
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	2.0	ng/L							U
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	2.0	ng/L							U
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	2.0	ng/L							U
Perfluoropetanesulfonic acid (PFPeS)	ND	2.0	ng/L							U
Perfluoroundecanoic acid (PFUnA)	ND	2.0	ng/L							U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L							U
Perfluoroheptanoic acid (PFHpA)	ND	2.0	ng/L							U
Perfluorooctanoic acid (PFOA)	ND	2.0	ng/L							U
Perfluorooctanesulfonic acid (PFOS)	ND	2.0	ng/L							U
Perfluorononanoic acid (PFNA)	ND	2.0	ng/L							U

**LCS (B291389-BS1)**

Prepared: 10/01/21 Analyzed: 10/12/21

Perfluorobutanoic acid (PFBA)	9.33	2.0	ng/L	9.82	95.0	73-129
Perfluorobutanesulfonic acid (PFBS)	8.19	2.0	ng/L	8.69	94.3	72-130
Perfluoropentanoic acid (PFPeA)	9.04	2.0	ng/L	9.82	92.0	72-129
Perfluorohexanoic acid (PFHxA)	8.87	2.0	ng/L	9.82	90.4	72-129
11Cl-PF3OUdS (F53B Minor)	8.61	2.0	ng/L	9.25	93.1	50-150
9Cl-PF3ONS (F53B Major)	9.07	2.0	ng/L	9.15	99.1	50-150
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	8.38	2.0	ng/L	9.25	90.6	50-150
Hexafluoropropylene oxide dimer acid (HFPO-DA)	6.37	2.0	ng/L	9.82	64.9	50-150
8:2 Fluorotelomersulfonic acid (8:2FTS A)	9.57	2.0	ng/L	9.43	102	67-138
Perfluorodecanoic acid (PFDA)	10.2	2.0	ng/L	9.82	103	71-129
Perfluorododecanoic acid (PFDoA)	9.19	2.0	ng/L	9.82	93.6	72-134
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	10.1	2.0	ng/L	8.74	115	50-150



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**QUALITY CONTROL**
**Semivolatile Organic Compounds by - LC/MS-MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B291389 - SOP 454-PFAAS</b>										
<b>LCS (B291389-BS1)</b>										
				Prepared: 10/01/21 Analyzed: 10/12/21						
Perfluoroheptanesulfonic acid (PFHpS)	8.09	2.0	ng/L	9.38		86.3	69-134			
N-EtFOSAA	10.8	2.0	ng/L	9.82		110	61-135			
N-MeFOSAA	10.8	2.0	ng/L	9.82		110	65-136			
Perfluorotetradecanoic acid (PFTA)	9.02	2.0	ng/L	9.82		91.8	71-132			
Perfluorotridecanoic acid (PFTTrDA)	10.1	2.0	ng/L	9.82		103	65-144			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	9.74	2.0	ng/L	9.18		106	63-143			
Perfluorodecanesulfonic acid (PFDS)	8.19	2.0	ng/L	9.47		86.4	53-142			
Perfluorooctanesulfonamide (FOSA)	8.58	2.0	ng/L	9.82		87.4	67-137			
Perfluorononanesulfonic acid (PFNS)	8.04	2.0	ng/L	9.43		85.3	69-127			
Perfluoro-1-hexanesulfonamide (FHxSA)	9.54	2.0	ng/L	9.82		97.1	50-150			
Perfluoro-1-butanefulfonamide (FBSA)	9.90	2.0	ng/L	9.82		101	50-150			
Perfluorohexanesulfonic acid (PFHxS)	8.53	2.0	ng/L	8.93		95.5	68-131			
Perfluoro-4-oxapentanoic acid (PFMPA)	9.96	2.0	ng/L	9.82		101	50-150			
Perfluoro-5-oxahexanoic acid (PFMBA)	10.8	2.0	ng/L	9.82		110	50-150			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	8.96	2.0	ng/L	9.33		96.1	64-140			
Perfluoropentanesulfonic acid (PFPeS)	7.70	2.0	ng/L	9.23		83.4	71-127			
Perfluoroundecanoic acid (PFUnA)	9.20	2.0	ng/L	9.82		93.8	69-133			
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	10.7	2.0	ng/L	9.82		109	50-150			
Perfluoroheptanoic acid (PFHpA)	10.1	2.0	ng/L	9.82		102	72-130			
Perfluorooctanoic acid (PFOA)	10.1	2.0	ng/L	9.82		103	71-133			
Perfluorooctanesulfonic acid (PFOS)	9.12	2.0	ng/L	9.08		100	65-140			
Perfluorononanoic acid (PFNA)	9.63	2.0	ng/L	9.82		98.1	69-130			
<b>LCS Dup (B291389-BS1)</b>										
				Prepared: 10/01/21 Analyzed: 10/12/21						
Perfluorobutanoic acid (PFBA)	9.66	2.0	ng/L	9.89		97.7	73-129	3.51	30	
Perfluorobutanesulfonic acid (PFBS)	8.50	2.0	ng/L	8.75		97.2	72-130	3.74	30	
Perfluoropentanoic acid (PFPeA)	9.50	2.0	ng/L	9.89		96.0	72-129	4.99	30	
Perfluorohexanoic acid (PFHxA)	9.36	2.0	ng/L	9.89		94.7	72-129	5.40	30	
11Cl-PF3OUdS (F53B Minor)	9.77	2.0	ng/L	9.32		105	50-150	12.6	30	
9Cl-PF3ONS (F53B Major)	9.70	2.0	ng/L	9.22		105	50-150	6.70	30	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	8.83	2.0	ng/L	9.32		94.7	50-150	5.20	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	6.28	2.0	ng/L	9.89		63.5	50-150	1.44	30	
8:2 Fluorotelomersulfonic acid (8:2FTS A)	11.3	2.0	ng/L	9.50		119	67-138	16.8	30	
Perfluorodecanoic acid (PFDA)	10.8	2.0	ng/L	9.89		109	71-129	5.83	30	
Perfluorododecanoic acid (PFDoA)	9.06	2.0	ng/L	9.89		91.6	72-134	1.48	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	10.4	2.0	ng/L	8.80		118	50-150	3.26	30	
Perfluoroheptanesulfonic acid (PFHpS)	9.52	2.0	ng/L	9.45		101	69-134	16.3	30	
N-EtFOSAA	12.2	2.0	ng/L	9.89		124	61-135	12.2	30	
N-MeFOSAA	11.2	2.0	ng/L	9.89		113	65-136	3.17	30	
Perfluorotetradecanoic acid (PFTA)	8.39	2.0	ng/L	9.89		84.8	71-132	7.21	30	
Perfluorotridecanoic acid (PFTTrDA)	9.00	2.0	ng/L	9.89		91.0	65-144	11.4	30	
4:2 Fluorotelomersulfonic acid (4:2FTS A)	10.6	2.0	ng/L	9.25		115	63-143	8.69	30	
Perfluorodecanesulfonic acid (PFDS)	9.13	2.0	ng/L	9.54		95.6	53-142	10.8	30	
Perfluorooctanesulfonamide (FOSA)	9.51	2.0	ng/L	9.89		96.1	67-137	10.2	30	
Perfluorononanesulfonic acid (PFNS)	9.08	2.0	ng/L	9.50		95.7	69-127	12.2	30	
Perfluoro-1-hexanesulfonamide (FHxSA)	12.3	2.0	ng/L	9.89		125	50-150	25.5	30	
Perfluoro-1-butanefulfonamide (FBSA)	10.5	2.0	ng/L	9.89		107	50-150	6.30	30	
Perfluorohexanesulfonic acid (PFHxS)	9.41	2.0	ng/L	9.00		105	68-131	9.75	30	
Perfluoro-4-oxapentanoic acid (PFMPA)	10.2	2.0	ng/L	9.89		103	50-150	2.36	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	11.3	2.0	ng/L	9.89		115	50-150	4.96	30	

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**QUALITY CONTROL**
**Semivolatile Organic Compounds by - LC/MS-MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B291389 - SOP 454-PFAAS**
**LCS Dup (B291389-BSD1)**

Prepared: 10/01/21 Analyzed: 10/12/21

6:2 Fluorotelomersulfonic acid (6:2FTS A)	9.92	2.0	ng/L	9.40		106	64-140	10.2	30	
Perfluoropetanesulfonic acid (PFPeS)	9.42	2.0	ng/L	9.30		101	71-127	20.1	30	
Perfluoroundecanoic acid (PFUnA)	8.76	2.0	ng/L	9.89		88.5	69-133	4.98	30	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	11.4	2.0	ng/L	9.89		115	50-150	6.04	30	
Perfluoroheptanoic acid (PFHpA)	10.3	2.0	ng/L	9.89		104	72-130	2.25	30	
Perfluorooctanoic acid (PFOA)	11.6	2.0	ng/L	9.89		117	71-133	12.9	30	
Perfluorooctanesulfonic acid (PFOS)	9.93	2.0	ng/L	9.15		109	65-140	8.51	30	
Perfluorononanoic acid (PFNA)	11.3	2.0	ng/L	9.89		114	69-130	15.8	30	

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**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
PF-17	Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.
S-29	Extracted Internal Standard is outside of control limits.
U	Analyte included in the analysis, but not detected

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**INTERNAL STANDARD AREA AND RT SUMMARY**
**SOP-454 PFAS**

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>Farmington WPCF-Upstream-09282021 (21I1597-01 )</b>			Lab File ID: 21I1597-01.d			Analyzed: 10/12/21 18:17			
M8FOSA	354484.1	4.052516	381,881.00	4.052516	93	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	121659.3	2.603583	205,270.00	2.603583	59	50 - 150	0.0000	+/-0.50	
M2PF <sub>TA</sub>	1271178	4.402783	1,443,675.00	4.402783	88	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	133117.5	3.866833	147,888.00	3.866833	90	50 - 150	0.0000	+/-0.50	
MPF <sub>BA</sub>	515385.6	1.108317	598,783.00	1.108317	86	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	302436.1	2.929717	187,919.00	2.929717	161	50 - 150	0.0000	+/-0.50	*
M6PF <sub>DA</sub>	761608.1	3.867333	776,747.00	3.867333	98	50 - 150	0.0000	+/-0.50	
M3PF <sub>BS</sub>	164315.3	1.986217	171,138.00	1.986217	96	50 - 150	0.0000	+/-0.50	
M7PF <sub>UnA</sub>	969847.8	4.017967	1,019,436.00	4.017967	95	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	83360.13	3.501317	113,796.00	3.501317	73	50 - 150	0.0000	+/-0.50	
M5PF <sub>PeA</sub>	616152.3	1.79965	607,397.00	1.79965	101	50 - 150	0.0000	+/-0.50	
M5PF <sub>HxA</sub>	884934.4	2.696967	902,285.00	2.696967	98	50 - 150	0.0000	+/-0.50	
M3PF <sub>HxS</sub>	111888	3.276217	116,015.00	3.276217	96	50 - 150	0.0000	+/-0.50	
M4PF <sub>HpA</sub>	895132.9	3.243783	890,881.00	3.243783	100	50 - 150	0.0000	+/-0.50	
M8PF <sub>OA</sub>	845922.8	3.51815	852,998.00	3.51815	99	50 - 150	0.0000	+/-0.50	
M8PF <sub>OS</sub>	135779.9	3.700067	133,855.00	3.700067	101	50 - 150	0.0000	+/-0.50	
M9PF <sub>NA</sub>	693017.1	3.7011	683,878.00	3.7011	101	50 - 150	0.0000	+/-0.50	
MPF <sub>DoA</sub>	968537.2	4.1612	1,016,785.00	4.1612	95	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	226032.7	4.025434	237,022.00	4.025434	95	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	254091.4	3.945867	282,734.00	3.937867	90	50 - 150	0.0080	+/-0.50	

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**INTERNAL STANDARD AREA AND RT SUMMARY**
**SOP-454 PFAS**

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>Farmington WPCF-Downstream-09282021 (2111597-02)</b>			Lab File ID: 2111597-02.d			Analyzed: 10/12/21 18:25			
M8FOSA	402789.2	4.052516	381,881.00	4.052516	105	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	138242.9	2.603583	205,270.00	2.603583	67	50 - 150	0.0000	+/-0.50	
M2PF <sub>TA</sub>	1589727	4.402783	1,443,675.00	4.402783	110	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	133661.6	3.866833	147,888.00	3.866833	90	50 - 150	0.0000	+/-0.50	
MPF <sub>BA</sub>	561737.2	1.108317	598,783.00	1.108317	94	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	329762.4	2.929717	187,919.00	2.929717	175	50 - 150	0.0000	+/-0.50	*
M6PF <sub>DA</sub>	854035.1	3.859367	776,747.00	3.867333	110	50 - 150	-0.0080	+/-0.50	
M3PF <sub>B</sub> S	185528.8	1.986217	171,138.00	1.986217	108	50 - 150	0.0000	+/-0.50	
M7PF <sub>Un</sub> A	1219594	4.017967	1,019,436.00	4.017967	120	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	106921.5	3.501317	113,796.00	3.501317	94	50 - 150	0.0000	+/-0.50	
M5PF <sub>Pe</sub> A	681673.6	1.799667	607,397.00	1.79965	112	50 - 150	0.0000	+/-0.50	
M5PF <sub>Hx</sub> A	986104.2	2.696967	902,285.00	2.696967	109	50 - 150	0.0000	+/-0.50	
M3PF <sub>Hx</sub> S	123256	3.276217	116,015.00	3.276217	106	50 - 150	0.0000	+/-0.50	
M4PF <sub>Hp</sub> A	993912.9	3.243783	890,881.00	3.243783	112	50 - 150	0.0000	+/-0.50	
M8PF <sub>OA</sub>	926336.8	3.51815	852,998.00	3.51815	109	50 - 150	0.0000	+/-0.50	
M8PF <sub>OS</sub>	138975.1	3.700067	133,855.00	3.700067	104	50 - 150	0.0000	+/-0.50	
M9PF <sub>NA</sub>	779537.6	3.7011	683,878.00	3.7011	114	50 - 150	0.0000	+/-0.50	
MPF <sub>Do</sub> A	1118495	4.1612	1,016,785.00	4.1612	110	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	248170.5	4.025434	237,022.00	4.025434	105	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	307670	3.945867	282,734.00	3.937867	109	50 - 150	0.0080	+/-0.50	

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**INTERNAL STANDARD AREA AND RT SUMMARY**
**SOP-454 PFAS**

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>Blank (B291389-BLK1)</b>			Lab File ID: B291389-BLK1.d			Analyzed: 10/12/21 16:51			
M8FOSA	375613.3	4.052516	381,881.00	4.052516	98	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	197737.8	2.6118	205,270.00	2.6118	96	50 - 150	0.0000	+/-0.50	
M2PFTA	1499639	4.402783	1,443,675.00	4.402783	104	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	138794.2	3.866833	147,888.00	3.866833	94	50 - 150	0.0000	+/-0.50	
MPFBA	700759.1	1.108317	598,783.00	1.100017	117	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	382953.7	2.929717	187,919.00	2.929717	204	50 - 150	0.0000	+/-0.50	*
M6PFDA	801485.8	3.867333	776,747.00	3.867333	103	50 - 150	0.0000	+/-0.50	
M3PFBS	177698.4	1.9945	171,138.00	1.986217	104	50 - 150	0.0083	+/-0.50	
M7PFUnA	1103535	4.017967	1,019,436.00	4.017967	108	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	113004.2	3.501317	113,796.00	3.501317	99	50 - 150	0.0000	+/-0.50	
M5PFPeA	671077.8	1.79965	607,397.00	1.79965	110	50 - 150	0.0000	+/-0.50	
M5PFHxA	948130.3	2.696967	902,285.00	2.696967	105	50 - 150	0.0000	+/-0.50	
M3PFHxS	119654.3	3.276217	116,015.00	3.276217	103	50 - 150	0.0000	+/-0.50	
M4PFHpA	958087.1	3.243783	890,881.00	3.243783	108	50 - 150	0.0000	+/-0.50	
M8PFOA	897281.4	3.51815	852,998.00	3.51815	105	50 - 150	0.0000	+/-0.50	
M8PFOS	125988.3	3.700067	133,855.00	3.700067	94	50 - 150	0.0000	+/-0.50	
M9PFNA	721463.3	3.7011	683,878.00	3.7011	105	50 - 150	0.0000	+/-0.50	
MPFDoA	1019096	4.161183	1,016,785.00	4.161183	100	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	232831.2	4.025434	237,022.00	4.025434	98	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	307534	3.945867	282,734.00	3.945867	109	50 - 150	0.0000	+/-0.50	

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**INTERNAL STANDARD AREA AND RT SUMMARY**
**SOP-454 PFAS**

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>LCS (B291389-BS1 )</b>			Lab File ID: B291389-BS1.d			Analyzed: 10/12/21 16:37			
M8FOSA	389568	4.052516	381,881.00	4.052516	102	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	180263.5	2.6118	205,270.00	2.6118	88	50 - 150	0.0000	+/-0.50	
M2PF <sub>TA</sub>	1441948	4.402783	1,443,675.00	4.402783	100	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	173528.7	3.866833	147,888.00	3.866833	117	50 - 150	0.0000	+/-0.50	
MPF <sub>BA</sub>	681868.8	1.108317	598,783.00	1.100017	114	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	340965.7	2.929717	187,919.00	2.929717	181	50 - 150	0.0000	+/-0.50	*
M6PF <sub>DA</sub>	810579.3	3.867333	776,747.00	3.867333	104	50 - 150	0.0000	+/-0.50	
M3PF <sub>BS</sub>	177778.3	1.9945	171,138.00	1.986217	104	50 - 150	0.0083	+/-0.50	
M7PF <sub>UnA</sub>	1071520	4.017967	1,019,436.00	4.017967	105	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	108714.4	3.501317	113,796.00	3.501317	96	50 - 150	0.0000	+/-0.50	
M5PF <sub>PeA</sub>	652704.2	1.80795	607,397.00	1.79965	107	50 - 150	0.0083	+/-0.50	
M5PF <sub>HxA</sub>	959326.8	2.706317	902,285.00	2.696967	106	50 - 150	0.0093	+/-0.50	
M3PF <sub>HxS</sub>	131124	3.276217	116,015.00	3.276217	113	50 - 150	0.0000	+/-0.50	
M4PF <sub>HpA</sub>	976670.6	3.243783	890,881.00	3.243783	110	50 - 150	0.0000	+/-0.50	
M8PF <sub>OA</sub>	944857.9	3.51815	852,998.00	3.51815	111	50 - 150	0.0000	+/-0.50	
M8PF <sub>OS</sub>	143129.3	3.700067	133,855.00	3.700067	107	50 - 150	0.0000	+/-0.50	
M9PF <sub>NA</sub>	822324.4	3.7011	683,878.00	3.7011	120	50 - 150	0.0000	+/-0.50	
MPF <sub>DoA</sub>	1053792	4.1612	1,016,785.00	4.161183	104	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	280547.3	4.025434	237,022.00	4.025434	118	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	308612	3.945867	282,734.00	3.945867	109	50 - 150	0.0000	+/-0.50	

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**INTERNAL STANDARD AREA AND RT SUMMARY**
**SOP-454 PFAS**

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>LCS Dup (B291389-BSD1)</b>			Lab File ID: B291389-BSD1.d			Analyzed: 10/12/21 16:44			
M8FOSA	393305.5	4.052516	381,881.00	4.052516	103	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	194264.1	2.6118	205,270.00	2.6118	95	50 - 150	0.0000	+/-0.50	
M2PF <sub>TA</sub>	1676448	4.402783	1,443,675.00	4.402783	116	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	178295.4	3.866833	147,888.00	3.866833	121	50 - 150	0.0000	+/-0.50	
MPF <sub>BA</sub>	736429.2	1.108317	598,783.00	1.100017	123	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	358611.2	2.929717	187,919.00	2.929717	191	50 - 150	0.0000	+/-0.50	*
M6PF <sub>DA</sub>	829856.8	3.867333	776,747.00	3.867333	107	50 - 150	0.0000	+/-0.50	
M3PF <sub>BS</sub>	194577.9	1.9945	171,138.00	1.986217	114	50 - 150	0.0083	+/-0.50	
M7PF <sub>UnA</sub>	1156165	4.017967	1,019,436.00	4.017967	113	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	110465	3.501317	113,796.00	3.501317	97	50 - 150	0.0000	+/-0.50	
M5PF <sub>PeA</sub>	698217	1.79965	607,397.00	1.79965	115	50 - 150	0.0000	+/-0.50	
M5PF <sub>HxA</sub>	1014704	2.696967	902,285.00	2.696967	112	50 - 150	0.0000	+/-0.50	
M3PF <sub>HxS</sub>	129607.4	3.276217	116,015.00	3.276217	112	50 - 150	0.0000	+/-0.50	
M4PF <sub>HpA</sub>	1046265	3.243783	890,881.00	3.243783	117	50 - 150	0.0000	+/-0.50	
M8PF <sub>OA</sub>	894313.9	3.51815	852,998.00	3.51815	105	50 - 150	0.0000	+/-0.50	
M8PF <sub>OS</sub>	149200.6	3.700067	133,855.00	3.700067	111	50 - 150	0.0000	+/-0.50	
M9PF <sub>NA</sub>	796464.5	3.7011	683,878.00	3.7011	116	50 - 150	0.0000	+/-0.50	
MPF <sub>DoA</sub>	1172931	4.1612	1,016,785.00	4.161183	115	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	258258.5	4.025434	237,022.00	4.025434	109	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	331367.1	3.945867	282,734.00	3.945867	117	50 - 150	0.0000	+/-0.50	



**CERTIFICATIONS**
**Certified Analyses included in this Report**

Analyte	Certifications
<i>SOP-454 PFAS in Water</i>	
Perfluorobutanoic acid (PFBA)	NH-P
Perfluorobutanesulfonic acid (PFBS)	NH-P
Perfluoropentanoic acid (PFPeA)	NH-P
Perfluorohexanoic acid (PFHxA)	NH-P
11Cl-PF3OUdS (F53B Minor)	NH-P
9Cl-PF3ONS (F53B Major)	NH-P
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NH-P
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P
8:2 Fluorotelomersulfonic acid (8:2FTS A)	NH-P
Perfluorodecanoic acid (PFDA)	NH-P
Perfluorododecanoic acid (PFDoA)	NH-P
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	NH-P
Perfluoroheptanesulfonic acid (PFHpS)	NH-P
N-EtFOSAA	NH-P
N-MeFOSAA	NH-P
Perfluorotetradecanoic acid (PFTA)	NH-P
Perfluorotridecanoic acid (PFTrDA)	NH-P
4:2 Fluorotelomersulfonic acid (4:2FTS A)	NH-P
Perfluorodecanesulfonic acid (PFDS)	NH-P
Perfluorooctanesulfonamide (FOSA)	NH-P
Perfluorononanesulfonic acid (PFNS)	NH-P
Perfluoro-1-hexanesulfonamide (FHxSA)	NH-P
Perfluoro-1-butanefulfonamide (FBSA)	NH-P
Perfluorohexanesulfonic acid (PFHxS)	NH-P
Perfluoro-4-oxapentanoic acid (PFMPA)	NH-P
Perfluoro-5-oxahexanoic acid (PFMBA)	NH-P
6:2 Fluorotelomersulfonic acid (6:2FTS A)	NH-P
Perfluoropetanesulfonic acid (PFPeS)	NH-P
Perfluoroundecanoic acid (PFUnA)	NH-P
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P
Perfluoroheptanoic acid (PFHpA)	NH-P
Perfluorooctanoic acid (PFOA)	NH-P
Perfluorooctanesulfonic acid (PFOS)	NH-P
Perfluorononanoic acid (PFNA)	NH-P

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Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Public Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2022
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2022

2111597



Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com

Company Name: Weston & Sampson

Address: 712 Brook Street, Suite 103, Rocky Hill, CT 06067

Phone: (959) 777-5822

Project Name: CTDEEP - POTW PFAS

Project Location: Farmington WPCF

Project Number: ENG21-0609

Project Manager: John Zbell

Con-Test Quote Name/Number: 00093567

Invoice Recipient: John Zbell

Sampled By: John Zbell

39 Spruce Street  
 East Longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

Dissolved Metals Samples

Requested Turnaround Time

7-Day  10-Day  Field Filtered  Lab to Filter

PFAS 10-Day (std)  Due Date:

Rush-Approval Required

1-Day  3-Day  Orthophosphate Samples

2-Day  4-Day  Field Filtered  Lab to Filter

Data Delivery

Format: PDF  EXCEL

Other: EnviroData8

CLP Like Data Pkg Required:

Email To: Zbell.john@wseinc.com

Fax To #: NON SOXHLET

PCB ONLY

SOXHLET

NON SOXHLET

ANALYSIS REQUESTED

Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS - SOP ID 454	PFAS - SOP ID 466
1	Farmington WPCF - Upstream - 09282021	09/28/21	10/01/21	Grab	SW		2					X	
2	Farmington WPCF - Downstream-09282021	09/28/21	10/01/21	Grab	SW		2					X	

Preservation Codes:  
 I = Iced  
 H = HCL  
 M = Methanol  
 N = Nitric Acid  
 S = Sulfuric Acid  
 B = Sodium Bisulfate  
 X = Sodium Hydroxide  
 T = Sodium Thiosulfate  
 O = Other (please define)

Matrix Codes:  
 GW = Ground Water  
 WW = Waste Water  
 DW = Drinking Water  
 A = Air  
 S = Soil  
 SL = Sludge  
 SOL = Solid  
 O = Other (please define)

Concentration Codes:  
 H - High; M - Medium; L - Low; C - Clean; U - Unknown

Special Requirements:  
 MA MCP Required   
 MCP Certification Form Required   
 ET RCP Required   
 RCP Certification Form Required   
 MA State DRY Required   
 PWSID #

Project Entity:  
 Government  Municipality  Other   
 Federal  21 J  School   
 City  Brownfield  MBTA  WRTA  Chromatogram   
 AIHA-LAP, LLC

Client Comments:  
 Date/Time: 9/28/21 4:20  
 Date/Time: 9/28/21 4:20  
 Date/Time: 9/28/21 5:40  
 Date/Time: 9/28/21 1:40  
 Date/Time:  
 Date/Time:  
 Date/Time:  
 Date/Time:  
 Date/Time:  
 Date/Time:

Relinquished by: (signature)  
 Received by: (signature)  
 Relinquished by: (signature)  
 Received by: (signature)  
 Relinquished by: (signature)  
 Received by: (signature)

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**<sup>®</sup>  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

**Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client W&S  
 Received By ea Date 9/28/11 Time 1740  
 How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
 Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_  
 Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 4.1  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_  
 Was Custody Seal Intact? NA Were Samples Tampered with? NA  
 Was COC Relinquished? F Does Chain Agree With Samples? T  
 Are there broken/leaking/loose caps on any samples? F  
 Is COC in ink/ Legible? T Were samples received within holding time? T  
 Did COC include all pertinent Information? Client T Analysis T Sampler Name F  
 Project T ID's F Collection Dates/Times T  
 Are Sample labels filled out and legible? T  
 Are there Lab to Filters? F Who was notified? \_\_\_\_\_  
 Are there Rushes? F Who was notified? \_\_\_\_\_  
 Are there Short Holds? F Who was notified? \_\_\_\_\_  
 Is there enough Volume? T  
 Is there Headspace where applicable? NA MS/MSD? F  
 Proper Media/Containers Used? T Is splitting samples required? F  
 Were trip blanks received? F On COC? F  
 Do all samples have the proper pH? NA Acid \_\_\_\_\_ Base \_\_\_\_\_

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria	2oz Amb/Clear
DI-		Other Glass		Other Plastic	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

**Unused Media**

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint	2oz Amb/Clear
DI-		Other Plastic		Other Glass	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

Comments:

November 18, 2021

John Zbell  
Weston & Sampson  
712 Brook Street, Suite 103  
Rocky Hill, CT 06067

Project Location: Hartford MDC WPCF  
Client Job Number:  
Project Number: ENG21-0609  
Laboratory Work Order Number: 21J0106

Enclosed are results of analyses for samples as received by the laboratory on October 4, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kerry K. McGee  
Project Manager

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Weston & Sampson  
712 Brook Street, Suite 103  
Rocky Hill, CT 06067  
ATTN: John Zbell

REPORT DATE: 11/18/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: ENG21-0609

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**ANALYTICAL SUMMARY**

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WORK ORDER NUMBER: 21J0106

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Hartford MDC WPCF

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Hartford MDC WPCF-Upstream-09282021	21J0106-01	Surface Water		SOP-454 PFAS	
Hartford MDC WPCF-Downstream-09282021	21J0106-02	Surface Water		SOP-454 PFAS	

**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

REVISED REPORT 11-18-21: Per client request PFAS results reported to the MDL.

**SOP-454 PFAS**

**Qualifications:**

**PF-17**

Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

**Analyte & Samples(s) Qualified:**

**M3HFPO-DA**

21J0106-01[Hartford MDC WPCF-Upstream-09282021], 21J0106-02[Hartford MDC WPCF-Downstream-09282021], B291389-BLK1

**S-29**

Extracted Internal Standard is outside of control limits.

**Analyte & Samples(s) Qualified:**

**M3HFPO-DA**

B291389-BS1, B291389-BSD1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington  
Technical Representative



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Hartford MDC WPCF

Sample Description:

Work Order: 21J0106

Date Received: 10/4/2021

Field Sample #: Hartford MDC WPCF-Upstream-09282021

Sampled: 9/28/2021 08:41

Sample ID: 21J0106-01

Sample Matrix: Surface Water

## Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	5.2	1.9	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluorobutanesulfonic acid (PFBS)	ND	5.2	0.73	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluoropentanoic acid (PFPeA)	ND	5.2	1.0	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluorohexanoic acid (PFHxA)	1.5	5.2	1.0	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
11Cl-PF3OUdS (F53B Minor)	ND	5.2	1.7	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
9Cl-PF3ONS (F53B Major)	ND	5.2	1.0	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.2	0.90	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.2	0.62	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	5.2	1.6	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluorodecanoic acid (PFDA)	ND	5.2	1.3	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluorododecanoic acid (PFDoA)	ND	5.2	1.1	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	5.2	0.60	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluoroheptanesulfonic acid (PFHpS)	ND	5.2	2.4	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
N-EtFOSAA	ND	5.2	1.6	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
N-MeFOSAA	ND	5.2	2.0	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluorotetradecanoic acid (PFTA)	ND	5.2	0.95	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluorotridecanoic acid (PFTTrDA)	ND	5.2	0.71	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	5.2	0.73	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluorodecanesulfonic acid (PFDS)	ND	5.2	0.84	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluorooctanesulfonamide (FOSA)	ND	5.2	1.1	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluorononanesulfonic acid (PFNS)	ND	5.2	0.43	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	5.2	0.80	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluoro-1-butanefulfonamide (FBSA)	ND	5.2	0.49	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluorohexanesulfonic acid (PFHxS)	1.1	5.2	0.87	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	5.2	1.1	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	5.2	0.88	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	5.2	0.94	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluoropentanesulfonic acid (PFPeS)	ND	5.2	0.67	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluoroundecanoic acid (PFUnA)	ND	5.2	0.95	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	5.2	0.71	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluoroheptanoic acid (PFHpA)	ND	5.2	0.89	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluorooctanoic acid (PFOA)	ND	5.2	1.8	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluorooctanesulfonic acid (PFOS)	2.1	5.2	1.6	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH
Perfluorononanoic acid (PFNA)	ND	5.2	0.89	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:32	BLH

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Project Location: Hartford MDC WPCF

Sample Description:

Work Order: 21J0106

Date Received: 10/4/2021

Field Sample #: Hartford MDC WPCF-Downstream-092820

Sampled: 9/28/2021 08:54

Sample ID: 21J0106-02

Sample Matrix: Surface Water

## Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	2.2	5.1	1.9	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluorobutanesulfonic acid (PFBS)	0.76	5.1	0.72	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluoropentanoic acid (PFPeA)	ND	5.1	1.0	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluorohexanoic acid (PFHxA)	1.5	5.1	0.99	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
11Cl-PF3OUdS (F53B Minor)	ND	5.1	1.7	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
9Cl-PF3ONS (F53B Major)	ND	5.1	1.0	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	5.1	0.90	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	5.1	0.62	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	5.1	1.6	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluorodecanoic acid (PFDA)	ND	5.1	1.3	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluorododecanoic acid (PFDoA)	ND	5.1	1.1	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	5.1	0.60	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluoroheptanesulfonic acid (PFHpS)	ND	5.1	2.4	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
N-EtFOSAA	ND	5.1	1.6	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
N-MeFOSAA	ND	5.1	2.0	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluorotetradecanoic acid (PFTA)	ND	5.1	0.94	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluorotridecanoic acid (PFTTrDA)	ND	5.1	0.71	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	5.1	0.72	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluorodecanesulfonic acid (PFDS)	ND	5.1	0.84	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluorooctanesulfonamide (FOSA)	ND	5.1	1.1	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluorononanesulfonic acid (PFNS)	ND	5.1	0.43	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	5.1	0.80	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluoro-1-butanefulfonamide (FBSA)	ND	5.1	0.49	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluorohexanesulfonic acid (PFHxS)	0.93	5.1	0.87	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	5.1	1.1	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	5.1	0.88	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	5.1	0.94	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluoropentanesulfonic acid (PFPeS)	ND	5.1	0.66	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluoroundecanoic acid (PFUnA)	ND	5.1	0.95	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	5.1	0.71	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluoroheptanoic acid (PFHpA)	1.0	5.1	0.89	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluorooctanoic acid (PFOA)	2.4	5.1	1.8	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluorooctanesulfonic acid (PFOS)	2.2	5.1	1.5	ng/L	1	J	SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH
Perfluorononanoic acid (PFNA)	ND	5.1	0.89	ng/L	1		SOP-454 PFAS	10/1/21	10/12/21 18:39	BLH

---

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### Sample Extraction Data

Prep Method: SOP 454-PFAAS    Analytical Method: SOP-454 PFAS

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21J0106-01 [Hartford MDC WPCF-Upstream-09282021]	B291389	96.9	1.00	10/01/21
21J0106-02 [Hartford MDC WPCF-Downstream-09282021]	B291389	97.2	1.00	10/01/21

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**QUALITY CONTROL**
**Semivolatile Organic Compounds by - LC/MS-MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B291389 - SOP 454-PFAAS**
**Blank (B291389-BLK1)**

Prepared: 10/01/21 Analyzed: 10/12/21

Perfluorobutanoic acid (PFBA)	ND	2.0	ng/L
Perfluorobutanesulfonic acid (PFBS)	ND	2.0	ng/L
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L
Perfluorohexanoic acid (PFHxA)	ND	2.0	ng/L
11Cl-PF3OUdS (F53B Minor)	ND	2.0	ng/L
9Cl-PF3ONS (F53B Major)	ND	2.0	ng/L
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	2.0	ng/L
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	2.0	ng/L
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	2.0	ng/L
Perfluorodecanoic acid (PFDA)	ND	2.0	ng/L
Perfluorododecanoic acid (PFDoA)	ND	2.0	ng/L
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	2.0	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	ND	2.0	ng/L
N-EtFOSAA	ND	2.0	ng/L
N-MeFOSAA	ND	2.0	ng/L
Perfluorotetradecanoic acid (PFTA)	ND	2.0	ng/L
Perfluorotridecanoic acid (PFTrDA)	ND	2.0	ng/L
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	2.0	ng/L
Perfluorodecanesulfonic acid (PFDS)	ND	2.0	ng/L
Perfluorooctanesulfonamide (FOSA)	ND	2.0	ng/L
Perfluorononanesulfonic acid (PFNS)	ND	2.0	ng/L
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	2.0	ng/L
Perfluoro-1-butanesulfonamide (FBSA)	ND	2.0	ng/L
Perfluorohexanesulfonic acid (PFHxS)	ND	2.0	ng/L
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	2.0	ng/L
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	2.0	ng/L
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	2.0	ng/L
Perfluoropentanesulfonic acid (PFPeS)	ND	2.0	ng/L
Perfluoroundecanoic acid (PFUnA)	ND	2.0	ng/L
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L
Perfluoroheptanoic acid (PFHpA)	ND	2.0	ng/L
Perfluorooctanoic acid (PFOA)	ND	2.0	ng/L
Perfluorooctanesulfonic acid (PFOS)	ND	2.0	ng/L
Perfluorononanoic acid (PFNA)	ND	2.0	ng/L

**LCS (B291389-BS1)**

Prepared: 10/01/21 Analyzed: 10/12/21

Perfluorobutanoic acid (PFBA)	9.33	2.0	ng/L	9.82	95.0	73-129
Perfluorobutanesulfonic acid (PFBS)	8.19	2.0	ng/L	8.69	94.3	72-130
Perfluoropentanoic acid (PFPeA)	9.04	2.0	ng/L	9.82	92.0	72-129
Perfluorohexanoic acid (PFHxA)	8.87	2.0	ng/L	9.82	90.4	72-129
11Cl-PF3OUdS (F53B Minor)	8.61	2.0	ng/L	9.25	93.1	50-150
9Cl-PF3ONS (F53B Major)	9.07	2.0	ng/L	9.15	99.1	50-150
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	8.38	2.0	ng/L	9.25	90.6	50-150
Hexafluoropropylene oxide dimer acid (HFPO-DA)	6.37	2.0	ng/L	9.82	64.9	50-150
8:2 Fluorotelomersulfonic acid (8:2FTS A)	9.57	2.0	ng/L	9.43	102	67-138
Perfluorodecanoic acid (PFDA)	10.2	2.0	ng/L	9.82	103	71-129
Perfluorododecanoic acid (PFDoA)	9.19	2.0	ng/L	9.82	93.6	72-134
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	10.1	2.0	ng/L	8.74	115	50-150

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**QUALITY CONTROL**
**Semivolatile Organic Compounds by - LC/MS-MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B291389 - SOP 454-PFAAS</b>										
<b>LCS (B291389-BS1)</b>										
				Prepared: 10/01/21 Analyzed: 10/12/21						
Perfluoroheptanesulfonic acid (PFHpS)	8.09	2.0	ng/L	9.38		86.3	69-134			
N-EtFOSAA	10.8	2.0	ng/L	9.82		110	61-135			
N-MeFOSAA	10.8	2.0	ng/L	9.82		110	65-136			
Perfluorotetradecanoic acid (PFTA)	9.02	2.0	ng/L	9.82		91.8	71-132			
Perfluorotridecanoic acid (PFTTrDA)	10.1	2.0	ng/L	9.82		103	65-144			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	9.74	2.0	ng/L	9.18		106	63-143			
Perfluorodecanesulfonic acid (PFDS)	8.19	2.0	ng/L	9.47		86.4	53-142			
Perfluorooctanesulfonamide (FOSA)	8.58	2.0	ng/L	9.82		87.4	67-137			
Perfluorononanesulfonic acid (PFNS)	8.04	2.0	ng/L	9.43		85.3	69-127			
Perfluoro-1-hexanesulfonamide (FHxSA)	9.54	2.0	ng/L	9.82		97.1	50-150			
Perfluoro-1-butanefulfonamide (FBSA)	9.90	2.0	ng/L	9.82		101	50-150			
Perfluorohexanesulfonic acid (PFHxS)	8.53	2.0	ng/L	8.93		95.5	68-131			
Perfluoro-4-oxapentanoic acid (PFMPA)	9.96	2.0	ng/L	9.82		101	50-150			
Perfluoro-5-oxahexanoic acid (PFMBA)	10.8	2.0	ng/L	9.82		110	50-150			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	8.96	2.0	ng/L	9.33		96.1	64-140			
Perfluoropentanesulfonic acid (PFPeS)	7.70	2.0	ng/L	9.23		83.4	71-127			
Perfluoroundecanoic acid (PFUnA)	9.20	2.0	ng/L	9.82		93.8	69-133			
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	10.7	2.0	ng/L	9.82		109	50-150			
Perfluoroheptanoic acid (PFHpA)	10.1	2.0	ng/L	9.82		102	72-130			
Perfluorooctanoic acid (PFOA)	10.1	2.0	ng/L	9.82		103	71-133			
Perfluorooctanesulfonic acid (PFOS)	9.12	2.0	ng/L	9.08		100	65-140			
Perfluorononanoic acid (PFNA)	9.63	2.0	ng/L	9.82		98.1	69-130			
<b>LCS Dup (B291389-BSD1)</b>										
				Prepared: 10/01/21 Analyzed: 10/12/21						
Perfluorobutanoic acid (PFBA)	9.66	2.0	ng/L	9.89		97.7	73-129	3.51	30	
Perfluorobutanesulfonic acid (PFBS)	8.50	2.0	ng/L	8.75		97.2	72-130	3.74	30	
Perfluoropentanoic acid (PFPeA)	9.50	2.0	ng/L	9.89		96.0	72-129	4.99	30	
Perfluorohexanoic acid (PFHxA)	9.36	2.0	ng/L	9.89		94.7	72-129	5.40	30	
11Cl-PF3OUdS (F53B Minor)	9.77	2.0	ng/L	9.32		105	50-150	12.6	30	
9Cl-PF3ONS (F53B Major)	9.70	2.0	ng/L	9.22		105	50-150	6.70	30	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	8.83	2.0	ng/L	9.32		94.7	50-150	5.20	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	6.28	2.0	ng/L	9.89		63.5	50-150	1.44	30	
8:2 Fluorotelomersulfonic acid (8:2FTS A)	11.3	2.0	ng/L	9.50		119	67-138	16.8	30	
Perfluorodecanoic acid (PFDA)	10.8	2.0	ng/L	9.89		109	71-129	5.83	30	
Perfluorododecanoic acid (PFDoA)	9.06	2.0	ng/L	9.89		91.6	72-134	1.48	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	10.4	2.0	ng/L	8.80		118	50-150	3.26	30	
Perfluoroheptanesulfonic acid (PFHpS)	9.52	2.0	ng/L	9.45		101	69-134	16.3	30	
N-EtFOSAA	12.2	2.0	ng/L	9.89		124	61-135	12.2	30	
N-MeFOSAA	11.2	2.0	ng/L	9.89		113	65-136	3.17	30	
Perfluorotetradecanoic acid (PFTA)	8.39	2.0	ng/L	9.89		84.8	71-132	7.21	30	
Perfluorotridecanoic acid (PFTTrDA)	9.00	2.0	ng/L	9.89		91.0	65-144	11.4	30	
4:2 Fluorotelomersulfonic acid (4:2FTS A)	10.6	2.0	ng/L	9.25		115	63-143	8.69	30	
Perfluorodecanesulfonic acid (PFDS)	9.13	2.0	ng/L	9.54		95.6	53-142	10.8	30	
Perfluorooctanesulfonamide (FOSA)	9.51	2.0	ng/L	9.89		96.1	67-137	10.2	30	
Perfluorononanesulfonic acid (PFNS)	9.08	2.0	ng/L	9.50		95.7	69-127	12.2	30	
Perfluoro-1-hexanesulfonamide (FHxSA)	12.3	2.0	ng/L	9.89		125	50-150	25.5	30	
Perfluoro-1-butanefulfonamide (FBSA)	10.5	2.0	ng/L	9.89		107	50-150	6.30	30	
Perfluorohexanesulfonic acid (PFHxS)	9.41	2.0	ng/L	9.00		105	68-131	9.75	30	
Perfluoro-4-oxapentanoic acid (PFMPA)	10.2	2.0	ng/L	9.89		103	50-150	2.36	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	11.3	2.0	ng/L	9.89		115	50-150	4.96	30	

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**QUALITY CONTROL**
**Semivolatile Organic Compounds by - LC/MS-MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B291389 - SOP 454-PFAAS**
**LCS Dup (B291389-BSD1)**

Prepared: 10/01/21 Analyzed: 10/12/21

6:2 Fluorotelomersulfonic acid (6:2FTS A)	9.92	2.0	ng/L	9.40		106	64-140	10.2	30	
Perfluoropetanesulfonic acid (PFPeS)	9.42	2.0	ng/L	9.30		101	71-127	20.1	30	
Perfluoroundecanoic acid (PFUnA)	8.76	2.0	ng/L	9.89		88.5	69-133	4.98	30	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	11.4	2.0	ng/L	9.89		115	50-150	6.04	30	
Perfluoroheptanoic acid (PFHpA)	10.3	2.0	ng/L	9.89		104	72-130	2.25	30	
Perfluorooctanoic acid (PFOA)	11.6	2.0	ng/L	9.89		117	71-133	12.9	30	
Perfluorooctanesulfonic acid (PFOS)	9.93	2.0	ng/L	9.15		109	65-140	8.51	30	
Perfluorononanoic acid (PFNA)	11.3	2.0	ng/L	9.89		114	69-130	15.8	30	

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**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
PF-17	Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.
S-29	Extracted Internal Standard is outside of control limits.

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**INTERNAL STANDARD AREA AND RT SUMMARY**
**SOP-454 PFAS**

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>Hartford MDC WPCF-Upstream-09282021 (21J0106-01 )</b>			Lab File ID: 21J0106-01.d		Analyzed: 10/12/21 18:32				
M8FOSA	375840.3	4.052516	381,881.00	4.052516	98	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	126958.7	2.603583	205,270.00	2.603583	62	50 - 150	0.0000	+/-0.50	
M2PF <sub>TA</sub>	1315705	4.402783	1,443,675.00	4.402783	91	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	144320.2	3.866833	147,888.00	3.866833	98	50 - 150	0.0000	+/-0.50	
MPF <sub>BA</sub>	534733.9	1.108317	598,783.00	1.108317	89	50 - 150	0.0000	+/-0.50	
M3HF <sub>PO-DA</sub>	324250.1	2.929717	187,919.00	2.929717	173	50 - 150	0.0000	+/-0.50	*
M6PF <sub>DA</sub>	832152.3	3.859367	776,747.00	3.867333	107	50 - 150	-0.0080	+/-0.50	
M3PF <sub>BS</sub>	175139	1.986217	171,138.00	1.986217	102	50 - 150	0.0000	+/-0.50	
M7PF <sub>UnA</sub>	1052727	4.017967	1,019,436.00	4.017967	103	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	91416.67	3.501317	113,796.00	3.501317	80	50 - 150	0.0000	+/-0.50	
M5PF <sub>PeA</sub>	637019.3	1.79965	607,397.00	1.79965	105	50 - 150	0.0000	+/-0.50	
M5PF <sub>HxA</sub>	939822.9	2.696967	902,285.00	2.696967	104	50 - 150	0.0000	+/-0.50	
M3PF <sub>HxS</sub>	117112.2	3.276217	116,015.00	3.276217	101	50 - 150	0.0000	+/-0.50	
M4PF <sub>HpA</sub>	943747.9	3.243783	890,881.00	3.243783	106	50 - 150	0.0000	+/-0.50	
M8PF <sub>OA</sub>	817861.1	3.51015	852,998.00	3.51815	96	50 - 150	-0.0080	+/-0.50	
M8PF <sub>OS</sub>	133457.3	3.700067	133,855.00	3.700067	100	50 - 150	0.0000	+/-0.50	
M9PF <sub>NA</sub>	731366.3	3.7011	683,878.00	3.7011	107	50 - 150	0.0000	+/-0.50	
MPF <sub>DoA</sub>	1055472	4.153117	1,016,785.00	4.1612	104	50 - 150	-0.0081	+/-0.50	
d5-NEtFOSAA	264388.1	4.025434	237,022.00	4.025434	112	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	298835	3.937867	282,734.00	3.937867	106	50 - 150	0.0000	+/-0.50	



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## INTERNAL STANDARD AREA AND RT SUMMARY

## SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>Hartford MDC WPCF-Downstream-09282021 (21J0106-02 )</b>			Lab File ID: 21J0106-02.d			Analyzed: 10/12/21 18:39			
M8FOSA	369940.8	4.052516	381,881.00	4.052516	97	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	121615.1	2.603583	205,270.00	2.603583	59	50 - 150	0.0000	+/-0.50	
M2PFTA	1218403	4.402783	1,443,675.00	4.402783	84	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	126733.5	3.866833	147,888.00	3.866833	86	50 - 150	0.0000	+/-0.50	
MPFBA	516589.8	1.108317	598,783.00	1.108317	86	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	320759.7	2.929717	187,919.00	2.929717	171	50 - 150	0.0000	+/-0.50	*
M6PFDA	790951.6	3.867333	776,747.00	3.867333	102	50 - 150	0.0000	+/-0.50	
M3PFBS	164657.5	1.986217	171,138.00	1.986217	96	50 - 150	0.0000	+/-0.50	
M7PFUnA	1089772	4.017967	1,019,436.00	4.017967	107	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	90362.97	3.501317	113,796.00	3.501317	79	50 - 150	0.0000	+/-0.50	
M5PFPeA	614179.9	1.799667	607,397.00	1.79965	101	50 - 150	0.0000	+/-0.50	
M5PFHxA	896552.8	2.696967	902,285.00	2.696967	99	50 - 150	0.0000	+/-0.50	
M3PFHxS	107771.9	3.276217	116,015.00	3.276217	93	50 - 150	0.0000	+/-0.50	
M4PFHpA	885284.8	3.243783	890,881.00	3.243783	99	50 - 150	0.0000	+/-0.50	
M8PFOA	810270.1	3.51815	852,998.00	3.51815	95	50 - 150	0.0000	+/-0.50	
M8PFOS	120117.3	3.700067	133,855.00	3.700067	90	50 - 150	0.0000	+/-0.50	
M9PFNA	713330.2	3.7011	683,878.00	3.7011	104	50 - 150	0.0000	+/-0.50	
MPFDoA	958691.6	4.1612	1,016,785.00	4.1612	94	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	205644.2	4.025434	237,022.00	4.025434	87	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	271430.6	3.945867	282,734.00	3.937867	96	50 - 150	0.0080	+/-0.50	

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## INTERNAL STANDARD AREA AND RT SUMMARY

## SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>Blank (B291389-BLK1)</b>			Lab File ID: B291389-BLK1.d			Analyzed: 10/12/21 16:51			
M8FOSA	375613.3	4.052516	381,881.00	4.052516	98	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	197737.8	2.6118	205,270.00	2.6118	96	50 - 150	0.0000	+/-0.50	
M2PFTA	1499639	4.402783	1,443,675.00	4.402783	104	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	138794.2	3.866833	147,888.00	3.866833	94	50 - 150	0.0000	+/-0.50	
MPFBA	700759.1	1.108317	598,783.00	1.100017	117	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	382953.7	2.929717	187,919.00	2.929717	204	50 - 150	0.0000	+/-0.50	*
M6PFDA	801485.8	3.867333	776,747.00	3.867333	103	50 - 150	0.0000	+/-0.50	
M3PFBS	177698.4	1.9945	171,138.00	1.986217	104	50 - 150	0.0083	+/-0.50	
M7PFUnA	1103535	4.017967	1,019,436.00	4.017967	108	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	113004.2	3.501317	113,796.00	3.501317	99	50 - 150	0.0000	+/-0.50	
M5PFPeA	671077.8	1.79965	607,397.00	1.79965	110	50 - 150	0.0000	+/-0.50	
M5PFHxA	948130.3	2.696967	902,285.00	2.696967	105	50 - 150	0.0000	+/-0.50	
M3PFHxS	119654.3	3.276217	116,015.00	3.276217	103	50 - 150	0.0000	+/-0.50	
M4PFHpA	958087.1	3.243783	890,881.00	3.243783	108	50 - 150	0.0000	+/-0.50	
M8PFOA	897281.4	3.51815	852,998.00	3.51815	105	50 - 150	0.0000	+/-0.50	
M8PFOS	125988.3	3.700067	133,855.00	3.700067	94	50 - 150	0.0000	+/-0.50	
M9PFNA	721463.3	3.7011	683,878.00	3.7011	105	50 - 150	0.0000	+/-0.50	
MPFDoA	1019096	4.161183	1,016,785.00	4.161183	100	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	232831.2	4.025434	237,022.00	4.025434	98	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	307534	3.945867	282,734.00	3.945867	109	50 - 150	0.0000	+/-0.50	

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**INTERNAL STANDARD AREA AND RT SUMMARY**
**SOP-454 PFAS**

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>LCS (B291389-BS1 )</b>			Lab File ID: B291389-BS1.d			Analyzed: 10/12/21 16:37			
M8FOSA	389568	4.052516	381,881.00	4.052516	102	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	180263.5	2.6118	205,270.00	2.6118	88	50 - 150	0.0000	+/-0.50	
M2PFTA	1441948	4.402783	1,443,675.00	4.402783	100	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	173528.7	3.866833	147,888.00	3.866833	117	50 - 150	0.0000	+/-0.50	
MPFBA	681868.8	1.108317	598,783.00	1.100017	114	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	340965.7	2.929717	187,919.00	2.929717	181	50 - 150	0.0000	+/-0.50	*
M6PFDA	810579.3	3.867333	776,747.00	3.867333	104	50 - 150	0.0000	+/-0.50	
M3PFBS	177778.3	1.9945	171,138.00	1.986217	104	50 - 150	0.0083	+/-0.50	
M7PFUnA	1071520	4.017967	1,019,436.00	4.017967	105	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	108714.4	3.501317	113,796.00	3.501317	96	50 - 150	0.0000	+/-0.50	
M5PFPeA	652704.2	1.80795	607,397.00	1.79965	107	50 - 150	0.0083	+/-0.50	
M5PFHxA	959326.8	2.706317	902,285.00	2.696967	106	50 - 150	0.0093	+/-0.50	
M3PFHxS	131124	3.276217	116,015.00	3.276217	113	50 - 150	0.0000	+/-0.50	
M4PFHpA	976670.6	3.243783	890,881.00	3.243783	110	50 - 150	0.0000	+/-0.50	
M8PFOA	944857.9	3.51815	852,998.00	3.51815	111	50 - 150	0.0000	+/-0.50	
M8PFOS	143129.3	3.700067	133,855.00	3.700067	107	50 - 150	0.0000	+/-0.50	
M9PFNA	822324.4	3.7011	683,878.00	3.7011	120	50 - 150	0.0000	+/-0.50	
MPFDoA	1053792	4.1612	1,016,785.00	4.161183	104	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	280547.3	4.025434	237,022.00	4.025434	118	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	308612	3.945867	282,734.00	3.945867	109	50 - 150	0.0000	+/-0.50	

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**INTERNAL STANDARD AREA AND RT SUMMARY**
**SOP-454 PFAS**

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>LCS Dup (B291389-BSD1)</b>			Lab File ID: B291389-BSD1.d			Analyzed: 10/12/21 16:44			
M8FOSA	393305.5	4.052516	381,881.00	4.052516	103	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	194264.1	2.6118	205,270.00	2.6118	95	50 - 150	0.0000	+/-0.50	
M2PF <sub>TA</sub>	1676448	4.402783	1,443,675.00	4.402783	116	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	178295.4	3.866833	147,888.00	3.866833	121	50 - 150	0.0000	+/-0.50	
MPF <sub>BA</sub>	736429.2	1.108317	598,783.00	1.100017	123	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	358611.2	2.929717	187,919.00	2.929717	191	50 - 150	0.0000	+/-0.50	*
M6PF <sub>DA</sub>	829856.8	3.867333	776,747.00	3.867333	107	50 - 150	0.0000	+/-0.50	
M3PF <sub>BS</sub>	194577.9	1.9945	171,138.00	1.986217	114	50 - 150	0.0083	+/-0.50	
M7PF <sub>UnA</sub>	1156165	4.017967	1,019,436.00	4.017967	113	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	110465	3.501317	113,796.00	3.501317	97	50 - 150	0.0000	+/-0.50	
M5PF <sub>PeA</sub>	698217	1.79965	607,397.00	1.79965	115	50 - 150	0.0000	+/-0.50	
M5PF <sub>HxA</sub>	1014704	2.696967	902,285.00	2.696967	112	50 - 150	0.0000	+/-0.50	
M3PF <sub>HxS</sub>	129607.4	3.276217	116,015.00	3.276217	112	50 - 150	0.0000	+/-0.50	
M4PF <sub>HpA</sub>	1046265	3.243783	890,881.00	3.243783	117	50 - 150	0.0000	+/-0.50	
M8PF <sub>OA</sub>	894313.9	3.51815	852,998.00	3.51815	105	50 - 150	0.0000	+/-0.50	
M8PF <sub>OS</sub>	149200.6	3.700067	133,855.00	3.700067	111	50 - 150	0.0000	+/-0.50	
M9PF <sub>NA</sub>	796464.5	3.7011	683,878.00	3.7011	116	50 - 150	0.0000	+/-0.50	
MPF <sub>DoA</sub>	1172931	4.1612	1,016,785.00	4.161183	115	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	258258.5	4.025434	237,022.00	4.025434	109	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	331367.1	3.945867	282,734.00	3.945867	117	50 - 150	0.0000	+/-0.50	

**CERTIFICATIONS**
**Certified Analyses included in this Report**

Analyte	Certifications
<i>SOP-454 PFAS in Water</i>	
Perfluorobutanoic acid (PFBA)	NH-P
Perfluorobutanesulfonic acid (PFBS)	NH-P
Perfluoropentanoic acid (PFPeA)	NH-P
Perfluorohexanoic acid (PFHxA)	NH-P
11Cl-PF3OUdS (F53B Minor)	NH-P
9Cl-PF3ONS (F53B Major)	NH-P
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NH-P
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P
8:2 Fluorotelomersulfonic acid (8:2FTS A)	NH-P
Perfluorodecanoic acid (PFDA)	NH-P
Perfluorododecanoic acid (PFDoA)	NH-P
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	NH-P
Perfluoroheptanesulfonic acid (PFHpS)	NH-P
N-EtFOSAA	NH-P
N-MeFOSAA	NH-P
Perfluorotetradecanoic acid (PFTA)	NH-P
Perfluorotridecanoic acid (PFTrDA)	NH-P
4:2 Fluorotelomersulfonic acid (4:2FTS A)	NH-P
Perfluorodecanesulfonic acid (PFDS)	NH-P
Perfluorooctanesulfonamide (FOSA)	NH-P
Perfluorononanesulfonic acid (PFNS)	NH-P
Perfluoro-1-hexanesulfonamide (FHxSA)	NH-P
Perfluoro-1-butanefulfonamide (FBSA)	NH-P
Perfluorohexanesulfonic acid (PFHxS)	NH-P
Perfluoro-4-oxapentanoic acid (PFMPA)	NH-P
Perfluoro-5-oxahexanoic acid (PFMBA)	NH-P
6:2 Fluorotelomersulfonic acid (6:2FTS A)	NH-P
Perfluoropetanesulfonic acid (PFPeS)	NH-P
Perfluoroundecanoic acid (PFUnA)	NH-P
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P
Perfluoroheptanoic acid (PFHpA)	NH-P
Perfluorooctanoic acid (PFOA)	NH-P
Perfluorooctanesulfonic acid (PFOS)	NH-P
Perfluorononanoic acid (PFNA)	NH-P

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Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Public Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2022
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2022

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Phone: 413-525-2332  
Fax: 413-525-6405  
Email: info@contestlabs.com

http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street  
East Longmeadow, MA 01028

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Requested Turnaround Time			Dissolved Metals Samples		
7-Day	<input type="checkbox"/>	10-Day	<input type="checkbox"/>	<input type="checkbox"/>	Field Filtered
PFAS 10-Day (std)	<input checked="" type="checkbox"/>	Due Date:		<input type="checkbox"/>	Lab to Filter
Rush-Approval Required			Orthophosphate Samples		
1-Day	<input type="checkbox"/>	3-Day	<input type="checkbox"/>	<input type="checkbox"/>	Field Filtered
2-Day	<input type="checkbox"/>	4-Day	<input type="checkbox"/>	<input type="checkbox"/>	Lab to Filter
Data Delivery					
Format:	PDF <input checked="" type="checkbox"/>	EXCEL	<input type="checkbox"/>	<b>PCB ONLY</b>	
Other:	EnviroData8		SOXHLET <input type="checkbox"/>		
CLP Like Data Pkg Required:	<input type="checkbox"/>		NON SOXHLET <input type="checkbox"/>		
Email To:	zbell.john@wsemc.com				
Fax To #:					

ANALYSIS REQUESTED

**Company Name:** Weston & Sampson  
**Address:** 712 Brook Street, Suite 103, Rocky Hill, CT 06067  
**Phone:** (959) 777-5822  
**Project Name:** CTDEEP - POTW PFAS  
**Project Location:** Hartford MDC WPCF  
**Project Number:** ENG21-0609  
**Project Manager:** John Zbell  
**Con-Test Quote:** 00093567  
**Invoice Recipient:** John Zbell  
**Sampled By:** Rob Colantonio

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS - SOP ID 454	PFAS - SOP ID 466	2 Preservation Code	
-01	Hartford MDC WPCF-Influent-09282021	9/28/2021	1019											X	
	Hartford MDC WPCF-Effluent-09282021	9/28/2021	1100											X	
	Hartford MDC WPCF-Sludge-092821	9/28/2021	1042										X		
	Hartford MDC WPCF-Incinerator Sludge-09282021	9/28/2021	1122										X		
	Hartford MDC WPCF-Incinerator Scrubber Water-09282021	9/28/2021	1142										X		
	Hartford MDC WPCF-Surface Water- Up Stream-09282021	9/28/2021	841										X		
	Hartford WPCF MDC-Dupe-09282021	9/28/2021											X		
-02	Hartford MDC WPCF-Surface Water-Down Stream-09282021	9/28/2021	854												

**Total Number Of:**

VIALS \_\_\_\_\_  
 GLASS \_\_\_\_\_  
 PLASTIC \_\_\_\_\_  
 BACTERIA \_\_\_\_\_  
 ENCORE \_\_\_\_\_

Glassware in the fridge? Y / N \_\_\_\_\_  
 Glassware in freezer? Y / N \_\_\_\_\_  
 Prepackaged Cooler? Y / N \_\_\_\_\_

\*Contest is not responsible for missing samples from prepacked coolers

**1 Matrix Codes:**  
 GW = Ground Water  
 WW = Waste Water  
 DW = Drinking Water  
 A = Air  
 S = Soil  
 SL = Sludge  
 SOL = Solid  
 O = Other (please define)

**2 Preservation Codes:**  
 I = Iced  
 H = HCL  
 M = Methanol  
 N = Nitric Acid  
 S = Sulfuric Acid  
 B = Sodium Bisulfate  
 X = Sodium Hydroxide  
 T = Sodium Thiosulfate  
 O = Other (please define)

Relinquished by: (signature) *[Signature]* Date/Time: 9/28/21 4:20  
 Received by: (signature) *[Signature]* Date/Time: 9/28/21 4:20  
 Relinquished by: (signature) *[Signature]* Date/Time: 9/28 5:40  
 Received by: (signature) *[Signature]* Date/Time: 9/28 1740  
 Relinquished by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

**Client Comments:**

Detection Limit Requirements	Special Requirements
MA <input type="checkbox"/>	MA MCP Required
	MCP Certification Form Required
	CT RCP Required
	RCP Certification Form Required
	MA State DW Required
Other: <input type="checkbox"/>	PWSID # _____

**Project Entity**

Government  Municipality  MWRA  WRTA   
 Federal  21 J  School   
 City  Brownfield  MBTA

Other  Chromatogram  
 AIHA-LAP, LLC

Please use the following codes to indicate possible sample concentration within the Conc Code column above:  
 H - High; M - Medium; L - Low; C - Clean; U - Unknown

**Lab Comments:**

Run samples for PFAS - KM 10/4/2021

**Disclaimer:** Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

**Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client WES  
 Received By GA Date 9/28/01 Time 1740

How were the samples received?  
 In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
 Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 2.8  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

Was Custody Seal Intact? NA Were Samples Tampered with? NA  
 Was COC Relinquished? F Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T  
 Did COC include all pertinent Information? Client T Analysis T Sampler Name F  
 Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T  
 Are there Lab to Filters? F Who was notified? \_\_\_\_\_  
 Are there Rushes? F Who was notified? \_\_\_\_\_  
 Are there Short Holds? F Who was notified? \_\_\_\_\_

Is there enough Volume? T  
 Is there Headspace where applicable? NA MS/MSD? F  
 Proper Media/Containers Used? T Is splitting samples required? F  
 Were trip blanks received? F On COC? F  
 Do all samples have the proper pH? NA Acid \_\_\_\_\_ Base \_\_\_\_\_

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria	2oz Amb/Clear
DI-		Other Glass		Other Plastic	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

**Unused Media**

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint	2oz Amb/Clear
DI-		Other Plastic		Other Glass	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

Comments: