

November 18, 2021

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

Project Location: Mattabassett District WPCF
Client Job Number:
Project Number: ENG21-0609
Laboratory Work Order Number: 2111511

Enclosed are results of analyses for samples as received by the laboratory on September 27, 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

WORK ORDER NUMBER: 2111511

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

PROJECT LOCATION: Mattabassett District WPCF

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Mattabassett District WPCF-Upstream-09272021	2111511-01	Surface Water		SOP-454 PFAS	
Mattabassett District WPCF-Downstream-09272021	2111511-02	Surface Water		SOP-454 PFAS	
Mattabassett District WPCF-Duplicate-09272021	2111511-03	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.

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: Mattabassett District WPCF

Sample Description:

Work Order: 2111511

Date Received: 9/27/2021

Field Sample #: Mattabassett District WPCF-Upstream-092

Sampled: 9/27/2021 12:20

Sample ID: 2111511-01

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	11	4.1	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluorobutanesulfonic acid (PFBS)	ND	11	1.6	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluoropentanoic acid (PFPeA)	ND	11	2.2	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluorohexanoic acid (PFHxA)	ND	11	2.1	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
11Cl-PF3OUdS (F53B Minor)	ND	11	3.5	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
9Cl-PF3ONS (F53B Major)	ND	11	2.1	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	11	1.9	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	11	1.3	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	11	3.4	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluorodecanoic acid (PFDA)	ND	11	2.7	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluorododecanoic acid (PFDoA)	ND	11	2.4	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	11	1.3	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluoroheptanesulfonic acid (PFHpS)	ND	11	5.2	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
N-EtFOSAA	ND	11	3.5	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
N-MeFOSAA	ND	11	4.2	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluorotetradecanoic acid (PFTA)	ND	11	2.0	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluorotridecanoic acid (PFTrDA)	ND	11	1.5	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	11	1.6	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluorodecanesulfonic acid (PFDS)	ND	11	1.8	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluorooctanesulfonamide (FOSA)	ND	11	2.3	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluorononanesulfonic acid (PFNS)	ND	11	0.92	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	11	1.7	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluoro-1-butanefulfonamide (FBSA)	ND	11	1.1	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluorohexanesulfonic acid (PFHxS)	ND	11	1.9	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	11	2.3	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	11	1.9	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	11	2.0	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluoropentanesulfonic acid (PFPeS)	ND	11	1.4	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluoroundecanoic acid (PFUnA)	ND	11	2.0	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	11	1.5	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluoroheptanoic acid (PFHpA)	ND	11	1.9	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluorooctanoic acid (PFOA)	ND	11	3.8	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluorooctanesulfonic acid (PFOS)	ND	11	3.3	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC
Perfluorononanoic acid (PFNA)	ND	11	1.9	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 14:59	JFC

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Project Location: Mattabassett District WPCF

Sample Description:

Work Order: 2111511

Date Received: 9/27/2021

Field Sample #: Mattabassett District WPCF-Downstream-0

Sampled: 9/27/2021 12:49

Sample ID: 2111511-02

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)	ND	11	4.1	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluorobutanesulfonic acid (PFBS)	ND	11	1.5	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluoropentanoic acid (PFPeA)	ND	11	2.2	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluorohexanoic acid (PFHxA)	ND	11	2.1	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
11Cl-PF3OUdS (F53B Minor)	ND	11	3.5	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
9Cl-PF3ONS (F53B Major)	ND	11	2.1	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	11	1.9	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	11	1.3	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	11	3.3	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluorodecanoic acid (PFDA)	ND	11	2.7	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluorododecanoic acid (PFDoA)	ND	11	2.4	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	11	1.3	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluoroheptanesulfonic acid (PFHpS)	ND	11	5.1	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
N-EtFOSAA	ND	11	3.5	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
N-MeFOSAA	ND	11	4.2	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluorotetradecanoic acid (PFTA)	ND	11	2.0	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluorotridecanoic acid (PFTrDA)	ND	11	1.5	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	11	1.5	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluorodecanesulfonic acid (PFDS)	ND	11	1.8	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluorooctanesulfonamide (FOSA)	ND	11	2.3	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluorononanesulfonic acid (PFNS)	ND	11	0.92	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	11	1.7	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluoro-1-butanefulfonamide (FBSA)	ND	11	1.0	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluorohexanesulfonic acid (PFHxS)	ND	11	1.9	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	11	2.3	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	11	1.9	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	11	2.0	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluoropentanesulfonic acid (PFPeS)	ND	11	1.4	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluoroundecanoic acid (PFUnA)	ND	11	2.0	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	11	1.5	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluoroheptanoic acid (PFHpA)	ND	11	1.9	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluorooctanoic acid (PFOA)	ND	11	3.7	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluorooctanesulfonic acid (PFOS)	ND	11	3.3	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC
Perfluorononanoic acid (PFNA)	ND	11	1.9	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:06	JFC

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Project Location: Mattabassett District WPCF

Sample Description:

Work Order: 2111511

Date Received: 9/27/2021

Field Sample #: Mattabassett District WPCF-Duplicate-092

Sampled: 9/27/2021 00:00

Sample ID: 2111511-03

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	12	4.3	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluorobutanesulfonic acid (PFBS)	ND	12	1.6	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluoropentanoic acid (PFPeA)	ND	12	2.3	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluorohexanoic acid (PFHxA)	ND	12	2.2	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
11Cl-PF3OUdS (F53B Minor)	ND	12	3.7	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
9Cl-PF3ONS (F53B Major)	ND	12	2.2	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	12	2.0	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	12	1.4	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	12	3.5	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluorodecanoic acid (PFDA)	ND	12	2.8	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluorododecanoic acid (PFDoA)	ND	12	2.5	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	12	1.3	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluoroheptanesulfonic acid (PFHpS)	ND	12	5.4	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
N-EtFOSAA	ND	12	3.6	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
N-MeFOSAA	ND	12	4.4	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluorotetradecanoic acid (PFTA)	ND	12	2.1	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluorotridecanoic acid (PFTTrDA)	ND	12	1.6	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	12	1.6	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluorodecanesulfonic acid (PFDS)	ND	12	1.9	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluorooctanesulfonamide (FOSA)	ND	12	2.4	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluorononanesulfonic acid (PFNS)	ND	12	0.97	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	12	1.8	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluoro-1-butanefulfonamide (FBSA)	ND	12	1.1	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluorohexanesulfonic acid (PFHxS)	ND	12	2.0	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	12	2.4	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	12	2.0	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	12	2.1	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluoropentanesulfonic acid (PFPeS)	ND	12	1.5	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluoroundecanoic acid (PFUnA)	ND	12	2.1	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	12	1.6	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluoroheptanoic acid (PFHpA)	ND	12	2.0	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluorooctanoic acid (PFOA)	ND	12	3.9	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluorooctanesulfonic acid (PFOS)	ND	12	3.5	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC
Perfluorononanoic acid (PFNA)	ND	12	2.0	ng/L	1		SOP-454 PFAS	9/28/21	9/30/21 15:13	JFC

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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
2111511-01 [Mattabassett District WPCF-Upstream-09272021]	B291121	45.4	1.00	09/28/21
2111511-02 [Mattabassett District WPCF-Downstream-09272021]	B291121	45.6	1.00	09/28/21
2111511-03 [Mattabassett District WPCF-Duplicate-09272021]	B291121	43.4	1.00	09/28/21

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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 B291121 - SOP 454-PFAAS
Blank (B291121-BLK1)

Prepared: 09/28/21 Analyzed: 09/30/21

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
Perfluoropetanesulfonic 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 (B291121-BS1)

Prepared: 09/28/21 Analyzed: 09/30/21

Perfluorobutanoic acid (PFBA)	8.28	2.0	ng/L	9.83	84.2	73-129
Perfluorobutanesulfonic acid (PFBS)	7.34	2.0	ng/L	8.70	84.3	72-130
Perfluoropentanoic acid (PFPeA)	8.10	2.0	ng/L	9.83	82.3	72-129
Perfluorohexanoic acid (PFHxA)	8.28	2.0	ng/L	9.83	84.2	72-129
11Cl-PF3OUdS (F53B Minor)	7.01	2.0	ng/L	9.26	75.6	50-150
9Cl-PF3ONS (F53B Major)	7.32	2.0	ng/L	9.16	79.8	50-150
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	7.74	2.0	ng/L	9.26	83.5	50-150
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.07	2.0	ng/L	9.83	71.9	50-150
8:2 Fluorotelomersulfonic acid (8:2FTS A)	9.06	2.0	ng/L	9.44	95.9	67-138
Perfluorodecanoic acid (PFDA)	7.81	2.0	ng/L	9.83	79.4	71-129
Perfluorododecanoic acid (PFDoA)	7.92	2.0	ng/L	9.83	80.5	72-134
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	9.17	2.0	ng/L	8.75	105	50-150

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

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
Batch B291121 - SOP 454-PFAAS										
LCS (B291121-BS1)										
					Prepared: 09/28/21 Analyzed: 09/30/21					
Perfluoroheptanesulfonic acid (PFHpS)	8.01	2.0	ng/L	9.39		85.3	69-134			
N-EtFOSAA	8.80	2.0	ng/L	9.83		89.4	61-135			
N-MeFOSAA	9.96	2.0	ng/L	9.83		101	65-136			
Perfluorotetradecanoic acid (PFTA)	7.73	2.0	ng/L	9.83		78.6	71-132			
Perfluorotridecanoic acid (PFTTrDA)	8.03	2.0	ng/L	9.83		81.7	65-144			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	8.61	2.0	ng/L	9.19		93.6	63-143			
Perfluorodecanesulfonic acid (PFDS)	7.78	2.0	ng/L	9.49		81.9	53-142			
Perfluorooctanesulfonamide (FOSA)	8.30	2.0	ng/L	9.83		84.4	67-137			
Perfluorononanesulfonic acid (PFNS)	7.08	2.0	ng/L	9.44		75.0	69-127			
Perfluoro-1-hexanesulfonamide (FHxSA)	7.11	2.0	ng/L	9.83		72.3	50-150			
Perfluoro-1-butanefulfonamide (FBSA)	8.99	2.0	ng/L	9.83		91.4	50-150			
Perfluorohexanesulfonic acid (PFHxS)	7.27	2.0	ng/L	8.95		81.3	68-131			
Perfluoro-4-oxapentanoic acid (PFMPA)	9.53	2.0	ng/L	9.83		97.0	50-150			
Perfluoro-5-oxahexanoic acid (PFMBA)	9.98	2.0	ng/L	9.83		101	50-150			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	9.56	2.0	ng/L	9.34		102	64-140			
Perfluoropentanesulfonic acid (PFPeS)	7.73	2.0	ng/L	9.24		83.6	71-127			
Perfluoroundecanoic acid (PFUnA)	7.85	2.0	ng/L	9.83		79.8	69-133			
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	8.47	2.0	ng/L	9.83		86.1	50-150			
Perfluoroheptanoic acid (PFHpA)	8.90	2.0	ng/L	9.83		90.5	72-130			
Perfluorooctanoic acid (PFOA)	7.41	2.0	ng/L	9.83		75.3	71-133			
Perfluorooctanesulfonic acid (PFOS)	7.74	2.0	ng/L	9.10		85.1	65-140			
Perfluorononanoic acid (PFNA)	8.49	2.0	ng/L	9.83		86.4	69-130			
LCS Dup (B291121-BSD1)										
					Prepared: 09/28/21 Analyzed: 09/30/21					
Perfluorobutanoic acid (PFBA)	8.39	2.0	ng/L	9.79		85.6	73-129	1.23	30	
Perfluorobutanesulfonic acid (PFBS)	7.63	2.0	ng/L	8.67		88.0	72-130	3.95	30	
Perfluoropentanoic acid (PFPeA)	8.41	2.0	ng/L	9.79		85.8	72-129	3.75	30	
Perfluorohexanoic acid (PFHxA)	8.59	2.0	ng/L	9.79		87.8	72-129	3.78	30	
11Cl-PF3OUdS (F53B Minor)	6.68	2.0	ng/L	9.23		72.4	50-150	4.78	30	
9Cl-PF3ONS (F53B Major)	6.93	2.0	ng/L	9.13		75.9	50-150	5.46	30	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	7.92	2.0	ng/L	9.23		85.8	50-150	2.33	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.70	2.0	ng/L	9.79		78.6	50-150	8.54	30	
8:2 Fluorotelomersulfonic acid (8:2FTS A)	7.82	2.0	ng/L	9.40		83.2	67-138	14.6	30	
Perfluorodecanoic acid (PFDA)	8.35	2.0	ng/L	9.79		85.3	71-129	6.78	30	
Perfluorododecanoic acid (PFDoA)	8.59	2.0	ng/L	9.79		87.7	72-134	8.15	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	9.36	2.0	ng/L	8.72		107	50-150	2.00	30	
Perfluoroheptanesulfonic acid (PFHpS)	8.53	2.0	ng/L	9.35		91.2	69-134	6.28	30	
N-EtFOSAA	10.4	2.0	ng/L	9.79		107	61-135	17.2	30	
N-MeFOSAA	10.1	2.0	ng/L	9.79		103	65-136	1.37	30	
Perfluorotetradecanoic acid (PFTA)	7.95	2.0	ng/L	9.79		81.2	71-132	2.87	30	
Perfluorotridecanoic acid (PFTTrDA)	8.82	2.0	ng/L	9.79		90.1	65-144	9.32	30	
4:2 Fluorotelomersulfonic acid (4:2FTS A)	8.98	2.0	ng/L	9.16		98.1	63-143	4.21	30	
Perfluorodecanesulfonic acid (PFDS)	7.46	2.0	ng/L	9.45		78.9	53-142	4.21	30	
Perfluorooctanesulfonamide (FOSA)	8.51	2.0	ng/L	9.79		86.9	67-137	2.59	30	
Perfluorononanesulfonic acid (PFNS)	7.04	2.0	ng/L	9.40		74.9	69-127	0.534	30	
Perfluoro-1-hexanesulfonamide (FHxSA)	8.46	2.0	ng/L	9.79		86.4	50-150	17.3	30	
Perfluoro-1-butanefulfonamide (FBSA)	9.44	2.0	ng/L	9.79		96.4	50-150	4.86	30	
Perfluorohexanesulfonic acid (PFHxS)	7.82	2.0	ng/L	8.91		87.7	68-131	7.23	30	
Perfluoro-4-oxapentanoic acid (PFMPA)	9.57	2.0	ng/L	9.79		97.7	50-150	0.380	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	10.2	2.0	ng/L	9.79		104	50-150	2.23	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 B291121 - SOP 454-PFAAS
LCS Dup (B291121-BSD1)

Prepared: 09/28/21 Analyzed: 09/30/21

6:2 Fluorotelomersulfonic acid (6:2FTS A)	10.2	2.0	ng/L	9.30		110	64-140	6.44	30	
Perfluoropetanesulfonic acid (PFPeS)	7.92	2.0	ng/L	9.21		86.0	71-127	2.47	30	
Perfluoroundecanoic acid (PFUnA)	7.87	2.0	ng/L	9.79		80.3	69-133	0.215	30	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.83	2.0	ng/L	9.79		90.2	50-150	4.23	30	
Perfluoroheptanoic acid (PFHpA)	9.23	2.0	ng/L	9.79		94.2	72-130	3.66	30	
Perfluorooctanoic acid (PFOA)	8.76	2.0	ng/L	9.79		89.5	71-133	16.8	30	
Perfluorooctanesulfonic acid (PFOS)	7.79	2.0	ng/L	9.06		86.0	65-140	0.703	30	
Perfluorononanoic acid (PFNA)	8.62	2.0	ng/L	9.79		88.0	69-130	1.49	30	

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

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.

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

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
Mattabassett District WPCF-Upstream-09272021 (21H1511-01)			Lab File ID: 21H1511-01.d			Analyzed: 09/30/21 14:59			
M8FOSA	332658.9	4.060517	320,318.00	4.060517	104	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	113916.1	2.636633	176,186.00	2.636633	65	50 - 150	0.0000	+/-0.50	
M2PF _T A	1296317	4.4191	1,360,582.00	4.4191	95	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	120766.8	3.875067	155,478.00	3.875067	78	50 - 150	0.0000	+/-0.50	
MPFBA	576290.1	1.108317	553,767.00	1.108317	104	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	264623.1	2.945967	241,976.00	2.945967	109	50 - 150	0.0000	+/-0.50	
M6PFDA	768233	3.8756	698,904.00	3.8756	110	50 - 150	0.0000	+/-0.50	
M3PFBS	154295.2	2.011067	145,291.00	2.011067	106	50 - 150	0.0000	+/-0.50	
M7PFU _n A	1013872	4.025967	954,973.00	4.025967	106	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	75771.66	3.509617	97,516.00	3.509617	78	50 - 150	0.0000	+/-0.50	
M5PFPeA	620533.8	1.816233	565,728.00	1.816233	110	50 - 150	0.0000	+/-0.50	
M5PFH _x A	916973.3	2.722683	839,865.00	2.722683	109	50 - 150	0.0000	+/-0.50	
M3PFH _x S	103930.6	3.2923	104,723.00	3.2923	99	50 - 150	0.0000	+/-0.50	
M4PFHpA	908092.4	3.25995	800,059.00	3.25995	114	50 - 150	0.0000	+/-0.50	
M8PFOA	866459.3	3.52615	784,612.00	3.52615	110	50 - 150	0.0000	+/-0.50	
M8PFOS	120725.6	3.7083	106,223.00	3.7083	114	50 - 150	0.0000	+/-0.50	
M9PFNA	711614.8	3.717267	674,512.00	3.717267	106	50 - 150	0.0000	+/-0.50	
MPFDoA	959266.5	4.169267	1,037,075.00	4.169267	92	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	206194.8	4.03345	224,608.00	4.03345	92	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	269182.8	3.953867	256,968.00	3.953867	105	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
Mattabassett District WPCF-Downstream-09272021 (2111511-02)			Lab File ID: 2111511-02.d		Analyzed: 09/30/21 15:06				
M8FOSA	354613.3	4.060517	320,318.00	4.060517	111	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	122274.2	2.636633	176,186.00	2.636633	69	50 - 150	0.0000	+/-0.50	
M2PFDA	1358061	4.4191	1,360,582.00	4.4191	100	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	126588.5	3.875067	155,478.00	3.875067	81	50 - 150	0.0000	+/-0.50	
MPFBA	628286	1.108317	553,767.00	1.108317	113	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	257082	2.945967	241,976.00	2.945967	106	50 - 150	0.0000	+/-0.50	
M6PFDA	865023	3.8756	698,904.00	3.8756	124	50 - 150	0.0000	+/-0.50	
M3PFBS	171001.8	2.011067	145,291.00	2.011067	118	50 - 150	0.0000	+/-0.50	
M7PFUnA	1086570	4.025967	954,973.00	4.025967	114	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	76219.51	3.509617	97,516.00	3.509617	78	50 - 150	0.0000	+/-0.50	
M5PFPeA	680923.6	1.816233	565,728.00	1.816233	120	50 - 150	0.0000	+/-0.50	
M5PFHxA	1006931	2.722683	839,865.00	2.722683	120	50 - 150	0.0000	+/-0.50	
M3PFHxS	122107.8	3.2923	104,723.00	3.2923	117	50 - 150	0.0000	+/-0.50	
M4PFHpA	961107.8	3.25995	800,059.00	3.25995	120	50 - 150	0.0000	+/-0.50	
M8PFOA	874398.9	3.52615	784,612.00	3.52615	111	50 - 150	0.0000	+/-0.50	
M8PFOS	128733.9	3.7083	106,223.00	3.7083	121	50 - 150	0.0000	+/-0.50	
M9PFNA	798256.1	3.709283	674,512.00	3.717267	118	50 - 150	-0.0080	+/-0.50	
MPFDoA	1115529	4.169267	1,037,075.00	4.169267	108	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	236046	4.03345	224,608.00	4.03345	105	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	301864.7	3.953867	256,968.00	3.953867	117	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
Mattabassett District WPCF-Duplicate-09272021 (2111511-03)			Lab File ID: 2111511-03.d			Analyzed: 09/30/21 15:13			
M8FOSA	345875	4.060517	320,318.00	4.060517	108	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	134630.8	2.636633	176,186.00	2.636633	76	50 - 150	0.0000	+/-0.50	
M2PFtA	1462223	4.4191	1,360,582.00	4.4191	107	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	136610.6	3.875067	155,478.00	3.875067	88	50 - 150	0.0000	+/-0.50	
MPFBA	673706.3	1.108317	553,767.00	1.108317	122	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	278645.9	2.945967	241,976.00	2.945967	115	50 - 150	0.0000	+/-0.50	
M6PFDA	873983.6	3.8756	698,904.00	3.8756	125	50 - 150	0.0000	+/-0.50	
M3PFBS	180307.5	2.011067	145,291.00	2.011067	124	50 - 150	0.0000	+/-0.50	
M7PFUnA	1158053	4.025967	954,973.00	4.025967	121	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	86830.09	3.509617	97,516.00	3.509617	89	50 - 150	0.0000	+/-0.50	
M5PFPeA	729160.1	1.816233	565,728.00	1.816233	129	50 - 150	0.0000	+/-0.50	
M5PFHxA	1068516	2.722683	839,865.00	2.722683	127	50 - 150	0.0000	+/-0.50	
M3PFHxS	128427.6	3.28425	104,723.00	3.2923	123	50 - 150	-0.0080	+/-0.50	
M4PFHpA	1025643	3.25995	800,059.00	3.25995	128	50 - 150	0.0000	+/-0.50	
M8PFOA	967823.9	3.52615	784,612.00	3.52615	123	50 - 150	0.0000	+/-0.50	
M8PFOS	142582.8	3.7083	106,223.00	3.7083	134	50 - 150	0.0000	+/-0.50	
M9PFNA	839196.9	3.709283	674,512.00	3.717267	124	50 - 150	-0.0080	+/-0.50	
MPFDoA	1152769	4.169267	1,037,075.00	4.169267	111	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	247070.9	4.03345	224,608.00	4.03345	110	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	290491.3	3.953867	256,968.00	3.953867	113	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
Blank (B291121-BLK1)			Lab File ID: B291121-BLK1.d			Analyzed: 09/30/21 12:56			
M8FOSA	296017.8	4.060517	320,318.00	4.060517	92	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	173246.7	2.636633	176,186.00	2.636633	98	50 - 150	0.0000	+/-0.50	
M2PFTA	1161753	4.4191	1,360,582.00	4.4191	85	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	137700.1	3.875067	155,478.00	3.875067	89	50 - 150	0.0000	+/-0.50	
MPFBA	649079.1	1.108317	553,767.00	1.116633	117	50 - 150	-0.0083	+/-0.50	
M3HFPO-DA	256855.8	2.945967	241,976.00	2.954083	106	50 - 150	-0.0081	+/-0.50	
M6PFDA	734214.1	3.8756	698,904.00	3.8756	105	50 - 150	0.0000	+/-0.50	
M3PFBS	152031.1	2.011067	145,291.00	2.011067	105	50 - 150	0.0000	+/-0.50	
M7PFUnA	945578.6	4.025967	954,973.00	4.025967	99	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	103635.6	3.517617	97,516.00	3.517617	106	50 - 150	0.0000	+/-0.50	
M5PFPeA	619800.1	1.816233	565,728.00	1.824517	110	50 - 150	-0.0083	+/-0.50	
M5PFHxA	920072.1	2.722683	839,865.00	2.730867	110	50 - 150	-0.0082	+/-0.50	
M3PFHxS	111537.8	3.2923	104,723.00	3.2923	107	50 - 150	0.0000	+/-0.50	
M4PFHpA	888132.6	3.25995	800,059.00	3.25995	111	50 - 150	0.0000	+/-0.50	
M8PFOA	810103.6	3.52615	784,612.00	3.52615	103	50 - 150	0.0000	+/-0.50	
M8PFOS	112320.9	3.716267	106,223.00	3.716267	106	50 - 150	0.0000	+/-0.50	
M9PFNA	686528.7	3.71725	674,512.00	3.717267	102	50 - 150	0.0000	+/-0.50	
MPFDoA	926557.7	4.169267	1,037,075.00	4.169267	89	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	206424.3	4.03345	224,608.00	4.03345	92	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	250471.2	3.953867	256,968.00	3.953867	97	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
LCS (B291121-BS1)			Lab File ID: B291121-BS1.d			Analyzed: 09/30/21 12:42			
M8FOSA	327466.6	4.060517	320,318.00	4.060517	102	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	177901.9	2.644867	176,186.00	2.636633	101	50 - 150	0.0082	+/-0.50	
M2PFTA	1366149	4.4191	1,360,582.00	4.4191	100	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	140970.3	3.875067	155,478.00	3.875067	91	50 - 150	0.0000	+/-0.50	
MPFBA	660392.8	1.116633	553,767.00	1.116633	119	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	284852.1	2.954083	241,976.00	2.954083	118	50 - 150	0.0000	+/-0.50	
M6PFDA	792590	3.8756	698,904.00	3.8756	113	50 - 150	0.0000	+/-0.50	
M3PFBS	162521.8	2.019367	145,291.00	2.011067	112	50 - 150	0.0083	+/-0.50	
M7PFUnA	1026175	4.033967	954,973.00	4.025967	107	50 - 150	0.0080	+/-0.50	
M2-6:2FTS	96780.78	3.517617	97,516.00	3.517617	99	50 - 150	0.0000	+/-0.50	
M5PFPeA	650759.3	1.824517	565,728.00	1.824517	115	50 - 150	0.0000	+/-0.50	
M5PFHxA	976557.9	2.73905	839,865.00	2.730867	116	50 - 150	0.0082	+/-0.50	
M3PFHxS	117582.9	3.2923	104,723.00	3.2923	112	50 - 150	0.0000	+/-0.50	
M4PFHpA	934189.1	3.25995	800,059.00	3.25995	117	50 - 150	0.0000	+/-0.50	
M8PFOA	905091.9	3.52615	784,612.00	3.52615	115	50 - 150	0.0000	+/-0.50	
M8PFOS	127772.5	3.716267	106,223.00	3.716267	120	50 - 150	0.0000	+/-0.50	
M9PFNA	814615.6	3.717267	674,512.00	3.717267	121	50 - 150	0.0000	+/-0.50	
MPFDoA	1037287	4.169267	1,037,075.00	4.169267	100	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	238070.3	4.03345	224,608.00	4.03345	106	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	278541.4	3.953867	256,968.00	3.953867	108	50 - 150	0.0000	+/-0.50	

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

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
LCS Dup (B291121-BSD1)			Lab File ID: B291121-BSD1.d			Analyzed: 09/30/21 12:49			
M8FOSA	302550.3	4.060517	320,318.00	4.060517	94	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	171338.1	2.636633	176,186.00	2.636633	97	50 - 150	0.0000	+/-0.50	
M2PF _{TA}	1183565	4.4191	1,360,582.00	4.4191	87	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	138978.1	3.875067	155,478.00	3.875067	89	50 - 150	0.0000	+/-0.50	
MPF _{BA}	659473.9	1.116633	553,767.00	1.116633	119	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	296106.5	2.945967	241,976.00	2.954083	122	50 - 150	-0.0081	+/-0.50	
M6PF _{DA}	683389.5	3.8756	698,904.00	3.8756	98	50 - 150	0.0000	+/-0.50	
M3PF _{BS}	159094.1	2.011067	145,291.00	2.011067	110	50 - 150	0.0000	+/-0.50	
M7PF _{UnA}	944804.8	4.025967	954,973.00	4.025967	99	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	94620.34	3.517617	97,516.00	3.517617	97	50 - 150	0.0000	+/-0.50	
M5PF _{PeA}	629605.7	1.824517	565,728.00	1.824517	111	50 - 150	0.0000	+/-0.50	
M5PF _{HxA}	945731.5	2.722683	839,865.00	2.730867	113	50 - 150	-0.0082	+/-0.50	
M3PF _{HxS}	115030.5	3.2923	104,723.00	3.2923	110	50 - 150	0.0000	+/-0.50	
M4PF _{HpA}	899630.1	3.25995	800,059.00	3.25995	112	50 - 150	0.0000	+/-0.50	
M8PFOA	798453.4	3.52615	784,612.00	3.52615	102	50 - 150	0.0000	+/-0.50	
M8PFOS	123388.8	3.7083	106,223.00	3.716267	116	50 - 150	-0.0080	+/-0.50	
M9PF _{NA}	695273.8	3.717267	674,512.00	3.717267	103	50 - 150	0.0000	+/-0.50	
MPF _{DoA}	910448.2	4.169267	1,037,075.00	4.169267	88	50 - 150	0.0000	+/-0.50	
d5-NEtFOSAA	193230.2	4.03345	224,608.00	4.03345	86	50 - 150	0.0000	+/-0.50	
d3-NMeFOSAA	256869.3	3.953867	256,968.00	3.953867	100	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

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

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

CHAIN OF CUSTODY RECORD
 39 Spruce Street
 East Longmeadow, MA 01028

ANALYSIS REQUESTED

Requested Turnaround Time: 7 Day 10 Day 15 Day

PFAS 10-Day (std) Due Date: _____

Rush-Approval Required Orthophosphate Samples

1-Day 3-Day 2-Day 4-Day

Format: PDF EXCEL SOXHLET

Other: EmviroData8

CLP Like Data Pkg Required:

Email To: zbell.john@wseinc.com

Fax To #: _____

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/CPAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS - SOP ID 454	PFAS - SOP ID 466
1	Mattabassett WPCF - Upstream - 000880021	09/27/2011 12:00	09/27/2011 12:00	Grab	SW				2			X	
2	Mattabassett WPCF - Downstream - 000880021	09/27/2011 12:00	09/27/2011 12:00	Grab	SW				2			X	
3	Mattabassett WPCF - DUP - 000880021	09/27/2011 12:00	09/27/2011 12:00	Grab	SW				2			X	

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

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

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

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

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

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

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

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

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

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

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

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

Client Comments: _____

Date/Time: 09/27/2011 5:35 pm

Relinquished by: (signature) _____

Date/Time: 09/29/2011 5:35 pm

Relinquished by: (signature) _____

Date/Time: 09/29/2011 5:35 pm

Relinquished by: (signature) _____

Date/Time: 09/29/2011 5:35 pm

Relinquished by: (signature) _____

Date/Time: _____

Relinquished by: (signature) _____

Date/Time: _____

Relinquished by: (signature) _____

Date/Time: _____

Lab Comments: _____

Special Requirements: MA, CT, RI, VT, NH, ME, NY, NJ, PA, OH, WV, KY, TN, MS, AL, GA, SC, NC, VA, DE, MD, DC, HI, AK, HI, AK

Detection Limit Requirements: MA, CT, RI, VT, NH, ME, NY, NJ, PA, OH, WV, KY, TN, MS, AL, GA, SC, NC, VA, DE, MD, DC, HI, AK

Project Entry: Government Municipality WRTA Other

Federal 21 J School Chromatogram

City Brownfield MBTA AHA-LAP, LLC

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 WYS
 Received By [Signature] Date 9/27/21 Time 1735
 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 # 3 Actual Temp - 2.1
 By Blank # _____ Actual Temp - _____
 Was Custody Seal Intact? n/a Were Samples Tampered with? n/a
 Was COC Relinquished? T 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? n/a 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? Acid n/a Base n/a

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:

21511



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CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 4_01/08/2020

Page 1 of 1

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: Mattabassett WPCF
Project Number: ENG21-0609
Project Manager: District John Zbell
Con-Test Quote Name/Number: 00093567
Invoice Recipient: John Zbell
Sampled By:

Requested Turnaround Time: 7-Day, 10-Day, 15-Day
Dissoived Metals Samples: Field Filtered, Lab to Filter
Rush-Approval Required: 1-Day, 3-Day, 2-Day, 4-Day
Data Delivery: Format: PDF, EXCEL
Other: EnviroData8
CLP Like Data Pkg Required:
Email To: zbell.john@wseinc.com
Fax To #:

ANALYSIS REQUESTED table with columns for VIALS, GLASS, PLASTIC, BACTERIA, ENCORE and rows for PFAS - SOP ID 454, PFAS - SOP ID 466.

2 Preservation Code
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE
Glassware in the fridge? Y/N

Main data table with columns: 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.

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)

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: COC revisions - JGZ 9/30/21
Detection Limit Requirements: MA, CT
Special Requirements: MA MCP Required, MCP Certification Form Required, CT RCP Required, RCP Certification Form Required, MA State DW Required
Project Entity: Government, Municipality, MWRA, WRTA, Federal, 21 J, School, MBTA, City, Brownfield, Other: Chromatogram, AIMA-LAP, LLC

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

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.