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A Pace Analytical® Laboratory

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

October 1, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: N. Centre Twp PFAS
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24I3434

Enclosed are results of analyses for samples as received by the laboratory on September 24, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/1/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24I3434

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

PROJECT LOCATION: N. Centre Twp PFAS

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-3650RR	24I3434-01	Drinking Water		EPA 537.1	
9544-3650RR-FB	24I3434-02	Field Blank		EPA 537.1	

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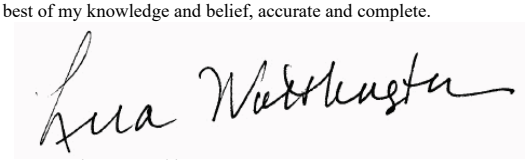
CASE NARRATIVE SUMMARY

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

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

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Project Location: N. Centre Twp PFAS | Sample Description: | Work Order: 24I3434

Date Received: 9/24/2024

Field Sample #: 9544-3650RR | Sampled: 9/23/2024 11:55

Sample ID: 24I3434-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
Perfluorohexanesulfonic acid (PFHxS)	1.9	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
Perfluorooctanoic acid (PFOA)	6.3	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
Perfluorooctanesulfonic acid (PFOS)	44	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:21	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	84.5	70-130		9/30/24 18:21
M3HFPO-DA	97.7	70-130		9/30/24 18:21
13C-PFDA	98.0	70-130		9/30/24 18:21
D5-NEtFOSAA	100	70-130		9/30/24 18:21

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Project Location: N. Centre Twp PFAS | Sample Description: | Work Order: 24I3434

Date Received: 9/24/2024

Field Sample #: 9544-3650RR-FB | Sampled: 9/23/2024 11:56

Sample ID: 24I3434-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
Perfluorooctanoic acid (PFOA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:29	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	84.8	70-130		9/30/24 18:29
M3HFPO-DA	92.3	70-130		9/30/24 18:29
13C-PFDA	90.7	70-130		9/30/24 18:29
D5-NEtFOSAA	95.4	70-130		9/30/24 18:29

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I3434-01 [9544-3650RR]	B387557	277	1.00	09/28/24
24I3434-02 [9544-3650RR-FB]	B387557	274	1.00	09/28/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387557 - EPA 537.1											
Blank (B387557-BLK1)					Prepared: 09/28/24 Analyzed: 09/30/24						
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L							
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L							
Surrogate: 13C-PFHxA	*31.5*			ng/L	37.20		84.7	70-130			
Surrogate: M3HFPO-DA	*32.9*			ng/L	37.20		88.5	70-130			
Surrogate: 13C-PFDA	*33.4*			ng/L	37.20		89.8	70-130			
Surrogate: D5-NEtFOSAA	*139*			ng/L	148.8		93.3	70-130			
LCS (B387557-BS1)					Prepared: 09/28/24 Analyzed: 09/30/24						
Perfluorobutanesulfonic acid (PFBS)	1.25	1.9		ng/L	1.680		74.6	50-150			
Perfluorohexanoic acid (PFHxA)	1.37	1.9		ng/L	1.894		72.4	50-150			
Perfluorohexanesulfonic acid (PFHxS)	1.40	1.9		ng/L	1.731		81.0	50-150			
Perfluoroheptanoic acid (PFHpA)	1.45	1.9		ng/L	1.894		76.7	50-150			
Perfluorooctanoic acid (PFOA)	1.47	1.9		ng/L	1.894		77.8	50-150			
Perfluorooctanesulfonic acid (PFOS)	1.53	1.9		ng/L	1.758		87.0	50-150			
Perfluorononanoic acid (PFNA)	1.74	1.9		ng/L	1.894		91.6	50-150			
Perfluorodecanoic acid (PFDA)	1.64	1.9		ng/L	1.894		86.4	50-150			
N-EtFOSAA (NEtFOSAA)	1.53	1.9		ng/L	1.894		80.8	50-150			
Perfluoroundecanoic acid (PFUnA)	1.48	1.9		ng/L	1.894		78.0	50-150			
N-MeFOSAA (NMeFOSAA)	1.50	1.9		ng/L	1.894		79.0	50-150			
Perfluorododecanoic acid (PFDoA)	1.48	1.9		ng/L	1.894		78.0	50-150			
Perfluorotridecanoic acid (PFTrDA)	1.50	1.9		ng/L	1.894		79.3	50-150			
Perfluorotetradecanoic acid (PFTA)	1.60	1.9		ng/L	1.894		84.2	50-150			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.66	1.9		ng/L	1.894		87.8	50-150			
11Cl-PF3OUdS (F53B Major)	1.31	1.9		ng/L	1.786		73.4	50-150			
9Cl-PF3ONS (F53B Minor)	1.35	1.9		ng/L	1.767		76.3	50-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.37	1.9		ng/L	1.790		76.4	50-150			
Surrogate: 13C-PFHxA	*32.3*			ng/L	37.89		85.4	70-130			
Surrogate: M3HFPO-DA	*33.0*			ng/L	37.89		87.0	70-130			
Surrogate: 13C-PFDA	*35.0*			ng/L	37.89		92.4	70-130			
Surrogate: D5-NEtFOSAA	*143*			ng/L	151.5		94.5	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387557 - EPA 537.1											
LCS Dup (B387557-BSD1)					Prepared: 09/28/24 Analyzed: 09/30/24						
Perfluorobutanesulfonic acid (PFBS)	1.37	1.9		ng/L	1.642		83.7	50-150	9.10	50	
Perfluorohexanoic acid (PFHxA)	1.53	1.9		ng/L	1.851		82.5	50-150	10.7	50	
Perfluorohexanesulfonic acid (PFHxS)	1.52	1.9		ng/L	1.692		89.8	50-150	7.98	50	
Perfluoroheptanoic acid (PFHpA)	1.53	1.9		ng/L	1.851		82.7	50-150	5.19	50	
Perfluorooctanoic acid (PFOA)	1.61	1.9		ng/L	1.851		87.1	50-150	8.91	50	
Perfluorooctanesulfonic acid (PFOS)	1.60	1.9		ng/L	1.717		93.1	50-150	4.38	50	
Perfluorononanoic acid (PFNA)	1.76	1.9		ng/L	1.851		95.1	50-150	1.41	50	
Perfluorodecanoic acid (PFDA)	1.73	1.9		ng/L	1.851		93.5	50-150	5.47	50	
N-EtFOSAA (NEtFOSAA)	1.56	1.9		ng/L	1.851		84.1	50-150	1.76	50	
Perfluoroundecanoic acid (PFUnA)	1.50	1.9		ng/L	1.851		81.1	50-150	1.57	50	
N-MeFOSAA (NMeFOSAA)	1.61	1.9		ng/L	1.851		86.9	50-150	7.13	50	
Perfluorododecanoic acid (PFDoA)	1.46	1.9		ng/L	1.851		79.2	50-150	0.922	50	
Perfluorotridecanoic acid (PFTrDA)	1.55	1.9		ng/L	1.851		83.5	50-150	2.89	50	
Perfluorotetradecanoic acid (PFTA)	1.53	1.9		ng/L	1.851		82.7	50-150	4.12	50	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.68	1.9		ng/L	1.851		90.8	50-150	1.13	50	
11Cl-PF3OUdS (F53B Major)	1.44	1.9		ng/L	1.745		82.3	50-150	9.11	50	
9Cl-PF3ONS (F53B Minor)	1.46	1.9		ng/L	1.727		84.7	50-150	8.08	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.46	1.9		ng/L	1.749		83.6	50-150	6.67	50	
Surrogate: 13C-PFHxA	*34.0*			ng/L	37.01		91.8	70-130			
Surrogate: M3HFPO-DA	*35.9*			ng/L	37.01		97.1	70-130			
Surrogate: 13C-PFDA	*35.8*			ng/L	37.01		96.7	70-130			
Surrogate: D5-NEtFOSAA	*149*			ng/L	148.1		101	70-130			

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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
DL	Method Detection Limit
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.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

24I3434

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

Company Name: PA DEP
Street Address: 208 W 3rd St, Suite 101
Williamsport, PA, 17701

Contact/Report To: John Ciccone
Phone #: 570-205-2672
E-Mail: jciccone@pa.gov
Cc E-Mail:

Customer Project #:

Project Name: N. Centre Twp PFAS

Site Collection Info/Facility ID (as applicable):

Invoice to:
Invoice E-mail:
Purchase Order # (if applicable):
Quote #:

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [✓] ET

County / State origin of sample(s):

Data Deliverables: Standard
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other
Date Results Requested:

DW PWSID # or WW Permit # as applicable:

Field Filtered (if applicable): [ ] Yes [ ] No
Analysis:

Specify Container Size **: 3
Identify Container Preservative Type***: 11 (HCl)
Analysis Requested: EPA 537.1, PFAS

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: / AcctNum / Client ID: / Table #: / Profile / Template: / Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

	Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	Sample Comment
1	9544-3650RR	~~DW~~ GW	Grab			9/23/24	1155				May have PFAS >1000 ppt
2	9544-3650RR-FRB	W	Grab			9/23/24	1156				

Additional Instructions from Pace®: Bottles preserved w/ ~~Trizma~~ Tris HCL

Collected By: John Ciccone
Printed Name:
Signature:

Customer Remarks / Special Conditions / Possible Hazards: Potential for total PFAS Conc >1000 ppt

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C): [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
John Ciccone	9/23/24 1530	3.6	9-24-24 1107	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

ENV-FRM-CORQ-0019_v02_110123 ©

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z6610830199226686

Weight

45.00 LBS

Service

UPS Next Day Air®

Shipped / Billed On

09/23/2024

Delivered On

09/24/2024 10:17 A.M.

Delivered To

EAST LONGMEADOW, MA, US
Received By

HENRIQUES

Left At

Inside Delivery

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 09/25/2024 11:29 A.M. EST

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client PA DEP

Project N. Centre TNP PFAS

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☐ Fed Ex ☐ Walk In ☐ Other ☑ VPS

Received By / Date / Time RL / 9-24-24 / 10:17

Back-Sheet By / Date / Time RL / 9-25-24 / 11:58

Temperature Method Gun # 6

WV samples: Yes (see note*) / (No) (follow normal procedure)

Temp < 6° C Actual Temperature 3.6

Rush Samples: Yes / (No) Notify

Short Hold: Yes / (No) Notify

Notes regarding Samples/COC outside of SOP:

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

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☐	☑

COC Included: (Check all included)

Client	☑	Analysis	☑	Sampler Name	☑
Project	☑	IDs	☑	Collection Date/Time	☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Sample																				
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																			
8oz Amb/Clear																				
4oz Amb/Clear																				
2oz Amb/Clear																				
Unpreserved	Ambers	1 Liter																		
HCL																				
Sulfuric																				
Sulfuric		250mL																		
Phosphoric																				
HCl																				
Unpreserved		100mL																		
Unpreserved	Plastics	1 Liter																		
Sulfuric																				
Unpreserved		500mL																		
Sulfuric																				
Unpreserved		250m.																		
Trizma																		1	2	
Sulfuric																				
Nitric																				
NaOH																				
Ammonium Acetate																				
NaOH/Zinc																				
Unpreserved	VOA Vials																			
HCl																				
MeOH																				
D.I. Water																				
BiSulfate																				
Col/Bact	Other / Fill in																			

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October 1, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: N. Centre Twp PFAS
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24I3436

Enclosed are results of analyses for samples as received by the laboratory on September 24, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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

PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/1/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24I3436

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

PROJECT LOCATION: N. Centre Twp PFAS

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-3639RR	24I3436-01	Drinking Water		EPA 537.1	
9544-3639RR-FB	24I3436-02	Field Blank		EPA 537.1	

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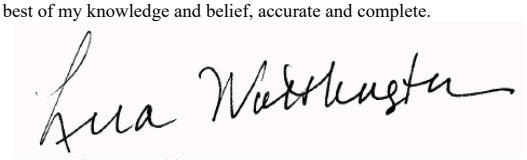
CASE NARRATIVE SUMMARY

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

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

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

Project Location: N. Centre Twp PFAS | Sample Description: | Work Order: 24I3436

Date Received: 9/24/2024

Field Sample #: 9544-3639RR | Sampled: 9/23/2024 09:42

Sample ID: 24I3436-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
Perfluorooctanoic acid (PFOA)	2.6	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
Perfluorooctanesulfonic acid (PFOS)	14	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:36	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	73.4	70-130		9/30/24 18:36
M3HFPO-DA	78.9	70-130		9/30/24 18:36
13C-PFDA	84.0	70-130		9/30/24 18:36
D5-NEtFOSAA	87.6	70-130		9/30/24 18:36

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Project Location: N. Centre Twp PFAS | Sample Description: | Work Order: 24I3436

Date Received: 9/24/2024

Field Sample #: 9544-3639RR-FB | Sampled: 9/23/2024 09:43

Sample ID: 24I3436-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
Perfluorooctanoic acid (PFOA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L	1		EPA 537.1	9/28/24	9/30/24 18:43	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	83.9	70-130		9/30/24 18:43
M3HFPO-DA	87.5	70-130		9/30/24 18:43
13C-PFDA	89.5	70-130		9/30/24 18:43
D5-NEtFOSAA	94.3	70-130		9/30/24 18:43

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I3436-01 [9544-3639RR]	B387557	274	1.00	09/28/24
24I3436-02 [9544-3639RR-FB]	B387557	275	1.00	09/28/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387557 - EPA 537.1											
Blank (B387557-BLK1)					Prepared: 09/28/24 Analyzed: 09/30/24						
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L							
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L							
Surrogate: 13C-PFHxA	*31.5*			ng/L	37.20		84.7	70-130			
Surrogate: M3HFPO-DA	*32.9*			ng/L	37.20		88.5	70-130			
Surrogate: 13C-PFDA	*33.4*			ng/L	37.20		89.8	70-130			
Surrogate: D5-NEtFOSAA	*139*			ng/L	148.8		93.3	70-130			
LCS (B387557-BS1)					Prepared: 09/28/24 Analyzed: 09/30/24						
Perfluorobutanesulfonic acid (PFBS)	1.25	1.9		ng/L	1.680		74.6	50-150			
Perfluorohexanoic acid (PFHxA)	1.37	1.9		ng/L	1.894		72.4	50-150			
Perfluorohexanesulfonic acid (PFHxS)	1.40	1.9		ng/L	1.731		81.0	50-150			
Perfluoroheptanoic acid (PFHpA)	1.45	1.9		ng/L	1.894		76.7	50-150			
Perfluorooctanoic acid (PFOA)	1.47	1.9		ng/L	1.894		77.8	50-150			
Perfluorooctanesulfonic acid (PFOS)	1.53	1.9		ng/L	1.758		87.0	50-150			
Perfluorononanoic acid (PFNA)	1.74	1.9		ng/L	1.894		91.6	50-150			
Perfluorodecanoic acid (PFDA)	1.64	1.9		ng/L	1.894		86.4	50-150			
N-EtFOSAA (NEtFOSAA)	1.53	1.9		ng/L	1.894		80.8	50-150			
Perfluoroundecanoic acid (PFUnA)	1.48	1.9		ng/L	1.894		78.0	50-150			
N-MeFOSAA (NMeFOSAA)	1.50	1.9		ng/L	1.894		79.0	50-150			
Perfluorododecanoic acid (PFDoA)	1.48	1.9		ng/L	1.894		78.0	50-150			
Perfluorotridecanoic acid (PFTrDA)	1.50	1.9		ng/L	1.894		79.3	50-150			
Perfluorotetradecanoic acid (PFTA)	1.60	1.9		ng/L	1.894		84.2	50-150			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.66	1.9		ng/L	1.894		87.8	50-150			
11Cl-PF3OUdS (F53B Major)	1.31	1.9		ng/L	1.786		73.4	50-150			
9Cl-PF3ONS (F53B Minor)	1.35	1.9		ng/L	1.767		76.3	50-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.37	1.9		ng/L	1.790		76.4	50-150			
Surrogate: 13C-PFHxA	*32.3*			ng/L	37.89		85.4	70-130			
Surrogate: M3HFPO-DA	*33.0*			ng/L	37.89		87.0	70-130			
Surrogate: 13C-PFDA	*35.0*			ng/L	37.89		92.4	70-130			
Surrogate: D5-NEtFOSAA	*143*			ng/L	151.5		94.5	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387557 - EPA 537.1											
LCS Dup (B387557-BSD1)					Prepared: 09/28/24 Analyzed: 09/30/24						
Perfluorobutanesulfonic acid (PFBS)	1.37	1.9		ng/L	1.642		83.7	50-150	9.10	50	
Perfluorohexanoic acid (PFHxA)	1.53	1.9		ng/L	1.851		82.5	50-150	10.7	50	
Perfluorohexanesulfonic acid (PFHxS)	1.52	1.9		ng/L	1.692		89.8	50-150	7.98	50	
Perfluoroheptanoic acid (PFHpA)	1.53	1.9		ng/L	1.851		82.7	50-150	5.19	50	
Perfluorooctanoic acid (PFOA)	1.61	1.9		ng/L	1.851		87.1	50-150	8.91	50	
Perfluorooctanesulfonic acid (PFOS)	1.60	1.9		ng/L	1.717		93.1	50-150	4.38	50	
Perfluorononanoic acid (PFNA)	1.76	1.9		ng/L	1.851		95.1	50-150	1.41	50	
Perfluorodecanoic acid (PFDA)	1.73	1.9		ng/L	1.851		93.5	50-150	5.47	50	
N-EtFOSAA (NEtFOSAA)	1.56	1.9		ng/L	1.851		84.1	50-150	1.76	50	
Perfluoroundecanoic acid (PFUnA)	1.50	1.9		ng/L	1.851		81.1	50-150	1.57	50	
N-MeFOSAA (NMeFOSAA)	1.61	1.9		ng/L	1.851		86.9	50-150	7.13	50	
Perfluorododecanoic acid (PFDoA)	1.46	1.9		ng/L	1.851		79.2	50-150	0.922	50	
Perfluorotridecanoic acid (PFTrDA)	1.55	1.9		ng/L	1.851		83.5	50-150	2.89	50	
Perfluorotetradecanoic acid (PFTA)	1.53	1.9		ng/L	1.851		82.7	50-150	4.12	50	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.68	1.9		ng/L	1.851		90.8	50-150	1.13	50	
11Cl-PF3OUdS (F53B Major)	1.44	1.9		ng/L	1.745		82.3	50-150	9.11	50	
9Cl-PF3ONS (F53B Minor)	1.46	1.9		ng/L	1.727		84.7	50-150	8.08	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.46	1.9		ng/L	1.749		83.6	50-150	6.67	50	
Surrogate: 13C-PFHxA	*34.0*			ng/L	37.01		91.8	70-130			
Surrogate: M3HFPO-DA	*35.9*			ng/L	37.01		97.1	70-130			
Surrogate: 13C-PFDA	*35.8*			ng/L	37.01		96.7	70-130			
Surrogate: D5-NEtFOSAA	*149*			ng/L	148.1		101	70-130			

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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
DL	Method Detection Limit
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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

24I3436

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

Company Name: PA DEP	Contact/Report To: John Ciccone
Street Address: 208 W. 3rd St, Suite 101 Williamsport, PA 17701	Phone #: 570.205.2672
	E-Mail: jciccone@pa.gov
	Cc E-Mail:
Customer Project #:	Invoice to:
Project Name: U. Centre Twp PFAS	Invoice E-mail:
Site Collection Info/Facility ID (as applicable):	Purchase Order # (if applicable):
	Quote #:
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [✓] ET	County / State origin of sample(s):
Data Deliverables: Standard ~~EDD~~ [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other	Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No
	Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other _____ Date Results Requested:
	DW PWSID # or WW Permit # as applicable: Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

Specify Container Size **: 3

Identify Container Preservative Type***: 11

Analysis Requested: EPA 537.1, PFAS

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: / AcctNum / Client ID: / Table #: / Profile / Template: / Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample.

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

	Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	Sample Comment
1	9544-3639RR	~~SW~~ GW	Grab			9/23/24	0942	3			May have PFAS > 1000 ppt
2	9544-3639RR-FRB	GW	Grab			9/23/24	0943	2			

Additional Instructions from Pace®: Preserved w/ Trizma HCL

Collected By: John Ciccone

Printed Name

Signature

Customer Remarks / Special Conditions / Possible Hazards: Potential for total PFAS conc. > 1000 ppt

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C): [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
John Ciccone	9/23/24 1530	3.6	9-24-24	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier [ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z6610830199226686

Weight

45.00 LBS

Service

UPS Next Day Air®

Shipped / Billed On

09/23/2024

Delivered On

09/24/2024 10:17 A.M.

Delivered To

EAST LONGMEADOW, MA, US
Received By

HENRIQUES

Left At

Inside Delivery

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 09/25/2024 11:29 A.M. EST

Pace	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client PA DEP

Project N. Centre THP PFAs

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☐ Fed Ex ☐ Walk In ☐ Other ☑ UPS

Received By / Date / Time RL / 9-24-24 / 10:17

Back-Sheet By / Date / Time RL / 9-25-24 / 11:50

Temperature Method gun # 6

WV samples: Yes (see note*) / (No) (follow normal procedure)

Temp < 6° C Actual Temperature 3.6

Rush Samples: Yes / (No) Notify

Short Hold: Yes / (No) Notify

Notes regarding Samples/COC outside of SOP:

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

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☐	☑
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☐	☑

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☐ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250mL																					
Phosphoric																						
HCl																						
Unpreserved	100mL																					
Unpreserved	1 Liter	Plastics																				
Sulfuric																						
Unpreserved	500mL																					
Sulfuric																						
Unpreserved	250mL																					
Trizma			2	1																		
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved		VOA Vials																				
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact		Other / Fill in																				

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

October 7, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: N. Centre Twp PFAS
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24I3439

Enclosed are results of analyses for samples as received by the laboratory on September 24, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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

PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/7/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24I3439

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

PROJECT LOCATION: N. Centre Twp PFAS

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-3633RR	24I3439-01	Drinking Water		EPA 537.1	
9544-3633RR-FRB	24I3439-02	Field Blank		EPA 537.1	

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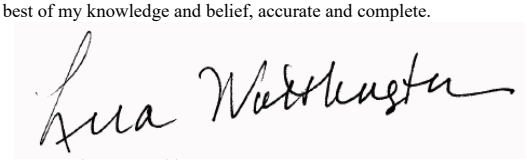
CASE NARRATIVE SUMMARY

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

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

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

Project Location: N. Centre Twp PFAS | Sample Description: | Work Order: 24I3439

Date Received: 9/24/2024

Field Sample #: 9544-3633RR | Sampled: 9/23/2024 10:40

Sample ID: 24I3439-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
Perfluorohexanoic acid (PFHxA)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
Perfluoroheptanoic acid (PFHpA)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
Perfluorooctanoic acid (PFOA)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
Perfluorononanoic acid (PFNA)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
Perfluorodecanoic acid (PFDA)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
N-EtFOSAA (NEtFOSAA)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
Perfluoroundecanoic acid (PFUnA)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
N-MeFOSAA (NMeFOSAA)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
Perfluorododecanoic acid (PFDoA)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
Perfluorotetradecanoic acid (PFTA)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
11Cl-PF3OUdS (F53B Major)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
9Cl-PF3ONS (F53B Minor)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	9.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:27	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	75.0	70-130		10/2/24 16:27
M3HFPO-DA	81.9	70-130		10/2/24 16:27
13C-PFDA	80.3	70-130		10/2/24 16:27
D5-NEtFOSAA	78.6	70-130		10/2/24 16:27

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Project Location: N. Centre Twp PFAS | Sample Description: | Work Order: 24I3439

Date Received: 9/24/2024

Field Sample #: 9544-3633RR-FRB | Sampled: 9/23/2024 10:41

Sample ID: 24I3439-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
Perfluorooctanoic acid (PFOA)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L	1		EPA 537.1	10/1/24	10/2/24 16:34	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	76.3	70-130		10/2/24 16:34
M3HFPO-DA	81.4	70-130		10/2/24 16:34
13C-PFDA	84.8	70-130		10/2/24 16:34
D5-NEtFOSAA	86.6	70-130		10/2/24 16:34

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I3439-01 [9544-3633RR]	B387563	50.8	1.00	10/01/24
24I3439-02 [9544-3633RR-FRB]	B387563	271	1.00	10/01/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387563 - EPA 537.1											
Blank (B387563-BLK1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8		ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8		ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L							
Surrogate: 13C-PFHxA	*28.4*			ng/L	36.52		77.8	70-130			
Surrogate: M3HFPO-DA	*30.0*			ng/L	36.52		82.2	70-130			
Surrogate: 13C-PFDA	*30.0*			ng/L	36.52		82.1	70-130			
Surrogate: D5-NEtFOSAA	*114*			ng/L	146.1		77.9	70-130			
LCS (B387563-BS1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	7.44	1.9		ng/L	8.357		89.0	70-130			
Perfluorohexanoic acid (PFHxA)	8.24	1.9		ng/L	9.422		87.4	70-130			
Perfluorohexanesulfonic acid (PFHxS)	7.90	1.9		ng/L	8.612		91.8	70-130			
Perfluoroheptanoic acid (PFHpA)	8.48	1.9		ng/L	9.422		90.0	70-130			
Perfluorooctanoic acid (PFOA)	8.54	1.9		ng/L	9.422		90.7	70-130			
Perfluorooctanesulfonic acid (PFOS)	8.06	1.9		ng/L	8.743		92.1	70-130			
Perfluorononanoic acid (PFNA)	10.1	1.9		ng/L	9.422		107	70-130			
Perfluorodecanoic acid (PFDA)	9.30	1.9		ng/L	9.422		98.8	70-130			
N-EtFOSAA (NEtFOSAA)	8.48	1.9		ng/L	9.422		90.0	70-130			
Perfluoroundecanoic acid (PFUnA)	8.70	1.9		ng/L	9.422		92.4	70-130			
N-MeFOSAA (NMeFOSAA)	8.19	1.9		ng/L	9.422		87.0	70-130			
Perfluorododecanoic acid (PFDoA)	8.69	1.9		ng/L	9.422		92.2	70-130			
Perfluorotridecanoic acid (PFTrDA)	8.53	1.9		ng/L	9.422		90.5	70-130			
Perfluorotetradecanoic acid (PFTA)	9.18	1.9		ng/L	9.422		97.4	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.05	1.9		ng/L	9.422		85.5	70-130			
11Cl-PF3OUdS (F53B Major)	8.00	1.9		ng/L	8.885		90.0	70-130			
9Cl-PF3ONS (F53B Minor)	8.06	1.9		ng/L	8.791		91.6	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.07	1.9		ng/L	8.904		90.6	70-130			
Surrogate: 13C-PFHxA	*32.4*			ng/L	37.69		86.1	70-130			
Surrogate: M3HFPO-DA	*33.8*			ng/L	37.69		89.6	70-130			
Surrogate: 13C-PFDA	*36.0*			ng/L	37.69		95.4	70-130			
Surrogate: D5-NEtFOSAA	*137*			ng/L	150.8		91.1	70-130			

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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
DL	Method Detection Limit
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.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

24I3439

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

Company Name: PA DEP	Contact/Report To:
Street Address: 208 W. 3rd St, Suite 101 Williamsport, PA 17701	Phone #:
	E-Mail:
	Cc E-Mail:
Customer Project #:	Invoice to:
Project Name: N. Centre Twp PFAS	Invoice E-mail:
Site Collection Info/Facility ID (as applicable):	Purchase Order # (if applicable):
	Quote #:
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET	County / State origin of sample(s):
Data Deliverables: Standard [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other	Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No
	Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other ____ Date Results Requested:
	DW PWSID # or WW Permit # as applicable: Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

Specify Container Size **: 3

Identify Container Preservative Type***: 11

Analysis Requested: EPA 537.1, PFAS

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: | AcctNum / Client ID: | Table #: | Profile / Template: | Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	Sample Comment
9544-3633RR	DW ~~GW~~	Grab	9/23/24	1040			3			
9544-3633RR-FRB	W	Grab	9/23/24	1041			2			

Additional Instructions from Pace®: Preserved w/ Tris HCL.

Collected By: Printed Name: John Ciccone Signature: John Ciccone

Customer Remarks / Special Conditions / Possible Hazards: Potential for total PFAS conc. > 1000 ppt

Coolers: | Thermometer ID: | Correction Factor (°C): | Obs. Temp. (°C): | Corrected Temp. (°C): | [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
John Ciccone	9/23/24 1530	Mali 3.6	9-24-24 / 10:17

Tracking Number:

Delivered by: [ ] In-Person [ ] Courier [ ] FedEX [ ] UPS [ ] Other

Page: of

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z6610830199226686

Weight

45.00 LBS

Service

UPS Next Day Air®

Shipped / Billed On

09/23/2024

Delivered On

09/24/2024 10:17 A.M.

Delivered To

EAST LONGMEADOW, MA, US
Received By

HENRIQUES

Left At

Inside Delivery

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 09/25/2024 11:29 A.M. EST

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

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

Client PA DEP

Project N. Centre TNP PFAs

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☐ Fed Ex ☐ Walk In ☐ Other ☑ UPS

Received By / Date / Time RL / 9-24-24 / 10:17

Back-Sheet By / Date / Time RL / 9-25-24 / 11:42

Temperature Method Gun # 6

WV samples: Yes (see note*) / (No) (follow normal procedure)

Temp < 6° C Actual Temperature 3.6

Rush Samples: Yes / (No) Notify

Short Hold: Yes / (No) Notify

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☐	☑
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑ RL	☑

COC Included: (Check all included)

Client	☑	Analysis	☑	Sampler Name	☑
Project	☑	IDs	☐	Collection Date/Time	☑

All Samples Proper pH: (N/A) ☐ ☐

Notes regarding Samples/COC outside of SOP:

no I.D. on Sample for FB and one of the samples

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250mL																				
Phosphoric																						
HCl																						
Unpreserved		100mL																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500mL																				
Sulfuric																						
Unpreserved		250m																				
Trizma			2	1																		
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

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October 7, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: N. Centre Twp PFAS
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24I3440

Enclosed are results of analyses for samples as received by the laboratory on September 24, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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

PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/7/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24I3440

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

PROJECT LOCATION: N. Centre Twp PFAS

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-7270SHR	24I3440-01	Drinking Water		EPA 537.1	
9544-7270SHR-FRB	24I3440-02	Field Blank		EPA 537.1	

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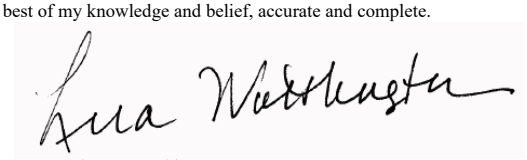
CASE NARRATIVE SUMMARY

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

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

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

Project Location: N. Centre Twp PFAS | Sample Description: | Work Order: 24I3440

Date Received: 9/24/2024

Field Sample #: 9544-7270SHR | Sampled: 9/23/2024 11:25

Sample ID: 24I3440-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
Perfluorohexanoic acid (PFHxA)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
Perfluoroheptanoic acid (PFHpA)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
Perfluorooctanoic acid (PFOA)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
Perfluorooctanesulfonic acid (PFOS)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
Perfluorononanoic acid (PFNA)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
Perfluorodecanoic acid (PFDA)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
N-EtFOSAA (NEtFOSAA)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
Perfluoroundecanoic acid (PFUnA)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
N-MeFOSAA (NMeFOSAA)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
Perfluorododecanoic acid (PFDoA)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
Perfluorotridecanoic acid (PFTrDA)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
Perfluorotetradecanoic acid (PFTA)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
11Cl-PF3OUdS (F53B Major)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
9Cl-PF3ONS (F53B Minor)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	9.7		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:06	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	94.9	70-130		10/2/24 14:06
M3HFPO-DA	93.6	70-130		10/2/24 14:06
13C-PFDA	94.8	70-130		10/2/24 14:06
D5-NEtFOSAA	116	70-130		10/2/24 14:06

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

Project Location: N. Centre Twp PFAS | Sample Description: | Work Order: 24I3440

Date Received: 9/24/2024

Field Sample #: 9544-7270SHR-FRB | Sampled: 9/23/2024 11:27

Sample ID: 24I3440-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:14	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	97.1	70-130		10/2/24 14:14
M3HFPO-DA	97.5	70-130		10/2/24 14:14
13C-PFDA	99.7	70-130		10/2/24 14:14
D5-NEtFOSAA	107	70-130		10/2/24 14:14

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I3440-01 [9544-7270SHR]	B387768	51.3	1.00	10/01/24
24I3440-02 [9544-7270SHR-FRB]	B387768	266	1.00	10/01/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387563 - EPA 537.1											
Blank (B387563-BLK1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8		ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8		ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L							
Surrogate: 13C-PFHxA	*28.4*			ng/L	36.52		77.8	70-130			
Surrogate: M3HFPO-DA	*30.0*			ng/L	36.52		82.2	70-130			
Surrogate: 13C-PFDA	*30.0*			ng/L	36.52		82.1	70-130			
Surrogate: D5-NEtFOSAA	*114*			ng/L	146.1		77.9	70-130			
LCS (B387563-BS1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	7.44	1.9		ng/L	8.357		89.0	70-130			
Perfluorohexanoic acid (PFHxA)	8.24	1.9		ng/L	9.422		87.4	70-130			
Perfluorohexanesulfonic acid (PFHxS)	7.90	1.9		ng/L	8.612		91.8	70-130			
Perfluoroheptanoic acid (PFHpA)	8.48	1.9		ng/L	9.422		90.0	70-130			
Perfluorooctanoic acid (PFOA)	8.54	1.9		ng/L	9.422		90.7	70-130			
Perfluorooctanesulfonic acid (PFOS)	8.06	1.9		ng/L	8.743		92.1	70-130			
Perfluorononanoic acid (PFNA)	10.1	1.9		ng/L	9.422		107	70-130			
Perfluorodecanoic acid (PFDA)	9.30	1.9		ng/L	9.422		98.8	70-130			
N-EtFOSAA (NEtFOSAA)	8.48	1.9		ng/L	9.422		90.0	70-130			
Perfluoroundecanoic acid (PFUnA)	8.70	1.9		ng/L	9.422		92.4	70-130			
N-MeFOSAA (NMeFOSAA)	8.19	1.9		ng/L	9.422		87.0	70-130			
Perfluorododecanoic acid (PFDoA)	8.69	1.9		ng/L	9.422		92.2	70-130			
Perfluorotridecanoic acid (PFTrDA)	8.53	1.9		ng/L	9.422		90.5	70-130			
Perfluorotetradecanoic acid (PFTA)	9.18	1.9		ng/L	9.422		97.4	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.05	1.9		ng/L	9.422		85.5	70-130			
11Cl-PF3OUdS (F53B Major)	8.00	1.9		ng/L	8.885		90.0	70-130			
9Cl-PF3ONS (F53B Minor)	8.06	1.9		ng/L	8.791		91.6	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.07	1.9		ng/L	8.904		90.6	70-130			
Surrogate: 13C-PFHxA	*32.4*			ng/L	37.69		86.1	70-130			
Surrogate: M3HFPO-DA	*33.8*			ng/L	37.69		89.6	70-130			
Surrogate: 13C-PFDA	*36.0*			ng/L	37.69		95.4	70-130			
Surrogate: D5-NEtFOSAA	*137*			ng/L	150.8		91.1	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387768 - EPA 537.1											
Blank (B387768-BLK1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8		ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8		ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L							
Surrogate: 13C-PFHxA	*42.0*			ng/L	36.68		115	70-130			
Surrogate: M3HFPO-DA	*41.2*			ng/L	36.68		112	70-130			
Surrogate: 13C-PFDA	*41.7*			ng/L	36.68		114	70-130			
Surrogate: D5-NEtFOSAA	*183*			ng/L	146.7		125	70-130			
LCS (B387768-BS1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	9.42	1.9		ng/L	8.321		113	70-130			
Perfluorohexanoic acid (PFHxA)	9.51	1.9		ng/L	9.382		101	70-130			
Perfluorohexanesulfonic acid (PFHxS)	8.64	1.9		ng/L	8.575		101	70-130			
Perfluoroheptanoic acid (PFHpA)	9.76	1.9		ng/L	9.382		104	70-130			
Perfluorooctanoic acid (PFOA)	10.0	1.9		ng/L	9.382		107	70-130			
Perfluorooctanesulfonic acid (PFOS)	8.82	1.9		ng/L	8.706		101	70-130			
Perfluorononanoic acid (PFNA)	9.92	1.9		ng/L	9.382		106	70-130			
Perfluorodecanoic acid (PFDA)	10.7	1.9		ng/L	9.382		114	70-130			
N-EtFOSAA (NEtFOSAA)	9.29	1.9		ng/L	9.382		99.0	70-130			
Perfluoroundecanoic acid (PFUnA)	10.3	1.9		ng/L	9.382		109	70-130			
N-MeFOSAA (NMeFOSAA)	9.14	1.9		ng/L	9.382		97.4	70-130			
Perfluorododecanoic acid (PFDoA)	9.91	1.9		ng/L	9.382		106	70-130			
Perfluorotridecanoic acid (PFTrDA)	9.93	1.9		ng/L	9.382		106	70-130			
Perfluorotetradecanoic acid (PFTA)	10.3	1.9		ng/L	9.382		110	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.73	1.9		ng/L	9.382		104	70-130			
11Cl-PF3OUdS (F53B Major)	9.69	1.9		ng/L	8.847		110	70-130			
9Cl-PF3ONS (F53B Minor)	9.12	1.9		ng/L	8.753		104	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.87	1.9		ng/L	8.866		100	70-130			
Surrogate: 13C-PFHxA	*44.9*			ng/L	37.53		120	70-130			
Surrogate: M3HFPO-DA	*45.2*			ng/L	37.53		120	70-130			
Surrogate: 13C-PFDA	*45.5*			ng/L	37.53		121	70-130			
Surrogate: D5-NEtFOSAA	*185*			ng/L	150.1		124	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387768 - EPA 537.1											
LCS Dup (B387768-BSD1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	8.79	1.9		ng/L	8.296		106	70-130	6.86	30	
Perfluorohexanoic acid (PFHxA)	9.06	1.9		ng/L	9.353		96.9	70-130	4.77	30	
Perfluorohexanesulfonic acid (PFHxS)	8.40	1.9		ng/L	8.548		98.2	70-130	2.79	30	
Perfluoroheptanoic acid (PFHpA)	9.13	1.9		ng/L	9.353		97.6	70-130	6.67	30	
Perfluorooctanoic acid (PFOA)	9.08	1.9		ng/L	9.353		97.0	70-130	9.85	30	
Perfluorooctanesulfonic acid (PFOS)	8.66	1.9		ng/L	8.679		99.8	70-130	1.77	30	
Perfluorononanoic acid (PFNA)	9.77	1.9		ng/L	9.353		104	70-130	1.51	30	
Perfluorodecanoic acid (PFDA)	10.1	1.9		ng/L	9.353		108	70-130	6.03	30	
N-EtFOSAA (NEtFOSAA)	8.88	1.9		ng/L	9.353		95.0	70-130	4.47	30	
Perfluoroundecanoic acid (PFUnA)	8.96	1.9		ng/L	9.353		95.8	70-130	13.5	30	
N-MeFOSAA (NMeFOSAA)	8.26	1.9		ng/L	9.353		88.3	70-130	10.1	30	
Perfluorododecanoic acid (PFDoA)	9.33	1.9		ng/L	9.353		99.8	70-130	6.02	30	
Perfluorotridecanoic acid (PFTrDA)	9.34	1.9		ng/L	9.353		99.9	70-130	6.05	30	
Perfluorotetradecanoic acid (PFTA)	9.45	1.9		ng/L	9.353		101	70-130	8.82	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.06	1.9		ng/L	9.353		96.9	70-130	7.12	30	
11Cl-PF3OUdS (F53B Major)	8.35	1.9		ng/L	8.820		94.7	70-130	14.8	30	
9Cl-PF3ONS (F53B Minor)	8.93	1.9		ng/L	8.726		102	70-130	2.11	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.55	1.9		ng/L	8.838		96.7	70-130	3.73	30	
Surrogate: 13C-PFHxA	*42.7*			ng/L	37.41		114	70-130			
Surrogate: M3HFPO-DA	*42.5*			ng/L	37.41		114	70-130			
Surrogate: 13C-PFDA	*42.4*			ng/L	37.41		113	70-130			
Surrogate: D5-NEtFOSAA	*169*			ng/L	149.6		113	70-130			

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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
DL	Method Detection Limit
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.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

24I3440

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

Company Name: PA DEP
Street Address: 208 W. 3rd St Williamsport, PA 17701

Contact/Report To: John Ciccone
Phone #: 570.205 2672
E-Mail: jciccone@pa.gov
Cc E-Mail:

Customer Project #:
Project Name: N. Centre Twp PFAS

Invoice to:
Invoice E-mail:

Site Collection Info/Facility ID (as applicable):

Purchase Order # (if applicable):
Quote #:

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [✓] ET

County / State origin of sample(s):

Data Deliverables: Standard
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable

Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No
Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Specify Container Size **: 3

Identify Container Preservative Type***: 11

Analysis Requested: EPA 537.1, PFAS; ~~Tris HCL Acetate~~

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: / AcctNum / Client ID: / Table #: / Profile / Template: / Prelog / Bottle Ord. ID:

	Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	EPA 537.1, PFAS	~~Tris HCL Acetate~~	Sample Comment	Preservation non-conformance identified for sample.
01	4544-7270SHR	DW ~~GW~~	Grab			9/23/24	1125	3			X	~~X~~		
02	4544-7270SHR-FRB	~~R~~ W	Grab			9/23/24	1127	2			X	~~X~~		

Additional Instructions from Pace®: Bottles preserved w/ ~~[illegible]~~ JC Tris HCL

Collected By: Printed Name: John Ciccone
Signature: [signature]

Customer Remarks / Special Conditions / Possible Hazards: Potential for PFAS conc > 1000 ppt

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C): [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	
[signature]	9/23/24 1530	[signature] 3.6	9-24-24 / 10:17	Tracking Number:
				Delivered by: [ ] In-Person [ ] Courier
				[ ] FedEX [ ] UPS [ ] Other
				Page: of

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z6610830199226686

Weight

45.00 LBS

Service

UPS Next Day Air®

Shipped / Billed On

09/23/2024

Delivered On

09/24/2024 10:17 A.M.

Delivered To

EAST LONGMEADOW, MA, US
Received By

HENRIQUES

Left At

Inside Delivery

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 09/25/2024 11:29 A.M. EST

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Log In Back-Sheet

Client PA DEP

Project N. Centre TNP PFAs

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☐ Fed Ex ☐ Walk In ☐ Other ☑ UPS

Received By / Date / Time RL / 9-24-24 / 10:17

Back-Sheet By / Date / Time RL / 9-25-24 / 11:55

Temperature Method gun # 6

WV samples: Yes (see note*) / (No) (follow normal procedure)

Temp < 6° C Actual Temperature 3.6

Rush Samples: Yes / (No) Notify

Short Hold: Yes / (No) Notify

Notes regarding Samples/COC outside of SOP:

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

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☐	☑

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Sample																				
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																			
8oz Amb/Clear																				
4oz Amb/Clear																				
2oz Amb/Clear																				
Unpreserved	Ambers	1 Liter																		
HCL																				
Sulfuric																				
Sulfuric		250mL																		
Phosphoric																				
HCl																				
Unpreserved		100mL																		
Unpreserved	Plastics	1 Liter																		
Sulfuric																				
Unpreserved		500mL																		
Sulfuric																				
Unpreserved		250m.																		
Trizma																			2	1
Sulfuric																				
Nitric																				
NaOH																				
Ammonium Acetate																				
NaOH/Zinc																				
Unpreserved	VOA Vials																			
HCl																				
MeOH																				
D.I. Water																				
BiSulfate																				
Col/Bact	Other / Fill in																			

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October 3, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: N. Centre Twp PFAS
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24I3442

Enclosed are results of analyses for samples as received by the laboratory on September 24, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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

PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/3/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24I3442

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

PROJECT LOCATION: N. Centre Twp PFAS

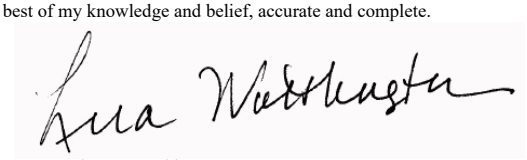
FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-3709RR	24I3442-01	Drinking Water		EPA 537.1	
9544-3709RR-FRB	24I3442-02	Field Blank		EPA 537.1	

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

CASE NARRATIVE SUMMARY

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

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

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

Project Location: N. Centre Twp PFAS | Sample Description: | Work Order: 24I3442

Date Received: 9/24/2024

Field Sample #: 9544-3709RR | Sampled: 9/23/2024 11:00

Sample ID: 24I3442-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
Perfluorohexanoic acid (PFHxA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
Perfluorohexanesulfonic acid (PFHxS)	10	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
Perfluoroheptanoic acid (PFHpA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
Perfluorooctanoic acid (PFOA)	29	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
Perfluorooctanesulfonic acid (PFOS)	190	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
Perfluorononanoic acid (PFNA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
Perfluorodecanoic acid (PFDA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
N-EtFOSAA (NEtFOSAA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
Perfluoroundecanoic acid (PFUnA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
N-MeFOSAA (NMeFOSAA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
Perfluorododecanoic acid (PFDoA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
Perfluorotridecanoic acid (PFTrDA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
Perfluorotetradecanoic acid (PFTA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
11Cl-PF3OUdS (F53B Major)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
9Cl-PF3ONS (F53B Minor)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:21	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	97.1	70-130		10/2/24 14:21
M3HFPO-DA	96.0	70-130		10/2/24 14:21
13C-PFDA	97.1	70-130		10/2/24 14:21
D5-NEtFOSAA	104	70-130		10/2/24 14:21

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

Project Location: N. Centre Twp PFAS | Sample Description: | Work Order: 24I3442

Date Received: 9/24/2024

Field Sample #: 9544-3709RR-FRB | Sampled: 9/23/2024 11:02

Sample ID: 24I3442-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:35	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	103	70-130		10/2/24 14:35
M3HFPO-DA	106	70-130		10/2/24 14:35
13C-PFDA	106	70-130		10/2/24 14:35
D5-NEtFOSAA	120	70-130		10/2/24 14:35

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I3442-01 [9544-3709RR]	B387768	49.5	1.00	10/01/24
24I3442-02 [9544-3709RR-FRB]	B387768	265	1.00	10/01/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387768 - EPA 537.1											
Blank (B387768-BLK1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8		ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8		ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L							
Surrogate: 13C-PFHxA	*42.0*			ng/L	36.68		115	70-130			
Surrogate: M3HFPO-DA	*41.2*			ng/L	36.68		112	70-130			
Surrogate: 13C-PFDA	*41.7*			ng/L	36.68		114	70-130			
Surrogate: D5-NEtFOSAA	*183*			ng/L	146.7		125	70-130			
LCS (B387768-BS1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	9.42	1.9		ng/L	8.321		113	70-130			
Perfluorohexanoic acid (PFHxA)	9.51	1.9		ng/L	9.382		101	70-130			
Perfluorohexanesulfonic acid (PFHxS)	8.64	1.9		ng/L	8.575		101	70-130			
Perfluoroheptanoic acid (PFHpA)	9.76	1.9		ng/L	9.382		104	70-130			
Perfluorooctanoic acid (PFOA)	10.0	1.9		ng/L	9.382		107	70-130			
Perfluorooctanesulfonic acid (PFOS)	8.82	1.9		ng/L	8.706		101	70-130			
Perfluorononanoic acid (PFNA)	9.92	1.9		ng/L	9.382		106	70-130			
Perfluorodecanoic acid (PFDA)	10.7	1.9		ng/L	9.382		114	70-130			
N-EtFOSAA (NEtFOSAA)	9.29	1.9		ng/L	9.382		99.0	70-130			
Perfluoroundecanoic acid (PFUnA)	10.3	1.9		ng/L	9.382		109	70-130			
N-MeFOSAA (NMeFOSAA)	9.14	1.9		ng/L	9.382		97.4	70-130			
Perfluorododecanoic acid (PFDoA)	9.91	1.9		ng/L	9.382		106	70-130			
Perfluorotridecanoic acid (PFTrDA)	9.93	1.9		ng/L	9.382		106	70-130			
Perfluorotetradecanoic acid (PFTA)	10.3	1.9		ng/L	9.382		110	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.73	1.9		ng/L	9.382		104	70-130			
11Cl-PF3OUdS (F53B Major)	9.69	1.9		ng/L	8.847		110	70-130			
9Cl-PF3ONS (F53B Minor)	9.12	1.9		ng/L	8.753		104	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.87	1.9		ng/L	8.866		100	70-130			
Surrogate: 13C-PFHxA	*44.9*			ng/L	37.53		120	70-130			
Surrogate: M3HFPO-DA	*45.2*			ng/L	37.53		120	70-130			
Surrogate: 13C-PFDA	*45.5*			ng/L	37.53		121	70-130			
Surrogate: D5-NEtFOSAA	*185*			ng/L	150.1		124	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387768 - EPA 537.1											
LCS Dup (B387768-BSD1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	8.79	1.9		ng/L	8.296		106	70-130	6.86	30	
Perfluorohexanoic acid (PFHxA)	9.06	1.9		ng/L	9.353		96.9	70-130	4.77	30	
Perfluorohexanesulfonic acid (PFHxS)	8.40	1.9		ng/L	8.548		98.2	70-130	2.79	30	
Perfluoroheptanoic acid (PFHpA)	9.13	1.9		ng/L	9.353		97.6	70-130	6.67	30	
Perfluorooctanoic acid (PFOA)	9.08	1.9		ng/L	9.353		97.0	70-130	9.85	30	
Perfluorooctanesulfonic acid (PFOS)	8.66	1.9		ng/L	8.679		99.8	70-130	1.77	30	
Perfluorononanoic acid (PFNA)	9.77	1.9		ng/L	9.353		104	70-130	1.51	30	
Perfluorodecanoic acid (PFDA)	10.1	1.9		ng/L	9.353		108	70-130	6.03	30	
N-EtFOSAA (NEtFOSAA)	8.88	1.9		ng/L	9.353		95.0	70-130	4.47	30	
Perfluoroundecanoic acid (PFUnA)	8.96	1.9		ng/L	9.353		95.8	70-130	13.5	30	
N-MeFOSAA (NMeFOSAA)	8.26	1.9		ng/L	9.353		88.3	70-130	10.1	30	
Perfluorododecanoic acid (PFDoA)	9.33	1.9		ng/L	9.353		99.8	70-130	6.02	30	
Perfluorotridecanoic acid (PFTrDA)	9.34	1.9		ng/L	9.353		99.9	70-130	6.05	30	
Perfluorotetradecanoic acid (PFTA)	9.45	1.9		ng/L	9.353		101	70-130	8.82	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.06	1.9		ng/L	9.353		96.9	70-130	7.12	30	
11Cl-PF3OUdS (F53B Major)	8.35	1.9		ng/L	8.820		94.7	70-130	14.8	30	
9Cl-PF3ONS (F53B Minor)	8.93	1.9		ng/L	8.726		102	70-130	2.11	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.55	1.9		ng/L	8.838		96.7	70-130	3.73	30	
Surrogate: 13C-PFHxA	*42.7*			ng/L	37.41		114	70-130			
Surrogate: M3HFPO-DA	*42.5*			ng/L	37.41		114	70-130			
Surrogate: 13C-PFDA	*42.4*			ng/L	37.41		113	70-130			
Surrogate: D5-NEtFOSAA	*169*			ng/L	149.6		113	70-130			

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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
DL	Method Detection Limit
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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

24I3442

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

Company Name: PA DEP
Street Address: 208 W Third St, Suite 101 Williamsport, PA, 17701

Contact/Report To: John Ciccone
Phone #: 570.205.2672
E-Mail: jciccone@pa.gov
Cc E-Mail:

Customer Project #:

Project Name: N. centre Twp PFAS

Site Collection Info/Facility ID (as applicable):

Invoice to:
Invoice E-mail:
Purchase Order # (if applicable):
Quote #:

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET

County / State origin of sample(s):

Data Deliverables: Standard
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other
Date Results Requested:

DW PWSID # or WW Permit # as applicable:
Field Filtered (if applicable): [ ] Yes [ ] No
Analysis:

Specify Container Size **: 3
Identify Container Preservative Type***: 11
Analysis Requested: EPA 537.1, PFAS

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: / AcctNum / Client ID: / Table #: / Profile / Template: / Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample.

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

	Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	Sample Comment
01	9544-3709 RR	~~DW~~ WW	Grab			9/23/24	1100	3			May have PFAS >1000 ppt
02	9544-3709 RR - FRB	W	Grab			9/23/24	1102	2			

Additional Instructions from Pace®: Samples preserved with ~~Trizma~~ pc Tris HCL

Collected By: Printed Name: John Ciccone
Signature:

Customer Remarks / Special Conditions / Possible Hazards: Potential for total PFAS conc. > 1000 ppt

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C): [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
John Ciccone	9/23/24 1530	3.6	9-24-24 10:17

Tracking Number:

Delivered by: [ ] In-Person [ ] Courier [ ] FedEX [ ] UPS [ ] Other

Page: of

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z6610830199226686

Weight

45.00 LBS

Service

UPS Next Day Air®

Shipped / Billed On

09/23/2024

Delivered On

09/24/2024 10:17 A.M.

Delivered To

EAST LONGMEADOW, MA, US

Received By

HENRIQUES

Left At

Inside Delivery

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 09/25/2024 11:29 A.M. EST

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client PA DEP

Project N. Centre TNP PFAS

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☐ Fed Ex ☐ Walk In ☐ Other ☑ UPS

Received By / Date / Time RL / 9-24-24 / 10:17

Back-Sheet By / Date / Time RL / 9-25-24 / 12:01

Temperature Method Gun # 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature 3.6

Rush Samples: Yes / No Notify

Short Hold: Yes / No Notify

Notes regarding Samples/COC outside of SOP:

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

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☐	☑

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Sample																				
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																			
8oz Amb/Clear																				
4oz Amb/Clear																				
2oz Amb/Clear																				
Unpreserved	Ambers	1 Liter																		
HCL																				
Sulfuric																				
Sulfuric		250mL																		
Phosphoric																				
HCl																				
Unpreserved		100mL																		
Unpreserved	Plastics	1 Liter																		
Sulfuric																				
Unpreserved		500mL																		
Sulfuric																				
Unpreserved		250m.																		
Trizma																			2	1
Sulfuric																				
Nitric																				
NaOH																				
Ammonium Acetate																				
NaOH/Zinc																				
Unpreserved	VOA Vials																			
HCl																				
MeOH																				
D.I. Water																				
BiSulfate																				
Col/Bact	Other / Fill in																			

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October 7, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: N. Centre Twp PFAS
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24I3446

Enclosed are results of analyses for samples as received by the laboratory on September 24, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/7/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24I3446

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

PROJECT LOCATION: N. Centre Twp PFAS

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-3642RR	24I3446-01	Drinking Water		EPA 537.1	
9544-3642RR-FRB	24I3446-02	Field Blank		EPA 537.1	

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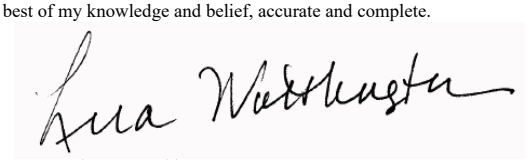
CASE NARRATIVE SUMMARY

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

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

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Project Location: N. Centre Twp PFAS | Sample Description: | Work Order: 24I3446

Date Received: 9/24/2024

Field Sample #: 9544-3642RR | Sampled: 9/23/2024 10:00

Sample ID: 24I3446-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
Perfluorohexanoic acid (PFHxA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
Perfluoroheptanoic acid (PFHpA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
Perfluorooctanoic acid (PFOA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
Perfluorooctanesulfonic acid (PFOS)	41	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
Perfluorononanoic acid (PFNA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
Perfluorodecanoic acid (PFDA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
N-EtFOSAA (NEtFOSAA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
Perfluoroundecanoic acid (PFUnA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
N-MeFOSAA (NMeFOSAA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
Perfluorododecanoic acid (PFDoA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
Perfluorotridecanoic acid (PFTrDA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
Perfluorotetradecanoic acid (PFTA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
11Cl-PF3OUdS (F53B Major)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
9Cl-PF3ONS (F53B Minor)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	10		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:42	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	107	70-130		10/2/24 14:42
M3HFPO-DA	106	70-130		10/2/24 14:42
13C-PFDA	106	70-130		10/2/24 14:42
D5-NEtFOSAA	118	70-130		10/2/24 14:42

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Project Location: N. Centre Twp PFAS | Sample Description: | Work Order: 24I3446

Date Received: 9/24/2024

Field Sample #: 9544-3642RR-FRB | Sampled: 9/23/2024 10:01

Sample ID: 24I3446-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L	1		EPA 537.1	10/1/24	10/2/24 14:49	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	105	70-130		10/2/24 14:49
M3HFPO-DA	105	70-130		10/2/24 14:49
13C-PFDA	106	70-130		10/2/24 14:49
D5-NEtFOSAA	118	70-130		10/2/24 14:49

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I3446-01 [9544-3642RR]	B387768	49.8	1.00	10/01/24
24I3446-02 [9544-3642RR-FRB]	B387768	265	1.00	10/01/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387563 - EPA 537.1											
Blank (B387563-BLK1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8		ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8		ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L							
Surrogate: 13C-PFHxA	*28.4*			ng/L	36.52		77.8	70-130			
Surrogate: M3HFPO-DA	*30.0*			ng/L	36.52		82.2	70-130			
Surrogate: 13C-PFDA	*30.0*			ng/L	36.52		82.1	70-130			
Surrogate: D5-NEtFOSAA	*114*			ng/L	146.1		77.9	70-130			
LCS (B387563-BS1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	7.44	1.9		ng/L	8.357		89.0	70-130			
Perfluorohexanoic acid (PFHxA)	8.24	1.9		ng/L	9.422		87.4	70-130			
Perfluorohexanesulfonic acid (PFHxS)	7.90	1.9		ng/L	8.612		91.8	70-130			
Perfluoroheptanoic acid (PFHpA)	8.48	1.9		ng/L	9.422		90.0	70-130			
Perfluorooctanoic acid (PFOA)	8.54	1.9		ng/L	9.422		90.7	70-130			
Perfluorooctanesulfonic acid (PFOS)	8.06	1.9		ng/L	8.743		92.1	70-130			
Perfluorononanoic acid (PFNA)	10.1	1.9		ng/L	9.422		107	70-130			
Perfluorodecanoic acid (PFDA)	9.30	1.9		ng/L	9.422		98.8	70-130			
N-EtFOSAA (NEtFOSAA)	8.48	1.9		ng/L	9.422		90.0	70-130			
Perfluoroundecanoic acid (PFUnA)	8.70	1.9		ng/L	9.422		92.4	70-130			
N-MeFOSAA (NMeFOSAA)	8.19	1.9		ng/L	9.422		87.0	70-130			
Perfluorododecanoic acid (PFDoA)	8.69	1.9		ng/L	9.422		92.2	70-130			
Perfluorotridecanoic acid (PFTrDA)	8.53	1.9		ng/L	9.422		90.5	70-130			
Perfluorotetradecanoic acid (PFTA)	9.18	1.9		ng/L	9.422		97.4	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.05	1.9		ng/L	9.422		85.5	70-130			
11Cl-PF3OUdS (F53B Major)	8.00	1.9		ng/L	8.885		90.0	70-130			
9Cl-PF3ONS (F53B Minor)	8.06	1.9		ng/L	8.791		91.6	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.07	1.9		ng/L	8.904		90.6	70-130			
Surrogate: 13C-PFHxA	*32.4*			ng/L	37.69		86.1	70-130			
Surrogate: M3HFPO-DA	*33.8*			ng/L	37.69		89.6	70-130			
Surrogate: 13C-PFDA	*36.0*			ng/L	37.69		95.4	70-130			
Surrogate: D5-NEtFOSAA	*137*			ng/L	150.8		91.1	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387768 - EPA 537.1											
Blank (B387768-BLK1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8		ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8		ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L							
Surrogate: 13C-PFHxA	*42.0*			ng/L	36.68		115	70-130			
Surrogate: M3HFPO-DA	*41.2*			ng/L	36.68		112	70-130			
Surrogate: 13C-PFDA	*41.7*			ng/L	36.68		114	70-130			
Surrogate: D5-NEtFOSAA	*183*			ng/L	146.7		125	70-130			
LCS (B387768-BS1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	9.42	1.9		ng/L	8.321		113	70-130			
Perfluorohexanoic acid (PFHxA)	9.51	1.9		ng/L	9.382		101	70-130			
Perfluorohexanesulfonic acid (PFHxS)	8.64	1.9		ng/L	8.575		101	70-130			
Perfluoroheptanoic acid (PFHpA)	9.76	1.9		ng/L	9.382		104	70-130			
Perfluorooctanoic acid (PFOA)	10.0	1.9		ng/L	9.382		107	70-130			
Perfluorooctanesulfonic acid (PFOS)	8.82	1.9		ng/L	8.706		101	70-130			
Perfluorononanoic acid (PFNA)	9.92	1.9		ng/L	9.382		106	70-130			
Perfluorodecanoic acid (PFDA)	10.7	1.9		ng/L	9.382		114	70-130			
N-EtFOSAA (NEtFOSAA)	9.29	1.9		ng/L	9.382		99.0	70-130			
Perfluoroundecanoic acid (PFUnA)	10.3	1.9		ng/L	9.382		109	70-130			
N-MeFOSAA (NMeFOSAA)	9.14	1.9		ng/L	9.382		97.4	70-130			
Perfluorododecanoic acid (PFDoA)	9.91	1.9		ng/L	9.382		106	70-130			
Perfluorotridecanoic acid (PFTrDA)	9.93	1.9		ng/L	9.382		106	70-130			
Perfluorotetradecanoic acid (PFTA)	10.3	1.9		ng/L	9.382		110	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.73	1.9		ng/L	9.382		104	70-130			
11Cl-PF3OUdS (F53B Major)	9.69	1.9		ng/L	8.847		110	70-130			
9Cl-PF3ONS (F53B Minor)	9.12	1.9		ng/L	8.753		104	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.87	1.9		ng/L	8.866		100	70-130			
Surrogate: 13C-PFHxA	*44.9*			ng/L	37.53		120	70-130			
Surrogate: M3HFPO-DA	*45.2*			ng/L	37.53		120	70-130			
Surrogate: 13C-PFDA	*45.5*			ng/L	37.53		121	70-130			
Surrogate: D5-NEtFOSAA	*185*			ng/L	150.1		124	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387768 - EPA 537.1											
LCS Dup (B387768-BSD1)					Prepared: 10/01/24 Analyzed: 10/02/24						
Perfluorobutanesulfonic acid (PFBS)	8.79	1.9		ng/L	8.296		106	70-130	6.86	30	
Perfluorohexanoic acid (PFHxA)	9.06	1.9		ng/L	9.353		96.9	70-130	4.77	30	
Perfluorohexanesulfonic acid (PFHxS)	8.40	1.9		ng/L	8.548		98.2	70-130	2.79	30	
Perfluoroheptanoic acid (PFHpA)	9.13	1.9		ng/L	9.353		97.6	70-130	6.67	30	
Perfluorooctanoic acid (PFOA)	9.08	1.9		ng/L	9.353		97.0	70-130	9.85	30	
Perfluorooctanesulfonic acid (PFOS)	8.66	1.9		ng/L	8.679		99.8	70-130	1.77	30	
Perfluorononanoic acid (PFNA)	9.77	1.9		ng/L	9.353		104	70-130	1.51	30	
Perfluorodecanoic acid (PFDA)	10.1	1.9		ng/L	9.353		108	70-130	6.03	30	
N-EtFOSAA (NEtFOSAA)	8.88	1.9		ng/L	9.353		95.0	70-130	4.47	30	
Perfluoroundecanoic acid (PFUnA)	8.96	1.9		ng/L	9.353		95.8	70-130	13.5	30	
N-MeFOSAA (NMeFOSAA)	8.26	1.9		ng/L	9.353		88.3	70-130	10.1	30	
Perfluorododecanoic acid (PFDoA)	9.33	1.9		ng/L	9.353		99.8	70-130	6.02	30	
Perfluorotridecanoic acid (PFTrDA)	9.34	1.9		ng/L	9.353		99.9	70-130	6.05	30	
Perfluorotetradecanoic acid (PFTA)	9.45	1.9		ng/L	9.353		101	70-130	8.82	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.06	1.9		ng/L	9.353		96.9	70-130	7.12	30	
11Cl-PF3OUdS (F53B Major)	8.35	1.9		ng/L	8.820		94.7	70-130	14.8	30	
9Cl-PF3ONS (F53B Minor)	8.93	1.9		ng/L	8.726		102	70-130	2.11	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.55	1.9		ng/L	8.838		96.7	70-130	3.73	30	
Surrogate: 13C-PFHxA	*42.7*			ng/L	37.41		114	70-130			
Surrogate: M3HFPO-DA	*42.5*			ng/L	37.41		114	70-130			
Surrogate: 13C-PFDA	*42.4*			ng/L	37.41		113	70-130			
Surrogate: D5-NEtFOSAA	*169*			ng/L	149.6		113	70-130			

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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
DL	Method Detection Limit
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.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

24I3446

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

Company Name: PA DEP	Contact/Report To: John Ciccone
Street Address: 208 W. 3rd St, Suite 101 Williamsport, PA 17701	Phone #: 570.205.2672
	E-Mail: jciccone@pa.gov
	Cc E-Mail:
Customer Project #:	Invoice to:
Project Name: N. Centre Twp PFAS	Invoice E-mail:
Site Collection Info/Facility ID (as applicable):	Purchase Order # (if applicable):
	Quote #:
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [x] ET	County / State origin of sample(s):
Data Deliverables: Standard [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other	Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No
	Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other _____. Date Results Requested:
	DW PWSID # or WW Permit # as applicable: Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

Specify Container Size **: 3

Identify Container Preservative Type***: 11

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: | AcctNum / Client ID: | Table #: | Profile / Template: | Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample.

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	EPA 537.1, PFAS	Sample Comment
9544-3642RR	DW	Grab	9/23/24	1000			3			X	
9544-3647RR-FRB	W	Grab	9/23/24	1001			2			X	

Additional Instructions from Pace®:

Collected By: John Ciccone
Printed Name
Signature

Customer Remarks / Special Conditions / Possible Hazards: Potential for total PFAS conc. >1000 ppt

Coolers: | Thermometer ID: | Correction Factor (°C): | Obs. Temp. (°C): | Corrected Temp. (°C): | [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
John Ciccone	9/23/24 1530	3.6	9/24/24	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z6610830199226686

Weight

45.00 LBS

Service

UPS Next Day Air®

Shipped / Billed On

09/23/2024

Delivered On

09/24/2024 10:17 A.M.

Delivered To

EAST LONGMEADOW, MA, US
Received By

HENRIQUES

Left At

Inside Delivery

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 09/25/2024 11:29 A.M. EST

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

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

Client PA DEP

Project D. Centre TNP PFAS

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☐ Fed Ex ☐ Walk In ☐ Other ☑ UPS

Received By / Date / Time RL / 9-24-24 / 10:17

Back-Sheet By / Date / Time RL / 9-25-24 / 11:31

Temperature Method gun # 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature 3.6

Rush Samples: Yes / (No) Notify

Short Hold: Yes / (No) Notify

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☐	☑
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☐	☑

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☐ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Notes regarding Samples/COC outside of SOP:

no FB ID on Sample

36H2RR on C.O.C. when

39H2RR on Sample

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250mL																				
Phosphoric																						
HCl																						
Unpreserved		100mL																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500mL																				
Sulfuric																						
Unpreserved		250mL																				
Trizma				1																		
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

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October 10, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24I4043

Enclosed are results of analyses for samples as received by the laboratory on September 27, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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

PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/10/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24I4043

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

PROJECT LOCATION: PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-7130LR	24I4043-01	Water		EPA 537.1	
9544-7130LR-FRB	24I4043-02	Field Blank		EPA 537.1	

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CASE NARRATIVE SUMMARY

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

EPA 537.1

Qualifications:

L-01

Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:

Perfluorodecanoic acid (PFDA)
B387769-BS1

Perfluorononanoic acid (PFNA)
B387769-BS1

Perfluorotetradecanoic acid (PFTA
B387769-BS1

S-26

Surrogate outside of control limits.

Analyte & Samples(s) Qualified:

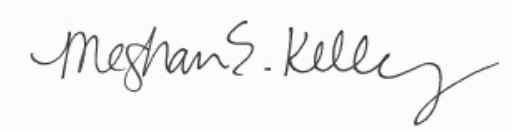
13C-PFDA
B387769-BLK1, B387769-BS1

13C-PFHxA
B387769-BLK1

D5-NEtFOSAA
B387769-BLK1, B387769-BS1

M3HFPO-DA
B387769-BLK1

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.



Meghan E. Kelley
Reporting Specialist

con-test®
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Project Location: PA | Sample Description: | Work Order: 24I4043

Date Received: 9/27/2024

Field Sample #: 9544-7130LR | Sampled: 9/26/2024 11:50

Sample ID: 24I4043-01

Sample Matrix: Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
Perfluorooctanoic acid (PFOA)	3.1	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
Perfluorooctanesulfonic acid (PFOS)	13	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
Perfluorononanoic acid (PFNA)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	ng/L	1		EPA 537.1	10/8/24	10/9/24 23:18	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	106	70-130		10/9/24 23:18
M3HFPO-DA	103	70-130		10/9/24 23:18
13C-PFDA	108	70-130		10/9/24 23:18
D5-NEtFOSAA	106	70-130		10/9/24 23:18

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Project Location: PA | Sample Description: | Work Order: 24I4043

Date Received: 9/27/2024

Field Sample #: 9544-7130LR-FRB | Sampled: 9/26/2024 11:52

Sample ID: 24I4043-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/4/24 18:49	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
13C-PFHxA	111	70-130		10/4/24	18:49
M3HFPO-DA	124	70-130		10/4/24	18:49
13C-PFDA	119	70-130		10/4/24	18:49
D5-NEtFOSAA	120	70-130		10/4/24	18:49

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4043-02 [9544-7130LR-FRB]	B387769	264	1.00	10/02/24

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4043-01RE1 [9544-7130LR]	B388477	274	1.00	10/08/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B387769 - EPA 537.1												
Blank (B387769-BLK1)					Prepared: 10/02/24 Analyzed: 10/04/24							
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L								
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L								
Perfluorooctanoic acid (PFOA)	ND	1.8		ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	1.8		ng/L								
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L								
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L								
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L								
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L								
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L								
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L								
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L								
Surrogate: 13C-PFHxA	*0.669*			ng/L	36.16		**1.85**	*	70-130			S-26
Surrogate: M3HFPO-DA	*0.862*			ng/L	36.16		**2.38**	*	70-130			S-26
Surrogate: 13C-PFDA	*25.2*			ng/L	36.16		**69.6**	*	70-130			S-26
Surrogate: D5-NEtFOSAA	*34.9*			ng/L	144.6		**24.1**	*	70-130			S-26
LCS (B387769-BS1)					Prepared: 10/02/24 Analyzed: 10/04/24							
Perfluorobutanesulfonic acid (PFBS)	16.5	1.9		ng/L	16.48		99.8		70-130			
Perfluorohexanoic acid (PFHxA)	20.3	1.9		ng/L	18.58		109		70-130			
Perfluorohexanesulfonic acid (PFHxS)	18.5	1.9		ng/L	16.98		109		70-130			
Perfluoroheptanoic acid (PFHpA)	21.4	1.9		ng/L	18.58		115		70-130			
Perfluorooctanoic acid (PFOA)	20.6	1.9		ng/L	18.58		111		70-130			
Perfluorooctanesulfonic acid (PFOS)	19.7	1.9		ng/L	17.24		114		70-130			
Perfluorononanoic acid (PFNA)	24.3	1.9		ng/L	18.58		**131**	*	70-130			L-01
Perfluorodecanoic acid (PFDA)	24.4	1.9		ng/L	18.58		**131**	*	70-130			L-01
N-EtFOSAA (NEtFOSAA)	21.1	1.9		ng/L	18.58		114		70-130			
Perfluoroundecanoic acid (PFUnA)	23.2	1.9		ng/L	18.58		125		70-130			
N-MeFOSAA (NMeFOSAA)	20.8	1.9		ng/L	18.58		112		70-130			
Perfluorododecanoic acid (PFDoA)	24.0	1.9		ng/L	18.58		129		70-130			
Perfluorotridecanoic acid (PFTrDA)	24.2	1.9		ng/L	18.58		130		70-130			
Perfluorotetradecanoic acid (PFTA)	25.2	1.9		ng/L	18.58		**136**	*	70-130			L-01
Hexafluoropropylene oxide dimer acid (HFPO-DA)	17.6	1.9		ng/L	18.58		94.6		70-130			
11Cl-PF3OUdS (F53B Major)	20.3	1.9		ng/L	17.52		116		70-130			
9Cl-PF3ONS (F53B Minor)	19.6	1.9		ng/L	17.33		113		70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	19.5	1.9		ng/L	17.56		111		70-130			
Surrogate: 13C-PFHxA	*48.3*			ng/L	37.16		130		70-130			
Surrogate: M3HFPO-DA	*46.1*			ng/L	37.16		124		70-130			
Surrogate: 13C-PFDA	*56.2*			ng/L	37.16		**151**	*	70-130			S-26
Surrogate: D5-NEtFOSAA	*211*			ng/L	148.6		**142**	*	70-130			S-26

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387769 - EPA 537.1											
LCS Dup (B387769-BSD1)					Prepared: 10/02/24 Analyzed: 10/04/24						
Perfluorobutanesulfonic acid (PFBS)	15.8	1.8		ng/L	16.25		97.5	70-130	3.75	30	
Perfluorohexanoic acid (PFHxA)	18.9	1.8		ng/L	18.32		103	70-130	7.38	30	
Perfluorohexanesulfonic acid (PFHxS)	17.7	1.8		ng/L	16.74		106	70-130	4.33	30	
Perfluoroheptanoic acid (PFHpA)	20.0	1.8		ng/L	18.32		109	70-130	6.64	30	
Perfluorooctanoic acid (PFOA)	19.6	1.8		ng/L	18.32		107	70-130	5.21	30	
Perfluorooctanesulfonic acid (PFOS)	18.6	1.8		ng/L	17.00		109	70-130	5.55	30	
Perfluorononanoic acid (PFNA)	22.5	1.8		ng/L	18.32		123	70-130	7.68	30	
Perfluorodecanoic acid (PFDA)	22.7	1.8		ng/L	18.32		124	70-130	7.33	30	
N-EtFOSAA (NEtFOSAA)	20.8	1.8		ng/L	18.32		113	70-130	1.75	30	
Perfluoroundecanoic acid (PFUnA)	21.9	1.8		ng/L	18.32		120	70-130	5.62	30	
N-MeFOSAA (NMeFOSAA)	19.6	1.8		ng/L	18.32		107	70-130	6.17	30	
Perfluorododecanoic acid (PFDoA)	22.0	1.8		ng/L	18.32		120	70-130	8.70	30	
Perfluorotridecanoic acid (PFTrDA)	22.0	1.8		ng/L	18.32		120	70-130	9.49	30	
Perfluorotetradecanoic acid (PFTA)	23.1	1.8		ng/L	18.32		126	70-130	9.04	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	16.0	1.8		ng/L	18.32		87.5	70-130	9.15	30	
11Cl-PF3OUdS (F53B Major)	19.0	1.8		ng/L	17.27		110	70-130	6.95	30	
9Cl-PF3ONS (F53B Minor)	18.5	1.8		ng/L	17.09		108	70-130	5.85	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	18.2	1.8		ng/L	17.31		105	70-130	6.60	30	
Surrogate: 13C-PFHxA	*40.6*			ng/L	36.64		111	70-130			
Surrogate: M3HFPO-DA	*38.4*			ng/L	36.64		105	70-130			
Surrogate: 13C-PFDA	*47.5*			ng/L	36.64		130	70-130			
Surrogate: D5-NEtFOSAA	*180*			ng/L	146.5		123	70-130			
Batch B388477 - EPA 537.1											
Blank (B388477-BLK1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L							
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L							
Surrogate: 13C-PFHxA	*35.2*			ng/L	37.81		93.0	70-130			
Surrogate: M3HFPO-DA	*34.1*			ng/L	37.81		90.3	70-130			
Surrogate: 13C-PFDA	*35.9*			ng/L	37.81		94.9	70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.3		94.9	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B388477 - EPA 537.1											
LCS (B388477-BS1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.11	1.9		ng/L	1.682		65.8	50-150			
Perfluorohexanoic acid (PFHxA)	1.45	1.9		ng/L	1.897		76.3	50-150			
Perfluorohexanesulfonic acid (PFHxS)	1.46	1.9		ng/L	1.734		84.1	50-150			
Perfluoroheptanoic acid (PFHpA)	1.51	1.9		ng/L	1.897		79.7	50-150			
Perfluorooctanoic acid (PFOA)	1.41	1.9		ng/L	1.897		74.4	50-150			
Perfluorooctanesulfonic acid (PFOS)	1.37	1.9		ng/L	1.760		78.1	50-150			
Perfluorononanoic acid (PFNA)	1.27	1.9		ng/L	1.897		67.2	50-150			
Perfluorodecanoic acid (PFDA)	1.43	1.9		ng/L	1.897		75.4	50-150			
N-EtFOSAA (NEtFOSAA)	1.38	1.9		ng/L	1.897		72.9	50-150			
Perfluoroundecanoic acid (PFUnA)	1.36	1.9		ng/L	1.897		71.5	50-150			
N-MeFOSAA (NMeFOSAA)	1.24	1.9		ng/L	1.897		65.1	50-150			
Perfluorododecanoic acid (PFDoA)	1.41	1.9		ng/L	1.897		74.3	50-150			
Perfluorotridecanoic acid (PFTrDA)	1.34	1.9		ng/L	1.897		70.5	50-150			
Perfluorotetradecanoic acid (PFTA)	1.41	1.9		ng/L	1.897		74.6	50-150			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.53	1.9		ng/L	1.897		80.8	50-150			
11Cl-PF3OUdS (F53B Major)	1.34	1.9		ng/L	1.789		74.9	50-150			
9Cl-PF3ONS (F53B Minor)	1.33	1.9		ng/L	1.770		75.4	50-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.30	1.9		ng/L	1.792		72.3	50-150			
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.94		91.0	70-130			
Surrogate: M3HFPO-DA	*33.7*			ng/L	37.94		88.8	70-130			
Surrogate: 13C-PFDA	*35.2*			ng/L	37.94		92.9	70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.7		94.8	70-130			
LCS Dup (B388477-BSD1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.27	1.9		ng/L	1.679		75.7	50-150	13.8	50	
Perfluorohexanoic acid (PFHxA)	1.55	1.9		ng/L	1.893		82.1	50-150	7.08	50	
Perfluorohexanesulfonic acid (PFHxS)	1.50	1.9		ng/L	1.730		86.9	50-150	3.00	50	
Perfluoroheptanoic acid (PFHpA)	1.57	1.9		ng/L	1.893		82.9	50-150	3.70	50	
Perfluorooctanoic acid (PFOA)	1.47	1.9		ng/L	1.893		77.4	50-150	3.73	50	
Perfluorooctanesulfonic acid (PFOS)	1.59	1.9		ng/L	1.757		90.3	50-150	14.3	50	
Perfluorononanoic acid (PFNA)	1.36	1.9		ng/L	1.893		71.8	50-150	6.51	50	
Perfluorodecanoic acid (PFDA)	1.55	1.9		ng/L	1.893		81.8	50-150	7.88	50	
N-EtFOSAA (NEtFOSAA)	1.45	1.9		ng/L	1.893		76.5	50-150	4.54	50	
Perfluoroundecanoic acid (PFUnA)	1.39	1.9		ng/L	1.893		73.3	50-150	2.19	50	
N-MeFOSAA (NMeFOSAA)	1.21	1.9		ng/L	1.893		63.7	50-150	2.42	50	
Perfluorododecanoic acid (PFDoA)	1.24	1.9		ng/L	1.893		65.4	50-150	12.9	50	
Perfluorotridecanoic acid (PFTrDA)	1.41	1.9		ng/L	1.893		74.4	50-150	5.25	50	
Perfluorotetradecanoic acid (PFTA)	1.46	1.9		ng/L	1.893		77.3	50-150	3.36	50	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.48	1.9		ng/L	1.893		78.2	50-150	3.48	50	
11Cl-PF3OUdS (F53B Major)	1.42	1.9		ng/L	1.785		79.5	50-150	5.77	50	
9Cl-PF3ONS (F53B Minor)	1.32	1.9		ng/L	1.766		74.8	50-150	1.07	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.42	1.9		ng/L	1.789		79.3	50-150	9.15	50	
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.86		91.1	70-130			
Surrogate: M3HFPO-DA	*33.5*			ng/L	37.86		88.4	70-130			
Surrogate: 13C-PFDA	*34.3*			ng/L	37.86		90.7	70-130			
Surrogate: D5-NEtFOSAA	*138*			ng/L	151.4		90.9	70-130			

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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
DL	Method Detection Limit
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.
L-01	Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
S-26	Surrogate outside of control limits.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

24I4043 KGM

Scan QR Code for instructions

Company Name: PA DEP	Contact/Report To: John Ciccone
Street Address: 208 W. 3rd St, Suite 101 Williamsport, PA 17701	Phone #: 570.205.2672
	E-Mail: jciccone@pa.gov
	Cc E-Mail:
Customer Project #:	Invoice to:
Project Name: N. Centre Twp PFAS	Invoice E-mail:
Site Collection Info/Facility ID (as applicable):	Purchase Order # (if applicable):
	Quote #:
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [✓] ET	County / State origin of sample(s):
Data Deliverables: Standard [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other	Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No
	Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other _____ Date Results Requested:
	DW PWSID # or WW Permit # as applicable: Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Specify Container Size **: 3

Identify Container Preservative Type***: 11

Analysis Requested: EPA 537.1, PFAS

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: / AcctNum / Client ID: / Table #: / Profile / Template: / Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample.

	Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	Sample Comment
1	9544-7130LR					9/26/24	1150	2			
2	9544-7130LR-FRB					9/26/24	1152	2			

Additional Instructions from Pace® :

Collected By: Printed Name: John Ciccone Signature:

Customer Remarks / Special Conditions / Possible Hazards: Potential for PFAS >1000 ppt.

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C): [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
John Ciccone	9/26/24 1530	Pace 0.6	9/27/24 10:55	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client PADEP

Project N. CentarTap PFAS

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location PA

PWSID# (When Applicable) N/A

Arrival Method:

Courier STM Fed Ex ☐ Walk In STM Other FedEx

Received By / Date / Time RL 9127124 1055

Back-Sheet By / Date / Time STM 9127124 1641

Temperature Method Gun #6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature 0.6

Rush Samples: Yes / No Notify

Short Hold: Yes / No Notify

Notes regarding Samples/COC outside of SOP:

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

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☐	☒
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐

COC Included: (Check all included)

Client ☒ Analysis ☒ Sampler Name ☒

Project ☒ IDs ☒ Collection Date/Time ☒

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250mL																					
Phosphoric																						
HCl																						
Unpreserved	100mL																					
Unpreserved	1 Liter	Plastics																				
Sulfuric																						
Unpreserved	500mL																					
Sulfuric																						
Unpreserved	250mL																					
Trizma				2	1																	
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved		VOA Vials																				
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact		Other / Fill in																				

Your shipment
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October 10, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24I4081

Enclosed are results of analyses for samples as received by the laboratory on September 27, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/10/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24I4081

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

PROJECT LOCATION: PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-7248SHR	24I4081-01	Drinking Water		EPA 537.1	
9544-7248SHR-FRB	24I4081-02	Field Blank		EPA 537.1	

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CASE NARRATIVE SUMMARY

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

EPA 537.1

Qualifications:

L-01

Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:

Perfluorodecanoic acid (PFDA)
B387769-BS1

Perfluorononanoic acid (PFNA)
B387769-BS1

Perfluorotetradecanoic acid (PFTA
B387769-BS1

PF-15

Surrogate recovery is outside of control limits. Unable to re-extract sample due to insufficient sample volume.

Analyte & Samples(s) Qualified:

M3HFPO-DA
24I4081-02[9544-7248SHR-FRB]

S-26

Surrogate outside of control limits.

Analyte & Samples(s) Qualified:

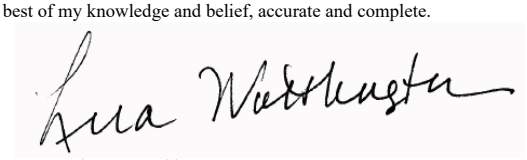
13C-PFDA
B387769-BLK1, B387769-BS1

13C-PFHxA
B387769-BLK1

D5-NEtFOSAA
B387769-BLK1, B387769-BS1

M3HFPO-DA
B387769-BLK1

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

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Project Location: PA | Sample Description: | Work Order: 24I4081

Date Received: 9/27/2024

Field Sample #: 9544-7248SHR | Sampled: 9/26/2024 11:25

Sample ID: 24I4081-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:25	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	104	70-130		10/9/24 23:25
M3HFPO-DA	97.4	70-130		10/9/24 23:25
13C-PFDA	101	70-130		10/9/24 23:25
D5-NEtFOSAA	101	70-130		10/9/24 23:25

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Project Location: PA | Sample Description: | Work Order: 24I4081

Date Received: 9/27/2024

Field Sample #: 9544-7248SHR-FRB | Sampled: 9/26/2024 11:27

Sample ID: 24I4081-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
Perfluorooctanoic acid (PFOA)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L	1		EPA 537.1	10/2/24	10/4/24 19:03	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C-PFHxA	111		70-130		10/4/24 19:03
M3HFPO-DA	**134**	*	70-130	PF-15	10/4/24 19:03
13C-PFDA	117		70-130		10/4/24 19:03
D5-NEtFOSAA	117		70-130		10/4/24 19:03

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4081-02 [9544-7248SHR-FRB]	B387769	271	1.00	10/02/24

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4081-01RE1 [9544-7248SHR]	B388477	259	1.00	10/08/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B387769 - EPA 537.1												
Blank (B387769-BLK1)					Prepared: 10/02/24 Analyzed: 10/04/24							
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L								
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L								
Perfluorooctanoic acid (PFOA)	ND	1.8		ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	1.8		ng/L								
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L								
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L								
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L								
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L								
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L								
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L								
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L								
Surrogate: 13C-PFHxA	*0.669*			ng/L	36.16		**1.85**	*	70-130			S-26
Surrogate: M3HFPO-DA	*0.862*			ng/L	36.16		**2.38**	*	70-130			S-26
Surrogate: 13C-PFDA	*25.2*			ng/L	36.16		**69.6**	*	70-130			S-26
Surrogate: D5-NEtFOSAA	*34.9*			ng/L	144.6		**24.1**	*	70-130			S-26
LCS (B387769-BS1)					Prepared: 10/02/24 Analyzed: 10/04/24							
Perfluorobutanesulfonic acid (PFBS)	16.5	1.9		ng/L	16.48		99.8		70-130			
Perfluorohexanoic acid (PFHxA)	20.3	1.9		ng/L	18.58		109		70-130			
Perfluorohexanesulfonic acid (PFHxS)	18.5	1.9		ng/L	16.98		109		70-130			
Perfluoroheptanoic acid (PFHpA)	21.4	1.9		ng/L	18.58		115		70-130			
Perfluorooctanoic acid (PFOA)	20.6	1.9		ng/L	18.58		111		70-130			
Perfluorooctanesulfonic acid (PFOS)	19.7	1.9		ng/L	17.24		114		70-130			
Perfluorononanoic acid (PFNA)	24.3	1.9		ng/L	18.58		**131**	*	70-130			L-01
Perfluorodecanoic acid (PFDA)	24.4	1.9		ng/L	18.58		**131**	*	70-130			L-01
N-EtFOSAA (NEtFOSAA)	21.1	1.9		ng/L	18.58		114		70-130			
Perfluoroundecanoic acid (PFUnA)	23.2	1.9		ng/L	18.58		125		70-130			
N-MeFOSAA (NMeFOSAA)	20.8	1.9		ng/L	18.58		112		70-130			
Perfluorododecanoic acid (PFDoA)	24.0	1.9		ng/L	18.58		129		70-130			
Perfluorotridecanoic acid (PFTrDA)	24.2	1.9		ng/L	18.58		130		70-130			
Perfluorotetradecanoic acid (PFTA)	25.2	1.9		ng/L	18.58		**136**	*	70-130			L-01
Hexafluoropropylene oxide dimer acid (HFPO-DA)	17.6	1.9		ng/L	18.58		94.6		70-130			
11Cl-PF3OUdS (F53B Major)	20.3	1.9		ng/L	17.52		116		70-130			
9Cl-PF3ONS (F53B Minor)	19.6	1.9		ng/L	17.33		113		70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	19.5	1.9		ng/L	17.56		111		70-130			
Surrogate: 13C-PFHxA	*48.3*			ng/L	37.16		130		70-130			
Surrogate: M3HFPO-DA	*46.1*			ng/L	37.16		124		70-130			
Surrogate: 13C-PFDA	*56.2*			ng/L	37.16		**151**	*	70-130			S-26
Surrogate: D5-NEtFOSAA	*211*			ng/L	148.6		**142**	*	70-130			S-26

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B387769 - EPA 537.1											
LCS Dup (B387769-BSD1)					Prepared: 10/02/24 Analyzed: 10/04/24						
Perfluorobutanesulfonic acid (PFBS)	15.8	1.8		ng/L	16.25		97.5	70-130	3.75	30	
Perfluorohexanoic acid (PFHxA)	18.9	1.8		ng/L	18.32		103	70-130	7.38	30	
Perfluorohexanesulfonic acid (PFHxS)	17.7	1.8		ng/L	16.74		106	70-130	4.33	30	
Perfluoroheptanoic acid (PFHpA)	20.0	1.8		ng/L	18.32		109	70-130	6.64	30	
Perfluorooctanoic acid (PFOA)	19.6	1.8		ng/L	18.32		107	70-130	5.21	30	
Perfluorooctanesulfonic acid (PFOS)	18.6	1.8		ng/L	17.00		109	70-130	5.55	30	
Perfluorononanoic acid (PFNA)	22.5	1.8		ng/L	18.32		123	70-130	7.68	30	
Perfluorodecanoic acid (PFDA)	22.7	1.8		ng/L	18.32		124	70-130	7.33	30	
N-EtFOSAA (NEtFOSAA)	20.8	1.8		ng/L	18.32		113	70-130	1.75	30	
Perfluoroundecanoic acid (PFUnA)	21.9	1.8		ng/L	18.32		120	70-130	5.62	30	
N-MeFOSAA (NMeFOSAA)	19.6	1.8		ng/L	18.32		107	70-130	6.17	30	
Perfluorododecanoic acid (PFDoA)	22.0	1.8		ng/L	18.32		120	70-130	8.70	30	
Perfluorotridecanoic acid (PFTrDA)	22.0	1.8		ng/L	18.32		120	70-130	9.49	30	
Perfluorotetradecanoic acid (PFTA)	23.1	1.8		ng/L	18.32		126	70-130	9.04	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	16.0	1.8		ng/L	18.32		87.5	70-130	9.15	30	
11Cl-PF3OUdS (F53B Major)	19.0	1.8		ng/L	17.27		110	70-130	6.95	30	
9Cl-PF3ONS (F53B Minor)	18.5	1.8		ng/L	17.09		108	70-130	5.85	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	18.2	1.8		ng/L	17.31		105	70-130	6.60	30	
Surrogate: 13C-PFHxA	*40.6*			ng/L	36.64		111	70-130			
Surrogate: M3HFPO-DA	*38.4*			ng/L	36.64		105	70-130			
Surrogate: 13C-PFDA	*47.5*			ng/L	36.64		130	70-130			
Surrogate: D5-NEtFOSAA	*180*			ng/L	146.5		123	70-130			
Batch B388477 - EPA 537.1											
Blank (B388477-BLK1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L							
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L							
Surrogate: 13C-PFHxA	*35.2*			ng/L	37.81		93.0	70-130			
Surrogate: M3HFPO-DA	*34.1*			ng/L	37.81		90.3	70-130			
Surrogate: 13C-PFDA	*35.9*			ng/L	37.81		94.9	70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.3		94.9	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B388477 - EPA 537.1											
LCS (B388477-BS1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.11	1.9		ng/L	1.682		65.8	50-150			
Perfluorohexanoic acid (PFHxA)	1.45	1.9		ng/L	1.897		76.3	50-150			
Perfluorohexanesulfonic acid (PFHxS)	1.46	1.9		ng/L	1.734		84.1	50-150			
Perfluoroheptanoic acid (PFHpA)	1.51	1.9		ng/L	1.897		79.7	50-150			
Perfluorooctanoic acid (PFOA)	1.41	1.9		ng/L	1.897		74.4	50-150			
Perfluorooctanesulfonic acid (PFOS)	1.37	1.9		ng/L	1.760		78.1	50-150			
Perfluorononanoic acid (PFNA)	1.27	1.9		ng/L	1.897		67.2	50-150			
Perfluorodecanoic acid (PFDA)	1.43	1.9		ng/L	1.897		75.4	50-150			
N-EtFOSAA (NEtFOSAA)	1.38	1.9		ng/L	1.897		72.9	50-150			
Perfluoroundecanoic acid (PFUnA)	1.36	1.9		ng/L	1.897		71.5	50-150			
N-MeFOSAA (NMeFOSAA)	1.24	1.9		ng/L	1.897		65.1	50-150			
Perfluorododecanoic acid (PFDoA)	1.41	1.9		ng/L	1.897		74.3	50-150			
Perfluorotridecanoic acid (PFTrDA)	1.34	1.9		ng/L	1.897		70.5	50-150			
Perfluorotetradecanoic acid (PFTA)	1.41	1.9		ng/L	1.897		74.6	50-150			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.53	1.9		ng/L	1.897		80.8	50-150			
11Cl-PF3OUdS (F53B Major)	1.34	1.9		ng/L	1.789		74.9	50-150			
9Cl-PF3ONS (F53B Minor)	1.33	1.9		ng/L	1.770		75.4	50-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.30	1.9		ng/L	1.792		72.3	50-150			
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.94		91.0	70-130			
Surrogate: M3HFPO-DA	*33.7*			ng/L	37.94		88.8	70-130			
Surrogate: 13C-PFDA	*35.2*			ng/L	37.94		92.9	70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.7		94.8	70-130			
LCS Dup (B388477-BSD1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.27	1.9		ng/L	1.679		75.7	50-150	13.8	50	
Perfluorohexanoic acid (PFHxA)	1.55	1.9		ng/L	1.893		82.1	50-150	7.08	50	
Perfluorohexanesulfonic acid (PFHxS)	1.50	1.9		ng/L	1.730		86.9	50-150	3.00	50	
Perfluoroheptanoic acid (PFHpA)	1.57	1.9		ng/L	1.893		82.9	50-150	3.70	50	
Perfluorooctanoic acid (PFOA)	1.47	1.9		ng/L	1.893		77.4	50-150	3.73	50	
Perfluorooctanesulfonic acid (PFOS)	1.59	1.9		ng/L	1.757		90.3	50-150	14.3	50	
Perfluorononanoic acid (PFNA)	1.36	1.9		ng/L	1.893		71.8	50-150	6.51	50	
Perfluorodecanoic acid (PFDA)	1.55	1.9		ng/L	1.893		81.8	50-150	7.88	50	
N-EtFOSAA (NEtFOSAA)	1.45	1.9		ng/L	1.893		76.5	50-150	4.54	50	
Perfluoroundecanoic acid (PFUnA)	1.39	1.9		ng/L	1.893		73.3	50-150	2.19	50	
N-MeFOSAA (NMeFOSAA)	1.21	1.9		ng/L	1.893		63.7	50-150	2.42	50	
Perfluorododecanoic acid (PFDoA)	1.24	1.9		ng/L	1.893		65.4	50-150	12.9	50	
Perfluorotridecanoic acid (PFTrDA)	1.41	1.9		ng/L	1.893		74.4	50-150	5.25	50	
Perfluorotetradecanoic acid (PFTA)	1.46	1.9		ng/L	1.893		77.3	50-150	3.36	50	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.48	1.9		ng/L	1.893		78.2	50-150	3.48	50	
11Cl-PF3OUdS (F53B Major)	1.42	1.9		ng/L	1.785		79.5	50-150	5.77	50	
9Cl-PF3ONS (F53B Minor)	1.32	1.9		ng/L	1.766		74.8	50-150	1.07	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.42	1.9		ng/L	1.789		79.3	50-150	9.15	50	
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.86		91.1	70-130			
Surrogate: M3HFPO-DA	*33.5*			ng/L	37.86		88.4	70-130			
Surrogate: 13C-PFDA	*34.3*			ng/L	37.86		90.7	70-130			
Surrogate: D5-NEtFOSAA	*138*			ng/L	151.4		90.9	70-130			

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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
DL	Method Detection Limit
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.
L-01	Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
PF-15	Surrogate recovery is outside of control limits. Unable to re-extract sample due to insufficient sample volume.
S-26	Surrogate outside of control limits.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

241408 1 KGM

Scan QR Code for instructions

Company Name: PA DEP	Contact/Report To: John Ciccone
Street Address: 208 W. 3rd St, Suite 101 Williamsport, PA 17701	Phone #: 570.205.2672
	E-Mail: jciccone@pa.gov
	Cc E-Mail:
Customer Project #:	Invoice to:
Project Name: N. Centre Twp PFAS	Invoice E-mail:
Site Collection Info/Facility ID (as applicable):	Purchase Order # (if applicable):
	Quote #:
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [✓] ET	County / State origin of sample(s):
Data Deliverables: Standard [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other	Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No
	Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other _____ Date Results Requested:
	DW PWSID # or WW Permit # as applicable: Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

Specify Container Size **: 3

Identify Container Preservative Type***: 11

Analysis Requested: EPA 537.1, PFAS

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: / AcctNum / Client ID: / Table #: / Profile / Template: / Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample.

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

	Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	Sample Comment
1	0544-7248SHA	DW	Grab			9/26/24	1125	2			
2	9544-7248SHA-FRB	OT	Grab			9/26/24	1127	2			

Additional Instructions from Pace®:

Collected By: Printed Name: John Ciccone Signature:

Customer Remarks / Special Conditions / Possible Hazards: Potential for PFAS >1000 ppt.

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C): [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
	9/26/24 1530		9/27/24 10:56	9:41
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client PA DEP

Project N. Centre TMP PFAS

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location PA

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☐ Fed Ex ☐ Walk In ☐ Other ☑ UPS

Received By / Date / Time RL / 9-27-24 / 9:41

Back-Sheet By / Date / Time RL / 9-27-24 / 14:40

Temperature Method gun # 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature 0.6

Rush Samples: Yes / No Notify

Short Hold: Yes / No Notify

Notes regarding Samples/COC outside of SOP:

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

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☐	☑

COC Included: (Check all included)

Client	☑	Analysis	☑	Sampler Name	☑
Project	☑	IDs	☑	Collection Date/Time	☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250ml																					
Phosphoric																						
HCl																						
Unpreserved	100ml																					
Unpreserved	1 Liter	Plastics																				
Sulfuric																						
Unpreserved	500mL																					
Sulfuric																						
Unpreserved	250mL																					
Trizma			2	/																		
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved		VOA Vials																				
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact		Other / Fill in																				

Your shipment
1Z6610830196305711

Delivered On
Friday, September 27 at 9:41 A.M.

Delivered To

AST LONGMEADOW, MA US

eceived By:
ENRIQUES
roof of Delivery

Label Created
United States
09/26/2024, 4:10 P.M.

We Have Your Package
Williamsport, PA, United States
09/26/2024, 6:28 P.M.

On the Way
Windsor Locks, CT, United States
09/27/2024, 8:33 A.M.

Out for Delivery
Windsor Locks, CT, United States
09/27/2024, 8:57 A.M.

Delivered
EAST LONGMEADOW, MA, US
09/27/2024, 9:41 A.M.

iew All Shipping Details

Get Answers Fast

Select "View All Shippi

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

October 10, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24I4238
PWSID# PA

Enclosed are results of analyses for samples as received by the laboratory on September 26, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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

PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/10/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24I4238

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

PROJECT LOCATION: PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-63 MHR	24I4238-01	Drinking Water		EPA 537.1	
9544-63 MHR-FRB	24I4238-02	Field Blank		EPA 537.1	

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CASE NARRATIVE SUMMARY

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

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EPA 537.1

Qualifications:

L-01

Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:

N-EtFOSAA (NEtFOSAA)
B387994-BS1

L-02

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

Analyte & Samples(s) Qualified:

11Cl-PF3OUdS (F53B Major)
B387994-BS1, B387994-BSD1

4,8-Dioxa-3H-perfluorononanoic a
B387994-BS1, B387994-BSD1

9Cl-PF3ONS (F53B Minor)
B387994-BS1, B387994-BSD1

N-MeFOSAA (NMeFOSAA)
B387994-BS1, B387994-BSD1

Perfluorododecanoic acid (PFDoA)
B387994-BS1, B387994-BSD1

Perfluorotetradecanoic acid (PFTA
B387994-BS1, B387994-BSD1

Perfluorotridecanoic acid (PFTrDA
B387994-BS1, B387994-BSD1

Perfluoroundecanoic acid (PFUnA)
B387994-BS1, B387994-BSD1

L-06

Laboratory fortified blank/laboratory control sample recovery and/or duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Perfluorobutanesulfonic acid (PFB
B387994-BS1

Perfluorodecanoic acid (PFDA)
B387994-BS1, B387994-BSD1

Perfluoroheptanoic acid (PFHpA)
B387994-BS1, B387994-BSD1

Perfluorohexanesulfonic acid (PFH
B387994-BS1

Perfluorohexanoic acid (PFHxA)
B387994-BS1, B387994-BSD1

Perfluorononanoic acid (PFNA)
B387994-BS1, B387994-BSD1

Perfluorooctanesulfonic acid (PFO
B387994-BS1, B387994-BSD1

Perfluorooctanoic acid (PFOA)
B387994-BS1, B387994-BSD1

PF-15

Surrogate recovery is outside of control limits. Unable to re-extract sample due to insufficient sample volume.

Analyte & Samples(s) Qualified:

13C-PFDA
24I4238-02[9544-63 MHR-FRB]

13C-PFHxA
24I4238-02[9544-63 MHR-FRB]

D5-NEtFOSAA
24I4238-02[9544-63 MHR-FRB]

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S-13

Surrogate recovery is outside of control limits on both columns.
Data validation is not affected since all results are "not detected" and bias is on the high side.

Analyte & Samples(s) Qualified:

13C-PFDA
B387994-BLK1

13C-PFHxA
B387994-BLK1

D5-NEtFOSAA
B387994-BLK1

S-23

Surrogate recovery outside of control limits in BS/MS spiked sample, all reported analytes are within control criteria.

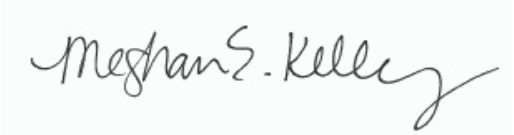
Analyte & Samples(s) Qualified:

13C-PFDA
B387994-BS1, B387994-BSD1

13C-PFHxA
B387994-BS1, B387994-BSD1

D5-NEtFOSAA
B387994-BS1

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.



Meghan E. Kelley
Reporting Specialist

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

Project Location: PA | Sample Description: | Work Order: 24I4238

Date Received: 9/26/2024

Field Sample #: 9544-63 MHR | Sampled: 9/25/2024 12:55

Sample ID: 24I4238-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	2.6	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
Perfluorohexanoic acid (PFHxA)	2.4	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
Perfluorohexanesulfonic acid (PFHxS)	4.2	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
Perfluorooctanoic acid (PFOA)	9.3	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
Perfluorooctanesulfonic acid (PFOS)	27	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:32	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	97.6	70-130		10/9/24 23:32
M3HFPO-DA	92.6	70-130		10/9/24 23:32
13C-PFDA	98.0	70-130		10/9/24 23:32
D5-NEtFOSAA	101	70-130		10/9/24 23:32

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Project Location: PA | Sample Description: | Work Order: 24I4238

Date Received: 9/26/2024

Field Sample #: 9544-63 MHR-FRB | Sampled: 9/25/2024 12:57

Sample ID: 24I4238-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
Perfluorooctanoic acid (PFOA)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
Perfluorononanoic acid (PFNA)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	ng/L	1		EPA 537.1	10/3/24	10/4/24 16:22	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C-PFHxA	**140**	*	70-130	PF-15	10/4/24 16:22
M3HFPO-DA	125		70-130		10/4/24 16:22
13C-PFDA	**143**	*	70-130	PF-15	10/4/24 16:22
D5-NEtFOSAA	**144**	*	70-130	PF-15	10/4/24 16:22

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4238-02 [9544-63 MHR-FRB]	B387994	272	1.00	10/03/24

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4238-01RE1 [9544-63 MHR]	B388477	261	1.00	10/08/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B387994 - EPA 537.1												
Blank (B387994-BLK1)					Prepared: 10/03/24 Analyzed: 10/04/24							
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L								
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L								
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L								
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L								
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L								
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L								
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L								
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L								
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L								
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L								
Surrogate: 13C-PFHxA	*50.1*			ng/L	37.77		**133**	*	70-130			S-13
Surrogate: M3HFPO-DA	*44.7*			ng/L	37.77		118		70-130			
Surrogate: 13C-PFDA	*53.2*			ng/L	37.77		**141**	*	70-130			S-13
Surrogate: D5-NEtFOSAA	*205*			ng/L	151.1		**136**	*	70-130			S-13
LCS (B387994-BS1)					Prepared: 10/03/24 Analyzed: 10/04/24							
Perfluorobutanesulfonic acid (PFBS)	2.45	1.8		ng/L	1.604		**153**	*	50-150			L-06
Perfluorohexanoic acid (PFHxA)	3.12	1.8		ng/L	1.808		**173**	*	50-150			L-06
Perfluorohexanesulfonic acid (PFHxS)	2.53	1.8		ng/L	1.653		**153**	*	50-150			L-06
Perfluoroheptanoic acid (PFHpA)	2.95	1.8		ng/L	1.808		**163**	*	50-150			L-06
Perfluorooctanoic acid (PFOA)	3.31	1.8		ng/L	1.808		**183**	*	50-150			L-06
Perfluorooctanesulfonic acid (PFOS)	2.90	1.8		ng/L	1.678		**173**	*	50-150			L-06
Perfluorononanoic acid (PFNA)	3.78	1.8		ng/L	1.808		**209**	*	50-150			L-06
Perfluorodecanoic acid (PFDA)	3.09	1.8		ng/L	1.808		**171**	*	50-150			L-06
N-EtFOSAA (NEtFOSAA)	2.82	1.8		ng/L	1.808		**156**	*	50-150			L-01
Perfluoroundecanoic acid (PFUnA)	3.14	1.8		ng/L	1.808		**174**	*	50-150			L-02
N-MeFOSAA (NMeFOSAA)	2.98	1.8		ng/L	1.808		**165**	*	50-150			L-02
Perfluorododecanoic acid (PFDoA)	3.29	1.8		ng/L	1.808		**182**	*	50-150			L-02
Perfluorotridecanoic acid (PFTrDA)	3.35	1.8		ng/L	1.808		**185**	*	50-150			L-02
Perfluorotetradecanoic acid (PFTA)	3.56	1.8		ng/L	1.808		**197**	*	50-150			L-02
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.70	1.8		ng/L	1.808		149		50-150			
11Cl-PF3OUdS (F53B Major)	2.79	1.8		ng/L	1.705		**164**	*	50-150			L-02
9Cl-PF3ONS (F53B Minor)	2.79	1.8		ng/L	1.687		**165**	*	50-150			L-02
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.80	1.8		ng/L	1.709		**164**	*	50-150			L-02
Surrogate: 13C-PFHxA	*50.0*			ng/L	36.16		**138**	*	70-130			S-23
Surrogate: M3HFPO-DA	*44.9*			ng/L	36.16		124		70-130			
Surrogate: 13C-PFDA	*51.3*			ng/L	36.16		**142**	*	70-130			S-23
Surrogate: D5-NEtFOSAA	*190*			ng/L	144.7		**131**	*	70-130			S-23

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B387994 - EPA 537.1												
LCS Dup (B387994-BSD1)					Prepared: 10/03/24 Analyzed: 10/04/24							
Perfluorobutanesulfonic acid (PFBS)	2.48	1.9		ng/L	1.682		147		50-150	1.15	50	
Perfluorohexanoic acid (PFHxA)	3.17	1.9		ng/L	1.897		**167**	*	50-150	1.70	50	L-06
Perfluorohexanesulfonic acid (PFHxS)	2.52	1.9		ng/L	1.734		145		50-150	0.530	50	
Perfluoroheptanoic acid (PFHpA)	3.06	1.9		ng/L	1.897		**161**	*	50-150	3.64	50	L-06
Perfluorooctanoic acid (PFOA)	3.17	1.9		ng/L	1.897		**167**	*	50-150	4.41	50	L-06
Perfluorooctanesulfonic acid (PFOS)	3.03	1.9		ng/L	1.760		**172**	*	50-150	4.45	50	L-06
Perfluorononanoic acid (PFNA)	3.87	1.9		ng/L	1.897		**204**	*	50-150	2.36	50	L-06
Perfluorodecanoic acid (PFDA)	3.46	1.9		ng/L	1.897		**182**	*	50-150	11.4	50	L-06
N-EtFOSAA (NEtFOSAA)	2.63	1.9		ng/L	1.897		139		50-150	7.08	50	
Perfluoroundecanoic acid (PFUnA)	3.14	1.9		ng/L	1.897		**166**	*	50-150	0.0149	50	L-02
N-MeFOSAA (NMeFOSAA)	3.02	1.9		ng/L	1.897		**159**	*	50-150	1.07	50	L-02
Perfluorododecanoic acid (PFDoA)	3.20	1.9		ng/L	1.897		**169**	*	50-150	2.99	50	L-02
Perfluorotridecanoic acid (PFTrDA)	3.13	1.9		ng/L	1.897		**165**	*	50-150	6.95	50	L-02
Perfluorotetradecanoic acid (PFTA)	3.48	1.9		ng/L	1.897		**184**	*	50-150	2.29	50	L-02
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.76	1.9		ng/L	1.897		146		50-150	2.31	50	
11Cl-PF3OUdS (F53B Major)	2.70	1.9		ng/L	1.789		**151**	*	50-150	3.61	50	L-02
9Cl-PF3ONS (F53B Minor)	2.92	1.9		ng/L	1.770		**165**	*	50-150	4.69	50	L-02
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.88	1.9		ng/L	1.792		**160**	*	50-150	2.58	50	L-02
Surrogate: 13C-PFHxA	*50.9*			ng/L	37.93		**134**	*	70-130			S-23
Surrogate: M3HFPO-DA	*45.5*			ng/L	37.93		120		70-130			
Surrogate: 13C-PFDA	*53.3*			ng/L	37.93		**140**	*	70-130			S-23
Surrogate: D5-NEtFOSAA	*197*			ng/L	151.7		130		70-130			
Batch B388477 - EPA 537.1												
Blank (B388477-BLK1)					Prepared: 10/08/24 Analyzed: 10/09/24							
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L								
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L								
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L								
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L								
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L								
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L								
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L								
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L								
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L								
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L								
Surrogate: 13C-PFHxA	*35.2*			ng/L	37.81		93.0		70-130			
Surrogate: M3HFPO-DA	*34.1*			ng/L	37.81		90.3		70-130			
Surrogate: 13C-PFDA	*35.9*			ng/L	37.81		94.9		70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.3		94.9		70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B388477 - EPA 537.1											
LCS (B388477-BS1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.11	1.9		ng/L	1.682		65.8	50-150			
Perfluorohexanoic acid (PFHxA)	1.45	1.9		ng/L	1.897		76.3	50-150			
Perfluorohexanesulfonic acid (PFHxS)	1.46	1.9		ng/L	1.734		84.1	50-150			
Perfluoroheptanoic acid (PFHpA)	1.51	1.9		ng/L	1.897		79.7	50-150			
Perfluorooctanoic acid (PFOA)	1.41	1.9		ng/L	1.897		74.4	50-150			
Perfluorooctanesulfonic acid (PFOS)	1.37	1.9		ng/L	1.760		78.1	50-150			
Perfluorononanoic acid (PFNA)	1.27	1.9		ng/L	1.897		67.2	50-150			
Perfluorodecanoic acid (PFDA)	1.43	1.9		ng/L	1.897		75.4	50-150			
N-EtFOSAA (NEtFOSAA)	1.38	1.9		ng/L	1.897		72.9	50-150			
Perfluoroundecanoic acid (PFUnA)	1.36	1.9		ng/L	1.897		71.5	50-150			
N-MeFOSAA (NMeFOSAA)	1.24	1.9		ng/L	1.897		65.1	50-150			
Perfluorododecanoic acid (PFDoA)	1.41	1.9		ng/L	1.897		74.3	50-150			
Perfluorotridecanoic acid (PFTrDA)	1.34	1.9		ng/L	1.897		70.5	50-150			
Perfluorotetradecanoic acid (PFTA)	1.41	1.9		ng/L	1.897		74.6	50-150			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.53	1.9		ng/L	1.897		80.8	50-150			
11Cl-PF3OUdS (F53B Major)	1.34	1.9		ng/L	1.789		74.9	50-150			
9Cl-PF3ONS (F53B Minor)	1.33	1.9		ng/L	1.770		75.4	50-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.30	1.9		ng/L	1.792		72.3	50-150			
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.94		91.0	70-130			
Surrogate: M3HFPO-DA	*33.7*			ng/L	37.94		88.8	70-130			
Surrogate: 13C-PFDA	*35.2*			ng/L	37.94		92.9	70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.7		94.8	70-130			
LCS Dup (B388477-BSD1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.27	1.9		ng/L	1.679		75.7	50-150	13.8	50	
Perfluorohexanoic acid (PFHxA)	1.55	1.9		ng/L	1.893		82.1	50-150	7.08	50	
Perfluorohexanesulfonic acid (PFHxS)	1.50	1.9		ng/L	1.730		86.9	50-150	3.00	50	
Perfluoroheptanoic acid (PFHpA)	1.57	1.9		ng/L	1.893		82.9	50-150	3.70	50	
Perfluorooctanoic acid (PFOA)	1.47	1.9		ng/L	1.893		77.4	50-150	3.73	50	
Perfluorooctanesulfonic acid (PFOS)	1.59	1.9		ng/L	1.757		90.3	50-150	14.3	50	
Perfluorononanoic acid (PFNA)	1.36	1.9		ng/L	1.893		71.8	50-150	6.51	50	
Perfluorodecanoic acid (PFDA)	1.55	1.9		ng/L	1.893		81.8	50-150	7.88	50	
N-EtFOSAA (NEtFOSAA)	1.45	1.9		ng/L	1.893		76.5	50-150	4.54	50	
Perfluoroundecanoic acid (PFUnA)	1.39	1.9		ng/L	1.893		73.3	50-150	2.19	50	
N-MeFOSAA (NMeFOSAA)	1.21	1.9		ng/L	1.893		63.7	50-150	2.42	50	
Perfluorododecanoic acid (PFDoA)	1.24	1.9		ng/L	1.893		65.4	50-150	12.9	50	
Perfluorotridecanoic acid (PFTrDA)	1.41	1.9		ng/L	1.893		74.4	50-150	5.25	50	
Perfluorotetradecanoic acid (PFTA)	1.46	1.9		ng/L	1.893		77.3	50-150	3.36	50	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.48	1.9		ng/L	1.893		78.2	50-150	3.48	50	
11Cl-PF3OUdS (F53B Major)	1.42	1.9		ng/L	1.785		79.5	50-150	5.77	50	
9Cl-PF3ONS (F53B Minor)	1.32	1.9		ng/L	1.766		74.8	50-150	1.07	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.42	1.9		ng/L	1.789		79.3	50-150	9.15	50	
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.86		91.1	70-130			
Surrogate: M3HFPO-DA	*33.5*			ng/L	37.86		88.4	70-130			
Surrogate: 13C-PFDA	*34.3*			ng/L	37.86		90.7	70-130			
Surrogate: D5-NEtFOSAA	*138*			ng/L	151.4		90.9	70-130			

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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
DL	Method Detection Limit
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.
L-01	Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
L-02	Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
L-06	Laboratory fortified blank/laboratory control sample recovery and/or duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the high side.
PF-15	Surrogate recovery is outside of control limits. Unable to re-extract sample due to insufficient sample volume.
S-13	Surrogate recovery is outside of control limits on both columns. Data validation is not affected since all results are "not detected" and bias is on the high side.
S-23	Surrogate recovery outside of control limits in BS/MS spiked sample, all reported analytes are within control criteria.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

24I4238

Scan QR Code for instructions

Company Name: PA DEP	Contact/Report To: John Ciccone
Street Address: 208 W. 3rd St, Suite 101 Williamsport, PA 17701	Phone #: 570.205.2672
	E-Mail: jciccone@pa.gov
	Cc E-Mail:
Customer Project #:	Invoice to:
Project Name: N. Centre Twp PFAS	Invoice E-mail:
Site Collection Info/Facility ID (as applicable):	Purchase Order # (if applicable):
	Quote #:
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [✓] ET	County / State origin of sample(s):
Data Deliverables: Standard [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other	Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No
Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other _____ Date Results Requested:	DW PWSID # or WW Permit # as applicable: Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

Specify Container Size **: 3

Identify Container Preservative Type***: 11

Analysis Requested: EPA 537.1, PFAS

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: | AcctNum / Client ID: | Table #: | Profile / Template: | Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample.

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

	Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	Sample Comment
1	0544-63MHA	DW	G			9/25/24	1255	2			
2	0544-63MHA-FRB	OT	G			9/25/24	1257	2			

Additional Instructions from Pace®:

Collected By: Printed Name: John Ciccone Signature:

Customer Remarks / Special Conditions / Possible Hazards: Potential for PFAS >1000ppt.

Coolers: | Thermometer ID: | Correction Factor (°C): | Obs. Temp. (°C): | Corrected Temp. (°C): | [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
	9/25/24 1530	1.8	9/26/24 13:22	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier [ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of

Your shipment
1Z6610830197454906

Delivered On
Thursday, September 26 at 9:38 A.M. at Inside Delivery

)elivered To

AST LONGMEADOW, MA US

eceived By:
RROYO
roof of Delivery

Label Created
United States
09/25/2024, 3:21 P.M.

We Have Your Package
Williamsport, PA, United States
09/25/2024, 5:33 P.M.

On the Way
Windsor Locks, CT, United States
09/26/2024, 7:59 A.M.

Out for Delivery
Windsor Locks, CT, United States
09/26/2024, 9:13 A.M.

Delivered
EAST LONGMEADOW, MA, US
09/26/2024, 9:38 A.M.

View All Shipping Details

Get Answers Fast

Select "View All Shipping Details" to see the progress of your package. If you need help, use the Virtual Assistant.

Get Updates

File a Claim

Track Another Package

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

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

Client PA DEP

Project N. Center Twp

MCP/RCP Required

Deliverable Package Requirement

Location PA

PWSID# (When Applicable)

Arrival Method:

Courier ☐ Fed Ex ☑ Walk In ☐ Other ☐

Received By / Date / Time Ryan 9-26-24 @ 15

Back-Sheet By / Date / Time E.I. 9-30-24 @ 9:29

Temperature Method Gun # 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature 1.8

Rush Samples: Yes / (No) Notify

Short Hold: Yes / (No) Notify

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☐	☑

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Notes regarding Samples/COC outside of SOP:

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
Pace ANALYTICAL SERVICES	Effective Date: 06/11/2024

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250mL																					
Phosphoric																						
HCl																						
Unpreserved	100mL																					
Unpreserved	1 Liter	Plastics																				
Sulfuric																						
Unpreserved	500mL																					
Sulfuric																						
Unpreserved	250mL																					
Trizma			2	1																		
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved		VOA Vials																				
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact		Other / Fill in																				

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

October 10, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24I4240
PWSID# PA

Enclosed are results of analyses for samples as received by the laboratory on September 26, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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

PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/10/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24I4240

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

PROJECT LOCATION: PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-98 MHR	24I4240-01	Drinking Water		EPA 537.1	
9544-98 MHR-FRB	24I4240-02	Field Blank		EPA 537.1	

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CASE NARRATIVE SUMMARY

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

EPA 537.1

Qualifications:

S-26

Surrogate outside of control limits.

Analyte & Samples(s) Qualified:

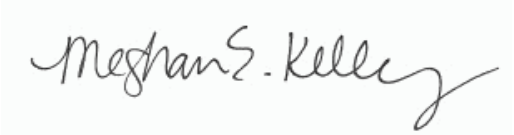
13C-PFDA
B387863-BLK1, B387863-BS1, B387863-BSD1

13C-PFHxA
B387863-BLK1, B387863-BS1, B387863-BSD1

D5-NEtFOSAA
B387863-BLK1, B387863-BS1, B387863-BSD1

M3HFPO-DA
B387863-BLK1, B387863-BS1, B387863-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.



Meghan E. Kelley
Reporting Specialist

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

Project Location: PA | Sample Description: | Work Order: 24I4240

Date Received: 9/26/2024

Field Sample #: 9544-98 MHR | Sampled: 9/25/2024 11:05

Sample ID: 24I4240-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
Perfluorohexanesulfonic acid (PFHxS)	3.1	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
Perfluorooctanoic acid (PFOA)	7.4	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
Perfluorooctanesulfonic acid (PFOS)	32	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:39	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	99.3	70-130		10/9/24 23:39
M3HFPO-DA	95.5	70-130		10/9/24 23:39
13C-PFDA	96.2	70-130		10/9/24 23:39
D5-NEtFOSAA	100	70-130		10/9/24 23:39

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Project Location: PA | Sample Description: | Work Order: 24I4240

Date Received: 9/26/2024

Field Sample #: 9544-98 MHR-FRB | Sampled: 9/25/2024 11:08

Sample ID: 24I4240-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:11	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	72.8	70-130		10/3/24 19:11
M3HFPO-DA	72.0	70-130		10/3/24 19:11
13C-PFDA	78.4	70-130		10/3/24 19:11
D5-NEtFOSAA	81.7	70-130		10/3/24 19:11

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4240-02 [9544-98 MHR-FRB]	B387863	266	1.00	10/02/24

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4240-01RE1 [9544-98 MHR]	B388477	274	1.00	10/08/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B387863 - EPA 537.1												
Blank (B387863-BLK1)					Prepared: 10/02/24 Analyzed: 10/03/24							
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L								
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L								
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L								
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L								
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L								
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L								
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L								
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L								
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L								
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L								
Surrogate: 13C-PFHxA	*20.6*			ng/L	37.36		**55.0**	*	70-130			S-26
Surrogate: M3HFPO-DA	*19.5*			ng/L	37.36		**52.3**	*	70-130			S-26
Surrogate: 13C-PFDA	*21.9*			ng/L	37.36		**58.5**	*	70-130			S-26
Surrogate: D5-NEtFOSAA	*92.6*			ng/L	149.4		**62.0**	*	70-130			S-26
LCS (B387863-BS1)					Prepared: 10/02/24 Analyzed: 10/03/24							
Perfluorobutanesulfonic acid (PFBS)	2.01	1.9		ng/L	1.645		122		50-150			
Perfluorohexanoic acid (PFHxA)	2.39	1.9		ng/L	1.855		129		50-150			
Perfluorohexanesulfonic acid (PFHxS)	2.44	1.9		ng/L	1.695		144		50-150			
Perfluoroheptanoic acid (PFHpA)	2.33	1.9		ng/L	1.855		126		50-150			
Perfluorooctanoic acid (PFOA)	2.27	1.9		ng/L	1.855		123		50-150			
Perfluorooctanesulfonic acid (PFOS)	2.39	1.9		ng/L	1.721		139		50-150			
Perfluorononanoic acid (PFNA)	2.61	1.9		ng/L	1.855		141		50-150			
Perfluorodecanoic acid (PFDA)	2.40	1.9		ng/L	1.855		130		50-150			
N-EtFOSAA (NEtFOSAA)	2.31	1.9		ng/L	1.855		125		50-150			
Perfluoroundecanoic acid (PFUnA)	2.49	1.9		ng/L	1.855		134		50-150			
N-MeFOSAA (NMeFOSAA)	2.33	1.9		ng/L	1.855		126		50-150			
Perfluorododecanoic acid (PFDoA)	2.28	1.9		ng/L	1.855		123		50-150			
Perfluorotridecanoic acid (PFTrDA)	2.43	1.9		ng/L	1.855		131		50-150			
Perfluorotetradecanoic acid (PFTA)	2.63	1.9		ng/L	1.855		142		50-150			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.56	1.9		ng/L	1.855		138		50-150			
11Cl-PF3OUdS (F53B Major)	2.20	1.9		ng/L	1.749		126		50-150			
9Cl-PF3ONS (F53B Minor)	2.55	1.9		ng/L	1.730		147		50-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.21	1.9		ng/L	1.753		126		50-150			
Surrogate: 13C-PFHxA	*24.4*			ng/L	37.09		**65.7**	*	70-130			S-26
Surrogate: M3HFPO-DA	*24.4*			ng/L	37.09		**65.9**	*	70-130			S-26
Surrogate: 13C-PFDA	*25.4*			ng/L	37.09		**68.4**	*	70-130			S-26
Surrogate: D5-NEtFOSAA	*103*			ng/L	148.4		**69.5**	*	70-130			S-26

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B387863 - EPA 537.1												
LCS Dup (B387863-BSD1)					Prepared: 10/02/24 Analyzed: 10/03/24							
Perfluorobutanesulfonic acid (PFBS)	1.44	1.8		ng/L	1.601		89.9		50-150	33.0	50	
Perfluorohexanoic acid (PFHxA)	1.93	1.8		ng/L	1.805		107		50-150	21.5	50	
Perfluorohexanesulfonic acid (PFHxS)	1.70	1.8		ng/L	1.650		103		50-150	35.8	50	
Perfluoroheptanoic acid (PFHpA)	2.02	1.8		ng/L	1.805		112		50-150	14.4	50	
Perfluorooctanoic acid (PFOA)	1.89	1.8		ng/L	1.805		105		50-150	18.3	50	
Perfluorooctanesulfonic acid (PFOS)	1.97	1.8		ng/L	1.675		118		50-150	19.5	50	
Perfluorononanoic acid (PFNA)	1.93	1.8		ng/L	1.805		107		50-150	30.1	50	
Perfluorodecanoic acid (PFDA)	2.10	1.8		ng/L	1.805		116		50-150	13.4	50	
N-EtFOSAA (NEtFOSAA)	2.08	1.8		ng/L	1.805		115		50-150	10.5	50	
Perfluoroundecanoic acid (PFUnA)	2.03	1.8		ng/L	1.805		112		50-150	20.5	50	
N-MeFOSAA (NMeFOSAA)	1.92	1.8		ng/L	1.805		107		50-150	19.1	50	
Perfluorododecanoic acid (PFDoA)	1.97	1.8		ng/L	1.805		109		50-150	14.6	50	
Perfluorotridecanoic acid (PFTrDA)	2.12	1.8		ng/L	1.805		118		50-150	13.3	50	
Perfluorotetradecanoic acid (PFTA)	2.29	1.8		ng/L	1.805		127		50-150	13.7	50	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.85	1.8		ng/L	1.805		102		50-150	32.1	50	
11Cl-PF3OUdS (F53B Major)	1.70	1.8		ng/L	1.702		99.9		50-150	25.6	50	
9Cl-PF3ONS (F53B Minor)	1.93	1.8		ng/L	1.684		114		50-150	27.7	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.87	1.8		ng/L	1.706		110		50-150	17.0	50	
Surrogate: 13C-PFHxA	*19.7*			ng/L	36.10		**54.6**	*	70-130			S-26
Surrogate: M3HFPO-DA	*18.7*			ng/L	36.10		**51.7**	*	70-130			S-26
Surrogate: 13C-PFDA	*22.4*			ng/L	36.10		**62.0**	*	70-130			S-26
Surrogate: D5-NEtFOSAA	*91.8*			ng/L	144.4		**63.6**	*	70-130			S-26
Batch B388477 - EPA 537.1												
Blank (B388477-BLK1)					Prepared: 10/08/24 Analyzed: 10/09/24							
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L								
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L								
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L								
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L								
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L								
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L								
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L								
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L								
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L								
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L								
Surrogate: 13C-PFHxA	*35.2*			ng/L	37.81		93.0		70-130			
Surrogate: M3HFPO-DA	*34.1*			ng/L	37.81		90.3		70-130			
Surrogate: 13C-PFDA	*35.9*			ng/L	37.81		94.9		70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.3		94.9		70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B388477 - EPA 537.1											
LCS (B388477-BS1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.11	1.9		ng/L	1.682		65.8	50-150			
Perfluorohexanoic acid (PFHxA)	1.45	1.9		ng/L	1.897		76.3	50-150			
Perfluorohexanesulfonic acid (PFHxS)	1.46	1.9		ng/L	1.734		84.1	50-150			
Perfluoroheptanoic acid (PFHpA)	1.51	1.9		ng/L	1.897		79.7	50-150			
Perfluorooctanoic acid (PFOA)	1.41	1.9		ng/L	1.897		74.4	50-150			
Perfluorooctanesulfonic acid (PFOS)	1.37	1.9		ng/L	1.760		78.1	50-150			
Perfluorononanoic acid (PFNA)	1.27	1.9		ng/L	1.897		67.2	50-150			
Perfluorodecanoic acid (PFDA)	1.43	1.9		ng/L	1.897		75.4	50-150			
N-EtFOSAA (NEtFOSAA)	1.38	1.9		ng/L	1.897		72.9	50-150			
Perfluoroundecanoic acid (PFUnA)	1.36	1.9		ng/L	1.897		71.5	50-150			
N-MeFOSAA (NMeFOSAA)	1.24	1.9		ng/L	1.897		65.1	50-150			
Perfluorododecanoic acid (PFDoA)	1.41	1.9		ng/L	1.897		74.3	50-150			
Perfluorotridecanoic acid (PFTrDA)	1.34	1.9		ng/L	1.897		70.5	50-150			
Perfluorotetradecanoic acid (PFTA)	1.41	1.9		ng/L	1.897		74.6	50-150			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.53	1.9		ng/L	1.897		80.8	50-150			
11Cl-PF3OUdS (F53B Major)	1.34	1.9		ng/L	1.789		74.9	50-150			
9Cl-PF3ONS (F53B Minor)	1.33	1.9		ng/L	1.770		75.4	50-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.30	1.9		ng/L	1.792		72.3	50-150			
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.94		91.0	70-130			
Surrogate: M3HFPO-DA	*33.7*			ng/L	37.94		88.8	70-130			
Surrogate: 13C-PFDA	*35.2*			ng/L	37.94		92.9	70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.7		94.8	70-130			
LCS Dup (B388477-BSD1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.27	1.9		ng/L	1.679		75.7	50-150	13.8	50	
Perfluorohexanoic acid (PFHxA)	1.55	1.9		ng/L	1.893		82.1	50-150	7.08	50	
Perfluorohexanesulfonic acid (PFHxS)	1.50	1.9		ng/L	1.730		86.9	50-150	3.00	50	
Perfluoroheptanoic acid (PFHpA)	1.57	1.9		ng/L	1.893		82.9	50-150	3.70	50	
Perfluorooctanoic acid (PFOA)	1.47	1.9		ng/L	1.893		77.4	50-150	3.73	50	
Perfluorooctanesulfonic acid (PFOS)	1.59	1.9		ng/L	1.757		90.3	50-150	14.3	50	
Perfluorononanoic acid (PFNA)	1.36	1.9		ng/L	1.893		71.8	50-150	6.51	50	
Perfluorodecanoic acid (PFDA)	1.55	1.9		ng/L	1.893		81.8	50-150	7.88	50	
N-EtFOSAA (NEtFOSAA)	1.45	1.9		ng/L	1.893		76.5	50-150	4.54	50	
Perfluoroundecanoic acid (PFUnA)	1.39	1.9		ng/L	1.893		73.3	50-150	2.19	50	
N-MeFOSAA (NMeFOSAA)	1.21	1.9		ng/L	1.893		63.7	50-150	2.42	50	
Perfluorododecanoic acid (PFDoA)	1.24	1.9		ng/L	1.893		65.4	50-150	12.9	50	
Perfluorotridecanoic acid (PFTrDA)	1.41	1.9		ng/L	1.893		74.4	50-150	5.25	50	
Perfluorotetradecanoic acid (PFTA)	1.46	1.9		ng/L	1.893		77.3	50-150	3.36	50	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.48	1.9		ng/L	1.893		78.2	50-150	3.48	50	
11Cl-PF3OUdS (F53B Major)	1.42	1.9		ng/L	1.785		79.5	50-150	5.77	50	
9Cl-PF3ONS (F53B Minor)	1.32	1.9		ng/L	1.766		74.8	50-150	1.07	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.42	1.9		ng/L	1.789		79.3	50-150	9.15	50	
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.86		91.1	70-130			
Surrogate: M3HFPO-DA	*33.5*			ng/L	37.86		88.4	70-130			
Surrogate: 13C-PFDA	*34.3*			ng/L	37.86		90.7	70-130			
Surrogate: D5-NEtFOSAA	*138*			ng/L	151.4		90.9	70-130			

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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
DL	Method Detection Limit
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.
S-26	Surrogate outside of control limits.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

24I424C

Scan QR Code for instructions

Company Name: PA DEP	Contact/Report To: John Ciccone
Street Address: 208 W. 3rd St, Suite 101 Williamsport, PA 17701	Phone #: 570.205.2677
	E-Mail: jciccone@pa.gov
	Cc E-Mail:
Customer Project #:	Invoice to:
Project Name: N. Centre Twp PFAS	Invoice E-mail:
Site Collection Info/Facility ID (as applicable):	Purchase Order # (if applicable):
	Quote #:
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [✓] ET	County / State origin of sample(s):
Data Deliverables: Standard [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other	Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No
	Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other ____ Date Results Requested:
	DW PWSID # or WW Permit # as applicable: Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

	Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	Specify Container Size ** 3	Identify Container Preservative Type*** 11	Analysis Requested: EPA 537.1, PFAS	Sample Comment
1	9544-98MHR	DW	G			9/25/24	1105	2					X	
2	9544-98MHR-FAB	OT	G			9/25/24	1108	2					X	

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: | AcctNum / Client ID: | Table #: | Profile / Template: | Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample.

Additional Instructions from Pace®:

Collected By: Printed Name: John Ciccone Signature:

Customer Remarks / Special Conditions / Possible Hazards: Potential for PFAS >1000 ppt

Coolers: | Thermometer ID: | Correction Factor (°C): | Obs. Temp. (°C): | Corrected Temp. (°C): | [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
John Ciccone	9/25/24 1530	1.8	9/26/24 13:22	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier [ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of

Your shipment
1Z6610830197454906

Delivered On
Thursday, September 26 at 9:38 A.M. at Inside Delivery

Delivered To

AST LONGMEADOW, MA US

eceived By:
RROYO
roof of Delivery

Label Created
United States
09/25/2024, 3:21 P.M.

We Have Your Package
Williamsport, PA, United States
09/25/2024, 5:33 P.M.

On the Way
Windsor Locks, CT, United States
09/26/2024, 7:59 A.M.

Out for Delivery
Windsor Locks, CT, United States
09/26/2024, 9:13 A.M.

Delivered
EAST LONGMEADOW, MA, US
09/26/2024, 9:38 A.M.

View All Shipping Details

Get Answers Fast

Select "View All Shipping Details" to see the progress of your package. If you need help, use the Virtual Assistant.

Get Updates

File a Claim

Track Another Package

Log In Back-Sheet

Login Sample Receipt Checklist – Rejection Criteria Listing – Using Acceptance Policy. Any False statement will be brought to the attention of the Client – True or False

Client: PA DEP

Project: N. Center Twp

MCP/RCP Required:

Deliverable Package Requirement:

Location: PA

PWSID# (When Applicable):

Arrival Method:

Courier ☐ Fed Ex ☒ Walk In ☐ Other ☒ UPS

Received By / Date / Time: Ryan 9-26-24 @ AP

Back-Sheet By / Date / Time: EL 9-30-24 @ 9:29

Temperature Method: Gun = 6

WV samples, Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature: 1.8

Rush Samples: Yes / (No) Notify:

Short Hold: Yes / (No) Notify:

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☐	☑

COC Included (Check all Included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH (N/A) ☐ ☐

Notes regarding Samples/COC outside of SOP:

Additional Container Notes

*Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250mL																					
Phosphoric																						
HCl																						
Unpreserved	100mL																					
Unpreserved	1 Liter	Plastics																				
Sulfuric																						
Unpreserved	500mL																					
Sulfuric																						
Unpreserved	250mL																					
Trizma			a	1																		
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved		VOA Vials																				
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact		Other / Fill in																				

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October 10, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24I4242

Enclosed are results of analyses for samples as received by the laboratory on September 26, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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

PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/10/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24I4242

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

PROJECT LOCATION: PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-108MHR	24I4242-01	Drinking Water		EPA 537.1	
9544-108MHR-FRB	24I4242-02	Field Blank		EPA 537.1	

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

CASE NARRATIVE SUMMARY

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

EPA 537.1

Qualifications:

PF-15

Surrogate recovery is outside of control limits. Unable to re-extract sample due to insufficient sample volume.

Analyte & Samples(s) Qualified:

13C-PFHxA
24I4242-02[9544-108MHR-FRB]

M3HFPO-DA
24I4242-02[9544-108MHR-FRB]

S-26

Surrogate outside of control limits.

Analyte & Samples(s) Qualified:

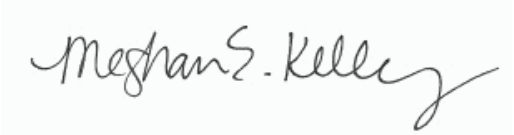
13C-PFDA
B387863-BLK1, B387863-BS1, B387863-BSD1

13C-PFHxA
B387863-BLK1, B387863-BS1, B387863-BSD1

D5-NEtFOSAA
B387863-BLK1, B387863-BS1, B387863-BSD1

M3HFPO-DA
B387863-BLK1, B387863-BS1, B387863-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.



Meghan E. Kelley
Reporting Specialist

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

Project Location: PA | Sample Description: | Work Order: 24I4242

Date Received: 9/26/2024

Field Sample #: 9544-108MHR | Sampled: 9/25/2024 10:40

Sample ID: 24I4242-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
Perfluorohexanesulfonic acid (PFHxS)	1.8	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
Perfluorooctanoic acid (PFOA)	5.3	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
Perfluorooctanesulfonic acid (PFOS)	30	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:47	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	99.4	70-130		10/9/24 23:47
M3HFPO-DA	97.6	70-130		10/9/24 23:47
13C-PFDA	98.2	70-130		10/9/24 23:47
D5-NEtFOSAA	99.7	70-130		10/9/24 23:47

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Project Location: PA | Sample Description: | Work Order: 24I4242

Date Received: 9/26/2024

Field Sample #: 9544-108MHR-FRB | Sampled: 9/25/2024 10:41

Sample ID: 24I4242-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
Perfluorooctanoic acid (PFOA)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
Perfluorononanoic acid (PFNA)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	ng/L	1		EPA 537.1	10/2/24	10/3/24 19:26	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C-PFHxA	**66.0**	*	70-130	PF-15	10/3/24 19:26
M3HFPO-DA	**64.7**	*	70-130	PF-15	10/3/24 19:26
13C-PFDA	72.8		70-130		10/3/24 19:26
D5-NEtFOSAA	73.0		70-130		10/3/24 19:26

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4242-02 [9544-108MHR-FRB]	B387863	274	1.00	10/02/24

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4242-01RE1 [9544-108MHR]	B388477	271	1.00	10/08/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B387863 - EPA 537.1												
Blank (B387863-BLK1)					Prepared: 10/02/24 Analyzed: 10/03/24							
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L								
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L								
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L								
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L								
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L								
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L								
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L								
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L								
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L								
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L								
Surrogate: 13C-PFHxA	*20.6*			ng/L	37.36		**55.0**	*	70-130			S-26
Surrogate: M3HFPO-DA	*19.5*			ng/L	37.36		**52.3**	*	70-130			S-26
Surrogate: 13C-PFDA	*21.9*			ng/L	37.36		**58.5**	*	70-130			S-26
Surrogate: D5-NEtFOSAA	*92.6*			ng/L	149.4		**62.0**	*	70-130			S-26
LCS (B387863-BS1)					Prepared: 10/02/24 Analyzed: 10/03/24							
Perfluorobutanesulfonic acid (PFBS)	2.01	1.9		ng/L	1.645		122		50-150			
Perfluorohexanoic acid (PFHxA)	2.39	1.9		ng/L	1.855		129		50-150			
Perfluorohexanesulfonic acid (PFHxS)	2.44	1.9		ng/L	1.695		144		50-150			
Perfluoroheptanoic acid (PFHpA)	2.33	1.9		ng/L	1.855		126		50-150			
Perfluorooctanoic acid (PFOA)	2.27	1.9		ng/L	1.855		123		50-150			
Perfluorooctanesulfonic acid (PFOS)	2.39	1.9		ng/L	1.721		139		50-150			
Perfluorononanoic acid (PFNA)	2.61	1.9		ng/L	1.855		141		50-150			
Perfluorodecanoic acid (PFDA)	2.40	1.9		ng/L	1.855		130		50-150			
N-EtFOSAA (NEtFOSAA)	2.31	1.9		ng/L	1.855		125		50-150			
Perfluoroundecanoic acid (PFUnA)	2.49	1.9		ng/L	1.855		134		50-150			
N-MeFOSAA (NMeFOSAA)	2.33	1.9		ng/L	1.855		126		50-150			
Perfluorododecanoic acid (PFDoA)	2.28	1.9		ng/L	1.855		123		50-150			
Perfluorotridecanoic acid (PFTrDA)	2.43	1.9		ng/L	1.855		131		50-150			
Perfluorotetradecanoic acid (PFTA)	2.63	1.9		ng/L	1.855		142		50-150			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.56	1.9		ng/L	1.855		138		50-150			
11Cl-PF3OUdS (F53B Major)	2.20	1.9		ng/L	1.749		126		50-150			
9Cl-PF3ONS (F53B Minor)	2.55	1.9		ng/L	1.730		147		50-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.21	1.9		ng/L	1.753		126		50-150			
Surrogate: 13C-PFHxA	*24.4*			ng/L	37.09		**65.7**	*	70-130			S-26
Surrogate: M3HFPO-DA	*24.4*			ng/L	37.09		**65.9**	*	70-130			S-26
Surrogate: 13C-PFDA	*25.4*			ng/L	37.09		**68.4**	*	70-130			S-26
Surrogate: D5-NEtFOSAA	*103*			ng/L	148.4		**69.5**	*	70-130			S-26

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B387863 - EPA 537.1												
LCS Dup (B387863-BSD1)					Prepared: 10/02/24 Analyzed: 10/03/24							
Perfluorobutanesulfonic acid (PFBS)	1.44	1.8		ng/L	1.601		89.9		50-150	33.0	50	
Perfluorohexanoic acid (PFHxA)	1.93	1.8		ng/L	1.805		107		50-150	21.5	50	
Perfluorohexanesulfonic acid (PFHxS)	1.70	1.8		ng/L	1.650		103		50-150	35.8	50	
Perfluoroheptanoic acid (PFHpA)	2.02	1.8		ng/L	1.805		112		50-150	14.4	50	
Perfluorooctanoic acid (PFOA)	1.89	1.8		ng/L	1.805		105		50-150	18.3	50	
Perfluorooctanesulfonic acid (PFOS)	1.97	1.8		ng/L	1.675		118		50-150	19.5	50	
Perfluorononanoic acid (PFNA)	1.93	1.8		ng/L	1.805		107		50-150	30.1	50	
Perfluorodecanoic acid (PFDA)	2.10	1.8		ng/L	1.805		116		50-150	13.4	50	
N-EtFOSAA (NEtFOSAA)	2.08	1.8		ng/L	1.805		115		50-150	10.5	50	
Perfluoroundecanoic acid (PFUnA)	2.03	1.8		ng/L	1.805		112		50-150	20.5	50	
N-MeFOSAA (NMeFOSAA)	1.92	1.8		ng/L	1.805		107		50-150	19.1	50	
Perfluorododecanoic acid (PFDoA)	1.97	1.8		ng/L	1.805		109		50-150	14.6	50	
Perfluorotridecanoic acid (PFTrDA)	2.12	1.8		ng/L	1.805		118		50-150	13.3	50	
Perfluorotetradecanoic acid (PFTA)	2.29	1.8		ng/L	1.805		127		50-150	13.7	50	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.85	1.8		ng/L	1.805		102		50-150	32.1	50	
11Cl-PF3OUdS (F53B Major)	1.70	1.8		ng/L	1.702		99.9		50-150	25.6	50	
9Cl-PF3ONS (F53B Minor)	1.93	1.8		ng/L	1.684		114		50-150	27.7	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.87	1.8		ng/L	1.706		110		50-150	17.0	50	
Surrogate: 13C-PFHxA	*19.7*			ng/L	36.10		**54.6**	*	70-130			S-26
Surrogate: M3HFPO-DA	*18.7*			ng/L	36.10		**51.7**	*	70-130			S-26
Surrogate: 13C-PFDA	*22.4*			ng/L	36.10		**62.0**	*	70-130			S-26
Surrogate: D5-NEtFOSAA	*91.8*			ng/L	144.4		**63.6**	*	70-130			S-26
Batch B388477 - EPA 537.1												
Blank (B388477-BLK1)					Prepared: 10/08/24 Analyzed: 10/09/24							
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L								
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L								
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L								
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L								
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L								
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L								
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L								
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L								
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L								
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L								
Surrogate: 13C-PFHxA	*35.2*			ng/L	37.81		93.0		70-130			
Surrogate: M3HFPO-DA	*34.1*			ng/L	37.81		90.3		70-130			
Surrogate: 13C-PFDA	*35.9*			ng/L	37.81		94.9		70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.3		94.9		70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B388477 - EPA 537.1											
LCS (B388477-BS1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.11	1.9		ng/L	1.682		65.8	50-150			
Perfluorohexanoic acid (PFHxA)	1.45	1.9		ng/L	1.897		76.3	50-150			
Perfluorohexanesulfonic acid (PFHxS)	1.46	1.9		ng/L	1.734		84.1	50-150			
Perfluoroheptanoic acid (PFHpA)	1.51	1.9		ng/L	1.897		79.7	50-150			
Perfluorooctanoic acid (PFOA)	1.41	1.9		ng/L	1.897		74.4	50-150			
Perfluorooctanesulfonic acid (PFOS)	1.37	1.9		ng/L	1.760		78.1	50-150			
Perfluorononanoic acid (PFNA)	1.27	1.9		ng/L	1.897		67.2	50-150			
Perfluorodecanoic acid (PFDA)	1.43	1.9		ng/L	1.897		75.4	50-150			
N-EtFOSAA (NEtFOSAA)	1.38	1.9		ng/L	1.897		72.9	50-150			
Perfluoroundecanoic acid (PFUnA)	1.36	1.9		ng/L	1.897		71.5	50-150			
N-MeFOSAA (NMeFOSAA)	1.24	1.9		ng/L	1.897		65.1	50-150			
Perfluorododecanoic acid (PFDoA)	1.41	1.9		ng/L	1.897		74.3	50-150			
Perfluorotridecanoic acid (PFTrDA)	1.34	1.9		ng/L	1.897		70.5	50-150			
Perfluorotetradecanoic acid (PFTA)	1.41	1.9		ng/L	1.897		74.6	50-150			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.53	1.9		ng/L	1.897		80.8	50-150			
11Cl-PF3OUdS (F53B Major)	1.34	1.9		ng/L	1.789		74.9	50-150			
9Cl-PF3ONS (F53B Minor)	1.33	1.9		ng/L	1.770		75.4	50-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.30	1.9		ng/L	1.792		72.3	50-150			
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.94		91.0	70-130			
Surrogate: M3HFPO-DA	*33.7*			ng/L	37.94		88.8	70-130			
Surrogate: 13C-PFDA	*35.2*			ng/L	37.94		92.9	70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.7		94.8	70-130			
LCS Dup (B388477-BSD1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.27	1.9		ng/L	1.679		75.7	50-150	13.8	50	
Perfluorohexanoic acid (PFHxA)	1.55	1.9		ng/L	1.893		82.1	50-150	7.08	50	
Perfluorohexanesulfonic acid (PFHxS)	1.50	1.9		ng/L	1.730		86.9	50-150	3.00	50	
Perfluoroheptanoic acid (PFHpA)	1.57	1.9		ng/L	1.893		82.9	50-150	3.70	50	
Perfluorooctanoic acid (PFOA)	1.47	1.9		ng/L	1.893		77.4	50-150	3.73	50	
Perfluorooctanesulfonic acid (PFOS)	1.59	1.9		ng/L	1.757		90.3	50-150	14.3	50	
Perfluorononanoic acid (PFNA)	1.36	1.9		ng/L	1.893		71.8	50-150	6.51	50	
Perfluorodecanoic acid (PFDA)	1.55	1.9		ng/L	1.893		81.8	50-150	7.88	50	
N-EtFOSAA (NEtFOSAA)	1.45	1.9		ng/L	1.893		76.5	50-150	4.54	50	
Perfluoroundecanoic acid (PFUnA)	1.39	1.9		ng/L	1.893		73.3	50-150	2.19	50	
N-MeFOSAA (NMeFOSAA)	1.21	1.9		ng/L	1.893		63.7	50-150	2.42	50	
Perfluorododecanoic acid (PFDoA)	1.24	1.9		ng/L	1.893		65.4	50-150	12.9	50	
Perfluorotridecanoic acid (PFTrDA)	1.41	1.9		ng/L	1.893		74.4	50-150	5.25	50	
Perfluorotetradecanoic acid (PFTA)	1.46	1.9		ng/L	1.893		77.3	50-150	3.36	50	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.48	1.9		ng/L	1.893		78.2	50-150	3.48	50	
11Cl-PF3OUdS (F53B Major)	1.42	1.9		ng/L	1.785		79.5	50-150	5.77	50	
9Cl-PF3ONS (F53B Minor)	1.32	1.9		ng/L	1.766		74.8	50-150	1.07	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.42	1.9		ng/L	1.789		79.3	50-150	9.15	50	
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.86		91.1	70-130			
Surrogate: M3HFPO-DA	*33.5*			ng/L	37.86		88.4	70-130			
Surrogate: 13C-PFDA	*34.3*			ng/L	37.86		90.7	70-130			
Surrogate: D5-NEtFOSAA	*138*			ng/L	151.4		90.9	70-130			

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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
DL	Method Detection Limit
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.
PF-15	Surrogate recovery is outside of control limits. Unable to re-extract sample due to insufficient sample volume.
S-26	Surrogate outside of control limits.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

24I4242

Scan QR Code for instructions

Company Name: PA DEP	Contact/Report To: John Ciccone
Street Address: 208 W. 3rd St, Suite 101 Williamsport, PA 17701	Phone #: 570.205.2672
	E-Mail: jciccone@pa.gov
	Cc E-Mail:
Customer Project #:	Invoice to:
Project Name: N. Centre Twp PFAS	Invoice E-mail:
Site Collection Info/Facility ID (as applicable):	Purchase Order # (if applicable):
	Quote #:
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [✓] ET	County / State origin of sample s):
Data Deliverables: Standard [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other	Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No
	Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other _____ Date Results Requested:
	DW PWSID # or WW Permit # as applicable:
	Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

Specify Container Size **: 3

Identify Container Preservative Type***: 11

Analysis Requested: EPA 537.1, PFAS

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Add, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: | AcctNum / Client ID: | Table #: | Profile / Template: | Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample.

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

	Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	Sample Comment
1	9544-108MHR	DW	G	~~9/24/24~~		9/25/24	1040	2			X
2	9544-108MHA-FAB	OT	G	~~9/24/24~~		9/25/24	1041	2			X

Additional Instructions from Pace®:

Collected By: John Ciccone
Printed Name
Signature

Customer Remarks / Special Conditions / Possible Hazards: Potential for PFAS conc. >1000 ppt

Coolers: | Thermometer ID: | Correction Factor (°C): | Obs. Temp. (°C): | Corrected Temp. (°C): | [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
John Ciccone	9/25/24 1542	[illegible] 1.8	9/26/24 13:22	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier [ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Your shipment
1Z6610830197454906

Delivered On
Thursday, September 26 at 9:38 A.M. at Inside Delivery

Delivered To

AST LONGMEADOW, MA US

eceived By:
RROYO
roof of Delivery

Label Created
United States
09/25/2024, 3:21 P.M.

We Have Your Package
Williamsport, PA, United States
09/25/2024, 5:33 P.M.

On the Way
Windsor Locks, CT, United States
09/26/2024, 7:59 A.M.

Out for Delivery
Windsor Locks, CT, United States
09/26/2024, 9:13 A.M.

Delivered
EAST LONGMEADOW, MA, US
09/26/2024, 9:38 A.M.

View All Shipping Details

Get Answers Fast

Select "View All Shipping Details" to see the progress of your package. If you need help, use the Virtual Assistant.

Get Updates

File a Claim

Track Another Package

Log In Back-Sheet

Login Sample Receipt Checklist – Rejection Criteria Listing – Using Acceptance Policy. Any False statement will be brought to the attention of the Client – True or False

Client: PA DEP

Project: N. Center Twp

MCP/RCP Required:

Deliverable Package Requirement:

Location: PA

PWSID# (When Applicable):

Arrival Method:

Courier ☐ Fed Ex ☑ Walk In ☐ Other ☐

Received By / Date / Time: Ryan 9-26-24 @ 13

Back-Sheet By / Date / Time: EJ 9-30-24 @ 9:29

Temperature Method: Gun = 6

WV samples, Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature: 1.8

Rush Samples: Yes (NO) Notify:

Short Hold: Yes (NO) Notify:

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seals: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☐	☑

COC Included (Check all Included)

Client ☑	Analysis ☑	Sampler Name ☑	
Project ☑	IDs ☑	Collection Date/Time ☑	

All Samples Preserved: N/A ☐ ☐

Notes regarding Samples/COC outside of SOP:

Additional Container Notes

*Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250mL																					
Phosphoric																						
HCl																						
Unpreserved	100mL																					
Unpreserved	1 Liter	Plastics																				
Sulfuric																						
Unpreserved	500mL																					
Sulfuric																						
Unpreserved	250mL																					
Trizma			a	1																		
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved		VOA Vials																				
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact		Other / Fill in																				

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October 10, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24I4294

Enclosed are results of analyses for samples as received by the laboratory on September 26, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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

PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/10/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24I4294

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

PROJECT LOCATION: PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-19HR	24I4294-01	Drinking Water		EPA 537.1	
9544-19HR-FRB	24I4294-02	Field Blank		EPA 537.1	

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CASE NARRATIVE SUMMARY

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

EPA 537.1

Qualifications:

PF-15

Surrogate recovery is outside of control limits. Unable to re-extract sample due to insufficient sample volume.

Analyte & Samples(s) Qualified:

M3HFPO-DA
24I4294-02[9544-19HR-FRB]

S-26

Surrogate outside of control limits.

Analyte & Samples(s) Qualified:

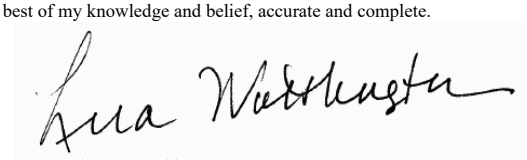
13C-PFDA
B387863-BLK1, B387863-BS1, B387863-BSD1

13C-PFHxA
B387863-BLK1, B387863-BS1, B387863-BSD1

D5-NEtFOSAA
B387863-BLK1, B387863-BS1, B387863-BSD1

M3HFPO-DA
B387863-BLK1, B387863-BS1, B387863-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

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

Project Location: PA | Sample Description: | Work Order: 24I4294

Date Received: 9/26/2024

Field Sample #: 9544-19HR | Sampled: 9/25/2024 10:00

Sample ID: 24I4294-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
Perfluorooctanesulfonic acid (PFOS)	5.3	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/9/24 23:54	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	94.4	70-130		10/9/24 23:54
M3HFPO-DA	87.3	70-130		10/9/24 23:54
13C-PFDA	93.4	70-130		10/9/24 23:54
D5-NEtFOSAA	98.7	70-130		10/9/24 23:54

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Project Location: PA | Sample Description: | Work Order: 24I4294

Date Received: 9/26/2024

Field Sample #: 9544-19HR-FRB | Sampled: 9/25/2024 10:01

Sample ID: 24I4294-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
Perfluorohexanoic acid (PFHxA)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
Perfluoroheptanoic acid (PFHpA)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
Perfluorooctanoic acid (PFOA)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
Perfluorononanoic acid (PFNA)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
Perfluorodecanoic acid (PFDA)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
N-EtFOSAA (NEtFOSAA)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
Perfluoroundecanoic acid (PFUnA)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
N-MeFOSAA (NMeFOSAA)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
Perfluorododecanoic acid (PFDoA)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
Perfluorotetradecanoic acid (PFTA)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
11Cl-PF3OUdS (F53B Major)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
9Cl-PF3ONS (F53B Minor)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	2.0		ng/L	1		EPA 537.1	10/2/24	10/3/24 19:33	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C-PFHxA	71.7		70-130		10/3/24 19:33
M3HFPO-DA	**69.4**	*	70-130	PF-15	10/3/24 19:33
13C-PFDA	74.3		70-130		10/3/24 19:33
D5-NEtFOSAA	79.0		70-130		10/3/24 19:33

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4294-02 [9544-19HR-FRB]	B387863	248	1.00	10/02/24

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4294-01RE1 [9544-19HR]	B388477	261	1.00	10/08/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B387863 - EPA 537.1												
Blank (B387863-BLK1)					Prepared: 10/02/24 Analyzed: 10/03/24							
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L								
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L								
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L								
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L								
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L								
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L								
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L								
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L								
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L								
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L								
Surrogate: 13C-PFHxA	*20.6*			ng/L	37.36		**55.0**	*	70-130			S-26
Surrogate: M3HFPO-DA	*19.5*			ng/L	37.36		**52.3**	*	70-130			S-26
Surrogate: 13C-PFDA	*21.9*			ng/L	37.36		**58.5**	*	70-130			S-26
Surrogate: D5-NEtFOSAA	*92.6*			ng/L	149.4		**62.0**	*	70-130			S-26
LCS (B387863-BS1)					Prepared: 10/02/24 Analyzed: 10/03/24							
Perfluorobutanesulfonic acid (PFBS)	2.01	1.9		ng/L	1.645		122		50-150			
Perfluorohexanoic acid (PFHxA)	2.39	1.9		ng/L	1.855		129		50-150			
Perfluorohexanesulfonic acid (PFHxS)	2.44	1.9		ng/L	1.695		144		50-150			
Perfluoroheptanoic acid (PFHpA)	2.33	1.9		ng/L	1.855		126		50-150			
Perfluorooctanoic acid (PFOA)	2.27	1.9		ng/L	1.855		123		50-150			
Perfluorooctanesulfonic acid (PFOS)	2.39	1.9		ng/L	1.721		139		50-150			
Perfluorononanoic acid (PFNA)	2.61	1.9		ng/L	1.855		141		50-150			
Perfluorodecanoic acid (PFDA)	2.40	1.9		ng/L	1.855		130		50-150			
N-EtFOSAA (NEtFOSAA)	2.31	1.9		ng/L	1.855		125		50-150			
Perfluoroundecanoic acid (PFUnA)	2.49	1.9		ng/L	1.855		134		50-150			
N-MeFOSAA (NMeFOSAA)	2.33	1.9		ng/L	1.855		126		50-150			
Perfluorododecanoic acid (PFDoA)	2.28	1.9		ng/L	1.855		123		50-150			
Perfluorotridecanoic acid (PFTrDA)	2.43	1.9		ng/L	1.855		131		50-150			
Perfluorotetradecanoic acid (PFTA)	2.63	1.9		ng/L	1.855		142		50-150			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.56	1.9		ng/L	1.855		138		50-150			
11Cl-PF3OUdS (F53B Major)	2.20	1.9		ng/L	1.749		126		50-150			
9Cl-PF3ONS (F53B Minor)	2.55	1.9		ng/L	1.730		147		50-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.21	1.9		ng/L	1.753		126		50-150			
Surrogate: 13C-PFHxA	*24.4*			ng/L	37.09		**65.7**	*	70-130			S-26
Surrogate: M3HFPO-DA	*24.4*			ng/L	37.09		**65.9**	*	70-130			S-26
Surrogate: 13C-PFDA	*25.4*			ng/L	37.09		**68.4**	*	70-130			S-26
Surrogate: D5-NEtFOSAA	*103*			ng/L	148.4		**69.5**	*	70-130			S-26

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B387863 - EPA 537.1												
LCS Dup (B387863-BSD1)					Prepared: 10/02/24 Analyzed: 10/03/24							
Perfluorobutanesulfonic acid (PFBS)	1.44	1.8		ng/L	1.601		89.9		50-150	33.0	50	
Perfluorohexanoic acid (PFHxA)	1.93	1.8		ng/L	1.805		107		50-150	21.5	50	
Perfluorohexanesulfonic acid (PFHxS)	1.70	1.8		ng/L	1.650		103		50-150	35.8	50	
Perfluoroheptanoic acid (PFHpA)	2.02	1.8		ng/L	1.805		112		50-150	14.4	50	
Perfluorooctanoic acid (PFOA)	1.89	1.8		ng/L	1.805		105		50-150	18.3	50	
Perfluorooctanesulfonic acid (PFOS)	1.97	1.8		ng/L	1.675		118		50-150	19.5	50	
Perfluorononanoic acid (PFNA)	1.93	1.8		ng/L	1.805		107		50-150	30.1	50	
Perfluorodecanoic acid (PFDA)	2.10	1.8		ng/L	1.805		116		50-150	13.4	50	
N-EtFOSAA (NEtFOSAA)	2.08	1.8		ng/L	1.805		115		50-150	10.5	50	
Perfluoroundecanoic acid (PFUnA)	2.03	1.8		ng/L	1.805		112		50-150	20.5	50	
N-MeFOSAA (NMeFOSAA)	1.92	1.8		ng/L	1.805		107		50-150	19.1	50	
Perfluorododecanoic acid (PFDoA)	1.97	1.8		ng/L	1.805		109		50-150	14.6	50	
Perfluorotridecanoic acid (PFTrDA)	2.12	1.8		ng/L	1.805		118		50-150	13.3	50	
Perfluorotetradecanoic acid (PFTA)	2.29	1.8		ng/L	1.805		127		50-150	13.7	50	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.85	1.8		ng/L	1.805		102		50-150	32.1	50	
11Cl-PF3OUdS (F53B Major)	1.70	1.8		ng/L	1.702		99.9		50-150	25.6	50	
9Cl-PF3ONS (F53B Minor)	1.93	1.8		ng/L	1.684		114		50-150	27.7	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.87	1.8		ng/L	1.706		110		50-150	17.0	50	
Surrogate: 13C-PFHxA	*19.7*			ng/L	36.10		**54.6**	*	70-130			S-26
Surrogate: M3HFPO-DA	*18.7*			ng/L	36.10		**51.7**	*	70-130			S-26
Surrogate: 13C-PFDA	*22.4*			ng/L	36.10		**62.0**	*	70-130			S-26
Surrogate: D5-NEtFOSAA	*91.8*			ng/L	144.4		**63.6**	*	70-130			S-26
Batch B388477 - EPA 537.1												
Blank (B388477-BLK1)					Prepared: 10/08/24 Analyzed: 10/09/24							
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L								
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L								
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L								
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L								
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L								
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L								
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L								
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L								
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L								
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L								
Surrogate: 13C-PFHxA	*35.2*			ng/L	37.81		93.0		70-130			
Surrogate: M3HFPO-DA	*34.1*			ng/L	37.81		90.3		70-130			
Surrogate: 13C-PFDA	*35.9*			ng/L	37.81		94.9		70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.3		94.9		70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B388477 - EPA 537.1											
LCS (B388477-BS1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.11	1.9		ng/L	1.682		65.8	50-150			
Perfluorohexanoic acid (PFHxA)	1.45	1.9		ng/L	1.897		76.3	50-150			
Perfluorohexanesulfonic acid (PFHxS)	1.46	1.9		ng/L	1.734		84.1	50-150			
Perfluoroheptanoic acid (PFHpA)	1.51	1.9		ng/L	1.897		79.7	50-150			
Perfluorooctanoic acid (PFOA)	1.41	1.9		ng/L	1.897		74.4	50-150			
Perfluorooctanesulfonic acid (PFOS)	1.37	1.9		ng/L	1.760		78.1	50-150			
Perfluorononanoic acid (PFNA)	1.27	1.9		ng/L	1.897		67.2	50-150			
Perfluorodecanoic acid (PFDA)	1.43	1.9		ng/L	1.897		75.4	50-150			
N-EtFOSAA (NEtFOSAA)	1.38	1.9		ng/L	1.897		72.9	50-150			
Perfluoroundecanoic acid (PFUnA)	1.36	1.9		ng/L	1.897		71.5	50-150			
N-MeFOSAA (NMeFOSAA)	1.24	1.9		ng/L	1.897		65.1	50-150			
Perfluorododecanoic acid (PFDoA)	1.41	1.9		ng/L	1.897		74.3	50-150			
Perfluorotridecanoic acid (PFTrDA)	1.34	1.9		ng/L	1.897		70.5	50-150			
Perfluorotetradecanoic acid (PFTA)	1.41	1.9		ng/L	1.897		74.6	50-150			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.53	1.9		ng/L	1.897		80.8	50-150			
11Cl-PF3OUdS (F53B Major)	1.34	1.9		ng/L	1.789		74.9	50-150			
9Cl-PF3ONS (F53B Minor)	1.33	1.9		ng/L	1.770		75.4	50-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.30	1.9		ng/L	1.792		72.3	50-150			
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.94		91.0	70-130			
Surrogate: M3HFPO-DA	*33.7*			ng/L	37.94		88.8	70-130			
Surrogate: 13C-PFDA	*35.2*			ng/L	37.94		92.9	70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.7		94.8	70-130			
LCS Dup (B388477-BSD1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.27	1.9		ng/L	1.679		75.7	50-150	13.8	50	
Perfluorohexanoic acid (PFHxA)	1.55	1.9		ng/L	1.893		82.1	50-150	7.08	50	
Perfluorohexanesulfonic acid (PFHxS)	1.50	1.9		ng/L	1.730		86.9	50-150	3.00	50	
Perfluoroheptanoic acid (PFHpA)	1.57	1.9		ng/L	1.893		82.9	50-150	3.70	50	
Perfluorooctanoic acid (PFOA)	1.47	1.9		ng/L	1.893		77.4	50-150	3.73	50	
Perfluorooctanesulfonic acid (PFOS)	1.59	1.9		ng/L	1.757		90.3	50-150	14.3	50	
Perfluorononanoic acid (PFNA)	1.36	1.9		ng/L	1.893		71.8	50-150	6.51	50	
Perfluorodecanoic acid (PFDA)	1.55	1.9		ng/L	1.893		81.8	50-150	7.88	50	
N-EtFOSAA (NEtFOSAA)	1.45	1.9		ng/L	1.893		76.5	50-150	4.54	50	
Perfluoroundecanoic acid (PFUnA)	1.39	1.9		ng/L	1.893		73.3	50-150	2.19	50	
N-MeFOSAA (NMeFOSAA)	1.21	1.9		ng/L	1.893		63.7	50-150	2.42	50	
Perfluorododecanoic acid (PFDoA)	1.24	1.9		ng/L	1.893		65.4	50-150	12.9	50	
Perfluorotridecanoic acid (PFTrDA)	1.41	1.9		ng/L	1.893		74.4	50-150	5.25	50	
Perfluorotetradecanoic acid (PFTA)	1.46	1.9		ng/L	1.893		77.3	50-150	3.36	50	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.48	1.9		ng/L	1.893		78.2	50-150	3.48	50	
11Cl-PF3OUdS (F53B Major)	1.42	1.9		ng/L	1.785		79.5	50-150	5.77	50	
9Cl-PF3ONS (F53B Minor)	1.32	1.9		ng/L	1.766		74.8	50-150	1.07	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.42	1.9		ng/L	1.789		79.3	50-150	9.15	50	
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.86		91.1	70-130			
Surrogate: M3HFPO-DA	*33.5*			ng/L	37.86		88.4	70-130			
Surrogate: 13C-PFDA	*34.3*			ng/L	37.86		90.7	70-130			
Surrogate: D5-NEtFOSAA	*138*			ng/L	151.4		90.9	70-130			

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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
DL	Method Detection Limit
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.
PF-15	Surrogate recovery is outside of control limits. Unable to re-extract sample due to insufficient sample volume.
S-26	Surrogate outside of control limits.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

24I4294 KGM

Scan QR Code for instructions

Company Name: PA DEP	Contact/Report To: John Ciccone
Street Address: 208 W. 3rd St, Suite 101 Williamsport, PA 17701	Phone #: 570.205.2672
	E-Mail: jciccone@pa.gov
	Cc E-Mail:
Customer Project #:	Invoice to:
Project Name: N. Centre Twp PFAS	Invoice E-mail:
Site Collection Info/Facility ID (as applicable):	Purchase Order # (if applicable):
	Quote #:
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [✓] ET	County / State origin of sample(s):
Data Deliverables: Standard [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other	Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No
	Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other ____ Date Results Requested:
	DW PWSID # or WW Permit # as applicable: Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

Specify Container Size **: 3

Identify Container Preservative Type***: 11

Analysis Requested: EPA 537.1, PFAS

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: / AcctNum / Client ID: / Table #: / Profile / Template: / Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample.

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	Analysis Requested	Sample Comment
9544-19HR	DW	G			9/25/24	1000	2			X	
9544-19HR-FRB	OT	G			9/25/24	1001	2			X	

Additional Instructions from Pace® :

Collected By: Printed Name: John Ciccone Signature:

Customer Remarks / Special Conditions / Possible Hazards: Potential for total PFAS conc. > 1000 ppt.

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C): [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
John Ciccone	9/25/24 1530	1.8	9/26/24 13:22	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Log In Back-Sheet

Login Sample Receipt Checklist – Reject or Obtain Justification Using Acceptance Policy. Any False statement will be brought to the attention of the Client – True or False

Client: PA DEP

Project: N. Center Twp

MCP/RCP Required: N/A

Deliverable Package Requirement: N/A

Location: PA

PWSID# (When Applicable): N/A

Arrival Method:

Courier ☐ Fed Ex ☑ Walk In ☐ Other ☐

Received By / Date / Time: Ryan 9-26-24 @ AT 0938

Back-Sheet By / Date / Time: EL 9-30-24 @ 9:29

Temperature Method: Gun = 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp X < 6° C Actual Temperature: 1.8

Rush Samples: Yes (NO) Notify:

Short Hold: Yes (NO) Notify:

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☐	☑

COC Included: (Checked / Included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Notes regarding Samples/COC outside of SOP:

Additional Container Notes

*Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250mL																					
Phosphoric																						
HCl																						
Unpreserved	100mL																					
Unpreserved	1 Liter	Plastics																				
Sulfuric																						
Unpreserved	500mL																					
Sulfuric																						
Unpreserved	250mL																					
Trizma			2	1																		
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved		VOA Vials																				
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact		Other / Fill in																				

Your shipment
1Z6610830197454906

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Label Created
United States
09/25/2024, 3:21 P.M.

We Have Your Package
Williamsport, PA, United States
09/25/2024, 5:33 P.M.

On the Way
Windsor Locks, CT, United States
09/26/2024, 7:59 A.M.

Out for Delivery
Windsor Locks, CT, United States
09/26/2024, 9:13 A.M.

Delivered
EAST LONGMEADOW, MA, US
09/26/2024, 9:38 A.M.

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

October 10, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24I4296

Enclosed are results of analyses for samples as received by the laboratory on September 26, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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

PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/10/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24I4296

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

PROJECT LOCATION: PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-86MHR	24I4296-01	Drinking Water		EPA 537.1	
9544-86MHR-FRB	24I4296-02	Field Blank		EPA 537.1	

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CASE NARRATIVE SUMMARY

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

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

EPA 537.1

Qualifications:

L-01

Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:

N-EtFOSAA (NEtFOSAA)
B387994-BS1

L-02

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

Analyte & Samples(s) Qualified:

11Cl-PF3OUdS (F53B Major)
B387994-BS1, B387994-BSD1

4,8-Dioxa-3H-perfluorononanoic a
B387994-BS1, B387994-BSD1

9Cl-PF3ONS (F53B Minor)
B387994-BS1, B387994-BSD1

N-MeFOSAA (NMeFOSAA)
B387994-BS1, B387994-BSD1

Perfluorododecanoic acid (PFDoA)
B387994-BS1, B387994-BSD1

Perfluorotetradecanoic acid (PFTA
B387994-BS1, B387994-BSD1

Perfluorotridecanoic acid (PFTrDA
B387994-BS1, B387994-BSD1

Perfluoroundecanoic acid (PFUnA)
B387994-BS1, B387994-BSD1

L-06

Laboratory fortified blank/laboratory control sample recovery and/or duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Perfluorobutanesulfonic acid (PFB
B387994-BS1

Perfluorodecanoic acid (PFDA)
B387994-BS1, B387994-BSD1

Perfluoroheptanoic acid (PFHpA)
B387994-BS1, B387994-BSD1

Perfluorohexanesulfonic acid (PFH
B387994-BS1

Perfluorohexanoic acid (PFHxA)
B387994-BS1, B387994-BSD1

Perfluorononanoic acid (PFNA)
B387994-BS1, B387994-BSD1

Perfluorooctanesulfonic acid (PFO
B387994-BS1, B387994-BSD1

Perfluorooctanoic acid (PFOA)
B387994-BS1, B387994-BSD1

PF-15

Surrogate recovery is outside of control limits. Unable to re-extract sample due to insufficient sample volume.

Analyte & Samples(s) Qualified:

13C-PFDA
24I4296-02[9544-86MHR-FRB]

D5-NEtFOSAA
24I4296-02[9544-86MHR-FRB]

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S-13

Surrogate recovery is outside of control limits on both columns.
Data validation is not affected since all results are "not detected" and bias is on the high side.

Analyte & Samples(s) Qualified:

13C-PFDA
B387994-BLK1

13C-PFHxA
B387994-BLK1

D5-NEtFOSAA
B387994-BLK1

S-23

Surrogate recovery outside of control limits in BS/MS spiked sample, all reported analytes are within control criteria.

Analyte & Samples(s) Qualified:

13C-PFDA
B387994-BS1, B387994-BSD1

13C-PFHxA
B387994-BS1, B387994-BSD1

D5-NEtFOSAA
B387994-BS1

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

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

Project Location: PA | Sample Description: | Work Order: 24I4296

Date Received: 9/26/2024

Field Sample #: 9544-86MHR | Sampled: 9/25/2024 13:13

Sample ID: 24I4296-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	11	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
Perfluorohexanoic acid (PFHxA)	14	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
Perfluorohexanesulfonic acid (PFHxS)	46	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
Perfluoroheptanoic acid (PFHpA)	16	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
Perfluorooctanoic acid (PFOA)	100	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
Perfluorooctanesulfonic acid (PFOS)	330	18		ng/L	10	D	EPA 537.1	10/8/24	10/10/24 10:07	AMS
Perfluorononanoic acid (PFNA)	5.6	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:01	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	100	70-130		10/10/24 0:01
13C-PFHxA	78.0	70-130		10/10/24 10:07
M3HFPO-DA	95.8	70-130		10/10/24 0:01
M3HFPO-DA	80.1	70-130		10/10/24 10:07
13C-PFDA	98.3	70-130		10/10/24 0:01
13C-PFDA	87.7	70-130		10/10/24 10:07
D5-NEtFOSAA	98.2	70-130		10/10/24 0:01
D5-NEtFOSAA	94.6	70-130		10/10/24 10:07

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Project Location: PA | Sample Description: | Work Order: 24I4296

Date Received: 9/26/2024

Field Sample #: 9544-86MHR-FRB | Sampled: 9/25/2024 13:14

Sample ID: 24I4296-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
Perfluorooctanoic acid (PFOA)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:37	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C-PFHxA	128		70-130		10/4/24 16:37
M3HFPO-DA	112		70-130		10/4/24 16:37
13C-PFDA	**133**	*	70-130	PF-15	10/4/24 16:37
D5-NEtFOSAA	**133**	*	70-130	PF-15	10/4/24 16:37

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4296-02 [9544-86MHR-FRB]	B387994	270	1.00	10/03/24

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4296-01RE1 [9544-86MHR]	B388477	275	1.00	10/08/24
24I4296-01RE2 [9544-86MHR]	B388477	275	1.00	10/08/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B387994 - EPA 537.1												
Blank (B387994-BLK1)					Prepared: 10/03/24 Analyzed: 10/04/24							
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L								
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L								
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L								
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L								
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L								
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L								
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L								
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L								
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L								
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L								
Surrogate: 13C-PFHxA	*50.1*			ng/L	37.77		**133**	*	70-130			S-13
Surrogate: M3HFPO-DA	*44.7*			ng/L	37.77		118		70-130			
Surrogate: 13C-PFDA	*53.2*			ng/L	37.77		**141**	*	70-130			S-13
Surrogate: D5-NEtFOSAA	*205*			ng/L	151.1		**136**	*	70-130			S-13
LCS (B387994-BS1)					Prepared: 10/03/24 Analyzed: 10/04/24							
Perfluorobutanesulfonic acid (PFBS)	2.45	1.8		ng/L	1.604		**153**	*	50-150			L-06
Perfluorohexanoic acid (PFHxA)	3.12	1.8		ng/L	1.808		**173**	*	50-150			L-06
Perfluorohexanesulfonic acid (PFHxS)	2.53	1.8		ng/L	1.653		**153**	*	50-150			L-06
Perfluoroheptanoic acid (PFHpA)	2.95	1.8		ng/L	1.808		**163**	*	50-150			L-06
Perfluorooctanoic acid (PFOA)	3.31	1.8		ng/L	1.808		**183**	*	50-150			L-06
Perfluorooctanesulfonic acid (PFOS)	2.90	1.8		ng/L	1.678		**173**	*	50-150			L-06
Perfluorononanoic acid (PFNA)	3.78	1.8		ng/L	1.808		**209**	*	50-150			L-06
Perfluorodecanoic acid (PFDA)	3.09	1.8		ng/L	1.808		**171**	*	50-150			L-06
N-EtFOSAA (NEtFOSAA)	2.82	1.8		ng/L	1.808		**156**	*	50-150			L-01
Perfluoroundecanoic acid (PFUnA)	3.14	1.8		ng/L	1.808		**174**	*	50-150			L-02
N-MeFOSAA (NMeFOSAA)	2.98	1.8		ng/L	1.808		**165**	*	50-150			L-02
Perfluorododecanoic acid (PFDoA)	3.29	1.8		ng/L	1.808		**182**	*	50-150			L-02
Perfluorotridecanoic acid (PFTrDA)	3.35	1.8		ng/L	1.808		**185**	*	50-150			L-02
Perfluorotetradecanoic acid (PFTA)	3.56	1.8		ng/L	1.808		**197**	*	50-150			L-02
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.70	1.8		ng/L	1.808		149		50-150			
11Cl-PF3OUdS (F53B Major)	2.79	1.8		ng/L	1.705		**164**	*	50-150			L-02
9Cl-PF3ONS (F53B Minor)	2.79	1.8		ng/L	1.687		**165**	*	50-150			L-02
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.80	1.8		ng/L	1.709		**164**	*	50-150			L-02
Surrogate: 13C-PFHxA	*50.0*			ng/L	36.16		**138**	*	70-130			S-23
Surrogate: M3HFPO-DA	*44.9*			ng/L	36.16		124		70-130			
Surrogate: 13C-PFDA	*51.3*			ng/L	36.16		**142**	*	70-130			S-23
Surrogate: D5-NEtFOSAA	*190*			ng/L	144.7		**131**	*	70-130			S-23

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B387994 - EPA 537.1												
LCS Dup (B387994-BSD1)					Prepared: 10/03/24 Analyzed: 10/04/24							
Perfluorobutanesulfonic acid (PFBS)	2.48	1.9		ng/L	1.682		147		50-150	1.15	50	
Perfluorohexanoic acid (PFHxA)	3.17	1.9		ng/L	1.897		**167**	*	50-150	1.70	50	L-06
Perfluorohexanesulfonic acid (PFHxS)	2.52	1.9		ng/L	1.734		145		50-150	0.530	50	
Perfluoroheptanoic acid (PFHpA)	3.06	1.9		ng/L	1.897		**161**	*	50-150	3.64	50	L-06
Perfluorooctanoic acid (PFOA)	3.17	1.9		ng/L	1.897		**167**	*	50-150	4.41	50	L-06
Perfluorooctanesulfonic acid (PFOS)	3.03	1.9		ng/L	1.760		**172**	*	50-150	4.45	50	L-06
Perfluorononanoic acid (PFNA)	3.87	1.9		ng/L	1.897		**204**	*	50-150	2.36	50	L-06
Perfluorodecanoic acid (PFDA)	3.46	1.9		ng/L	1.897		**182**	*	50-150	11.4	50	L-06
N-EtFOSAA (NEtFOSAA)	2.63	1.9		ng/L	1.897		139		50-150	7.08	50	
Perfluoroundecanoic acid (PFUnA)	3.14	1.9		ng/L	1.897		**166**	*	50-150	0.0149	50	L-02
N-MeFOSAA (NMeFOSAA)	3.02	1.9		ng/L	1.897		**159**	*	50-150	1.07	50	L-02
Perfluorododecanoic acid (PFDoA)	3.20	1.9		ng/L	1.897		**169**	*	50-150	2.99	50	L-02
Perfluorotridecanoic acid (PFTrDA)	3.13	1.9		ng/L	1.897		**165**	*	50-150	6.95	50	L-02
Perfluorotetradecanoic acid (PFTA)	3.48	1.9		ng/L	1.897		**184**	*	50-150	2.29	50	L-02
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.76	1.9		ng/L	1.897		146		50-150	2.31	50	
11Cl-PF3OUdS (F53B Major)	2.70	1.9		ng/L	1.789		**151**	*	50-150	3.61	50	L-02
9Cl-PF3ONS (F53B Minor)	2.92	1.9		ng/L	1.770		**165**	*	50-150	4.69	50	L-02
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.88	1.9		ng/L	1.792		**160**	*	50-150	2.58	50	L-02
Surrogate: 13C-PFHxA	*50.9*			ng/L	37.93		**134**	*	70-130			S-23
Surrogate: M3HFPO-DA	*45.5*			ng/L	37.93		120		70-130			
Surrogate: 13C-PFDA	*53.3*			ng/L	37.93		**140**	*	70-130			S-23
Surrogate: D5-NEtFOSAA	*197*			ng/L	151.7		130		70-130			
Batch B388477 - EPA 537.1												
Blank (B388477-BLK1)					Prepared: 10/08/24 Analyzed: 10/09/24							
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L								
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L								
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L								
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L								
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L								
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L								
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L								
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L								
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L								
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L								
Surrogate: 13C-PFHxA	*35.2*			ng/L	37.81		93.0		70-130			
Surrogate: M3HFPO-DA	*34.1*			ng/L	37.81		90.3		70-130			
Surrogate: 13C-PFDA	*35.9*			ng/L	37.81		94.9		70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.3		94.9		70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B388477 - EPA 537.1											
LCS (B388477-BS1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.11	1.9		ng/L	1.682		65.8	50-150			
Perfluorohexanoic acid (PFHxA)	1.45	1.9		ng/L	1.897		76.3	50-150			
Perfluorohexanesulfonic acid (PFHxS)	1.46	1.9		ng/L	1.734		84.1	50-150			
Perfluoroheptanoic acid (PFHpA)	1.51	1.9		ng/L	1.897		79.7	50-150			
Perfluorooctanoic acid (PFOA)	1.41	1.9		ng/L	1.897		74.4	50-150			
Perfluorooctanesulfonic acid (PFOS)	1.37	1.9		ng/L	1.760		78.1	50-150			
Perfluorononanoic acid (PFNA)	1.27	1.9		ng/L	1.897		67.2	50-150			
Perfluorodecanoic acid (PFDA)	1.43	1.9		ng/L	1.897		75.4	50-150			
N-EtFOSAA (NEtFOSAA)	1.38	1.9		ng/L	1.897		72.9	50-150			
Perfluoroundecanoic acid (PFUnA)	1.36	1.9		ng/L	1.897		71.5	50-150			
N-MeFOSAA (NMeFOSAA)	1.24	1.9		ng/L	1.897		65.1	50-150			
Perfluorododecanoic acid (PFDoA)	1.41	1.9		ng/L	1.897		74.3	50-150			
Perfluorotridecanoic acid (PFTrDA)	1.34	1.9		ng/L	1.897		70.5	50-150			
Perfluorotetradecanoic acid (PFTA)	1.41	1.9		ng/L	1.897		74.6	50-150			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.53	1.9		ng/L	1.897		80.8	50-150			
11Cl-PF3OUdS (F53B Major)	1.34	1.9		ng/L	1.789		74.9	50-150			
9Cl-PF3ONS (F53B Minor)	1.33	1.9		ng/L	1.770		75.4	50-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.30	1.9		ng/L	1.792		72.3	50-150			
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.94		91.0	70-130			
Surrogate: M3HFPO-DA	*33.7*			ng/L	37.94		88.8	70-130			
Surrogate: 13C-PFDA	*35.2*			ng/L	37.94		92.9	70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.7		94.8	70-130			
LCS Dup (B388477-BSD1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.27	1.9		ng/L	1.679		75.7	50-150	13.8	50	
Perfluorohexanoic acid (PFHxA)	1.55	1.9		ng/L	1.893		82.1	50-150	7.08	50	
Perfluorohexanesulfonic acid (PFHxS)	1.50	1.9		ng/L	1.730		86.9	50-150	3.00	50	
Perfluoroheptanoic acid (PFHpA)	1.57	1.9		ng/L	1.893		82.9	50-150	3.70	50	
Perfluorooctanoic acid (PFOA)	1.47	1.9		ng/L	1.893		77.4	50-150	3.73	50	
Perfluorooctanesulfonic acid (PFOS)	1.59	1.9		ng/L	1.757		90.3	50-150	14.3	50	
Perfluorononanoic acid (PFNA)	1.36	1.9		ng/L	1.893		71.8	50-150	6.51	50	
Perfluorodecanoic acid (PFDA)	1.55	1.9		ng/L	1.893		81.8	50-150	7.88	50	
N-EtFOSAA (NEtFOSAA)	1.45	1.9		ng/L	1.893		76.5	50-150	4.54	50	
Perfluoroundecanoic acid (PFUnA)	1.39	1.9		ng/L	1.893		73.3	50-150	2.19	50	
N-MeFOSAA (NMeFOSAA)	1.21	1.9		ng/L	1.893		63.7	50-150	2.42	50	
Perfluorododecanoic acid (PFDoA)	1.24	1.9		ng/L	1.893		65.4	50-150	12.9	50	
Perfluorotridecanoic acid (PFTrDA)	1.41	1.9		ng/L	1.893		74.4	50-150	5.25	50	
Perfluorotetradecanoic acid (PFTA)	1.46	1.9		ng/L	1.893		77.3	50-150	3.36	50	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.48	1.9		ng/L	1.893		78.2	50-150	3.48	50	
11Cl-PF3OUdS (F53B Major)	1.42	1.9		ng/L	1.785		79.5	50-150	5.77	50	
9Cl-PF3ONS (F53B Minor)	1.32	1.9		ng/L	1.766		74.8	50-150	1.07	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.42	1.9		ng/L	1.789		79.3	50-150	9.15	50	
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.86		91.1	70-130			
Surrogate: M3HFPO-DA	*33.5*			ng/L	37.86		88.4	70-130			
Surrogate: 13C-PFDA	*34.3*			ng/L	37.86		90.7	70-130			
Surrogate: D5-NEtFOSAA	*138*			ng/L	151.4		90.9	70-130			

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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
DL	Method Detection Limit
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.
D	Sample analyzed at a dilution.
L-01	Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
L-02	Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
L-06	Laboratory fortified blank/laboratory control sample recovery and/or duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the high side.
PF-15	Surrogate recovery is outside of control limits. Unable to re-extract sample due to insufficient sample volume.
S-13	Surrogate recovery is outside of control limits on both columns. Data validation is not affected since all results are "not detected" and bias is on the high side.
S-23	Surrogate recovery outside of control limits in BS/MS spiked sample, all reported analytes are within control criteria.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

24I4296 KGM

Scan QR Code for instructions

Company Name: PA DEP	Contact/Report To: John Ciccone
Street Address: 208 W. 3rd St, Suite 101 Williamsport, PA 17701	Phone #: 570.205.2672
	E-Mail: jciccone@pa.gov
	Cc E-Mail:
Customer Project #:	Invoice to:
Project Name: N. Centre Twp PFAS	Invoice E-mail:
Site Collection Info/Facility ID (as applicable):	Purchase Order # (if applicable):
	Quote #:
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [✓] ET	County / State origin of sample(s):
Data Deliverables: Standard [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other	Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No
	Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other _____ Date Results Requested:
	DW PWSID # or WW Permit # as applicable: Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

Specify Container Size **: 3

Identify Container Preservative Type***: 11

Analysis Requested: EPA 537.1, PFAS

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: | AcctNum / Client ID: | Table #: | Profile / Template: | Prelog / Bottle Ord. ID:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	Sample Comment	Preservation non-conformance identified for sample
~~9544_86MHR~~ ~~9544-86MHR~~	DW	G			9/25/24	1313	2			X	
~~9544-86MHR-FAB~~ 9544-86MHR-FRB	OT	G			9/25/24	1314	2			X	

Additional Instructions from Pace®:

Collected By: Printed Name: John Ciccone Signature:

Customer Remarks / Special Conditions / Possible Hazards: Potential for PFAS >1000 ppt

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C): [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of

9/25/24 1530 — 9/26/24 13:22

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Log In Back-Sheet

Login Sample Receipt Checklist – Rejection Criteria Listing – Using Acceptance Policy. Any False statement will be brought to the attention of the Client – True or False

Client: PA DEP

Project: N. Center Twp

MCP/RCP Required: N/A

Deliverable Package Requirement: N/A

Location: PA

PWSID# (When Applicable): N/A

Arrival Method:

Courier ☐ Fed Ex ☑ Walk In ☐ Other ☐

Received By / Date / Time: Ryan 9-26-24 @ 0938

Back-Sheet By / Date / Time: EL 9-30-24 @ 9:29

Temperature Method: Gun = 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature: 1.8

Rush Samples: Yes / (No) Notify:

Short Hold: Yes (No) Notify:

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☐	☑

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Notes regarding Samples/COC outside of SOP:

Additional Container Notes

*Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Your shipment
1Z6610830197454906

Delivered On
Thursday, September 26 at 9:38 A.M. at Inside Delivery

Delivered To

AST LONGMEADOW, MA US

eceived By:
RROYO
roof of Delivery

Label Created
United States
09/25/2024, 3:21 P.M.

We Have Your Package
Williamsport, PA, United States
09/25/2024, 5:33 P.M.

On the Way
Windsor Locks, CT, United States
09/26/2024, 7:59 A.M.

Out for Delivery
Windsor Locks, CT, United States
09/26/2024, 9:13 A.M.

Delivered
EAST LONGMEADOW, MA, US
09/26/2024, 9:38 A.M.

View All Shipping Details

Get Answers Fast

Select "View All Shipping Details" to see the progress of your package. If you need help, use the Virtual Assistant.

Get Updates

File a Claim

Track Another Package

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250mL																				
Phosphoric																						
HCl																						
Unpreserved		100mL																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500mL																				
Sulfuric																						
Unpreserved		250mL																				
Trizma			2	1																		
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

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October 10, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24I4297

Enclosed are results of analyses for samples as received by the laboratory on September 26, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/10/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24I4297

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

PROJECT LOCATION: PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-1147SR	24I4297-01	Drinking Water		EPA 537.1	
9544-1147SR-FRB	24I4297-02	Field Blank		EPA 537.1	

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CASE NARRATIVE SUMMARY

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

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EPA 537.1

Qualifications:

L-01

Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:

N-EtFOSAA (NEtFOSAA)
B387994-BS1

L-02

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

Analyte & Samples(s) Qualified:

11Cl-PF3OUdS (F53B Major)
B387994-BS1, B387994-BSD1

4,8-Dioxa-3H-perfluorononanoic a
B387994-BS1, B387994-BSD1

9Cl-PF3ONS (F53B Minor)
B387994-BS1, B387994-BSD1

N-MeFOSAA (NMeFOSAA)
B387994-BS1, B387994-BSD1

Perfluorododecanoic acid (PFDoA)
B387994-BS1, B387994-BSD1

Perfluorotetradecanoic acid (PFTA
B387994-BS1, B387994-BSD1

Perfluorotridecanoic acid (PFTrDA
B387994-BS1, B387994-BSD1

Perfluoroundecanoic acid (PFUnA)
B387994-BS1, B387994-BSD1

L-06

Laboratory fortified blank/laboratory control sample recovery and/or duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Perfluorobutanesulfonic acid (PFB
B387994-BS1

Perfluorodecanoic acid (PFDA)
B387994-BS1, B387994-BSD1

Perfluoroheptanoic acid (PFHpA)
B387994-BS1, B387994-BSD1

Perfluorohexanesulfonic acid (PFH
B387994-BS1

Perfluorohexanoic acid (PFHxA)
B387994-BS1, B387994-BSD1

Perfluorononanoic acid (PFNA)
B387994-BS1, B387994-BSD1

Perfluorooctanesulfonic acid (PFO
B387994-BS1, B387994-BSD1

Perfluorooctanoic acid (PFOA)
B387994-BS1, B387994-BSD1

PF-15

Surrogate recovery is outside of control limits. Unable to re-extract sample due to insufficient sample volume.

Analyte & Samples(s) Qualified:

13C-PFDA
24I4297-02[9544-1147SR-FRB]

13C-PFHxA
24I4297-02[9544-1147SR-FRB]

D5-NEtFOSAA
24I4297-02[9544-1147SR-FRB]

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S-13

Surrogate recovery is outside of control limits on both columns.
Data validation is not affected since all results are "not detected" and bias is on the high side.

Analyte & Samples(s) Qualified:

13C-PFDA
B387994-BLK1

13C-PFHxA
B387994-BLK1

D5-NEtFOSAA
B387994-BLK1

S-23

Surrogate recovery outside of control limits in BS/MS spiked sample, all reported analytes are within control criteria.

Analyte & Samples(s) Qualified:

13C-PFDA
B387994-BS1, B387994-BSD1

13C-PFHxA
B387994-BS1, B387994-BSD1

D5-NEtFOSAA
B387994-BS1

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

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

Project Location: PA | Sample Description: | Work Order: 24I4297

Date Received: 9/26/2024

Field Sample #: 9544-1147SR | Sampled: 9/25/2024 12:00

Sample ID: 24I4297-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	21	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
Perfluorohexanoic acid (PFHxA)	19	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
Perfluorohexanesulfonic acid (PFHxS)	83	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
Perfluoroheptanoic acid (PFHpA)	23	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
Perfluorooctanoic acid (PFOA)	180	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
Perfluorooctanesulfonic acid (PFOS)	640	19		ng/L	10	D	EPA 537.1	10/8/24	10/10/24 10:14	AMS
Perfluorononanoic acid (PFNA)	6.9	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L	1		EPA 537.1	10/8/24	10/10/24 0:08	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	114	70-130		10/10/24 0:08
13C-PFHxA	85.7	70-130		10/10/24 10:14
M3HFPO-DA	109	70-130		10/10/24 0:08
M3HFPO-DA	85.2	70-130		10/10/24 10:14
13C-PFDA	110	70-130		10/10/24 0:08
13C-PFDA	91.2	70-130		10/10/24 10:14
D5-NEtFOSAA	102	70-130		10/10/24 0:08
D5-NEtFOSAA	97.9	70-130		10/10/24 10:14

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Project Location: PA | Sample Description: | Work Order: 24I4297

Date Received: 9/26/2024

Field Sample #: 9544-1147SR-FRB | Sampled: 9/25/2024 12:01

Sample ID: 24I4297-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L	1		EPA 537.1	10/3/24	10/4/24 16:51	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C-PFHxA	**141**	*	70-130	PF-15	10/4/24 16:51
M3HFPO-DA	124		70-130		10/4/24 16:51
13C-PFDA	**142**	*	70-130	PF-15	10/4/24 16:51
D5-NEtFOSAA	**146**	*	70-130	PF-15	10/4/24 16:51

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4297-02 [9544-1147SR-FRB]	B387994	268	1.00	10/03/24

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24I4297-01RE1 [9544-1147SR]	B388477	265	1.00	10/08/24
24I4297-01RE2 [9544-1147SR]	B388477	265	1.00	10/08/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B387994 - EPA 537.1												
Blank (B387994-BLK1)					Prepared: 10/03/24 Analyzed: 10/04/24							
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L								
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L								
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L								
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L								
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L								
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L								
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L								
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L								
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L								
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L								
Surrogate: 13C-PFHxA	*50.1*			ng/L	37.77		**133**	*	70-130			S-13
Surrogate: M3HFPO-DA	*44.7*			ng/L	37.77		118		70-130			
Surrogate: 13C-PFDA	*53.2*			ng/L	37.77		**141**	*	70-130			S-13
Surrogate: D5-NEtFOSAA	*205*			ng/L	151.1		**136**	*	70-130			S-13
LCS (B387994-BS1)					Prepared: 10/03/24 Analyzed: 10/04/24							
Perfluorobutanesulfonic acid (PFBS)	2.45	1.8		ng/L	1.604		**153**	*	50-150			L-06
Perfluorohexanoic acid (PFHxA)	3.12	1.8		ng/L	1.808		**173**	*	50-150			L-06
Perfluorohexanesulfonic acid (PFHxS)	2.53	1.8		ng/L	1.653		**153**	*	50-150			L-06
Perfluoroheptanoic acid (PFHpA)	2.95	1.8		ng/L	1.808		**163**	*	50-150			L-06
Perfluorooctanoic acid (PFOA)	3.31	1.8		ng/L	1.808		**183**	*	50-150			L-06
Perfluorooctanesulfonic acid (PFOS)	2.90	1.8		ng/L	1.678		**173**	*	50-150			L-06
Perfluorononanoic acid (PFNA)	3.78	1.8		ng/L	1.808		**209**	*	50-150			L-06
Perfluorodecanoic acid (PFDA)	3.09	1.8		ng/L	1.808		**171**	*	50-150			L-06
N-EtFOSAA (NEtFOSAA)	2.82	1.8		ng/L	1.808		**156**	*	50-150			L-01
Perfluoroundecanoic acid (PFUnA)	3.14	1.8		ng/L	1.808		**174**	*	50-150			L-02
N-MeFOSAA (NMeFOSAA)	2.98	1.8		ng/L	1.808		**165**	*	50-150			L-02
Perfluorododecanoic acid (PFDoA)	3.29	1.8		ng/L	1.808		**182**	*	50-150			L-02
Perfluorotridecanoic acid (PFTrDA)	3.35	1.8		ng/L	1.808		**185**	*	50-150			L-02
Perfluorotetradecanoic acid (PFTA)	3.56	1.8		ng/L	1.808		**197**	*	50-150			L-02
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.70	1.8		ng/L	1.808		149		50-150			
11Cl-PF3OUdS (F53B Major)	2.79	1.8		ng/L	1.705		**164**	*	50-150			L-02
9Cl-PF3ONS (F53B Minor)	2.79	1.8		ng/L	1.687		**165**	*	50-150			L-02
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.80	1.8		ng/L	1.709		**164**	*	50-150			L-02
Surrogate: 13C-PFHxA	*50.0*			ng/L	36.16		**138**	*	70-130			S-23
Surrogate: M3HFPO-DA	*44.9*			ng/L	36.16		124		70-130			
Surrogate: 13C-PFDA	*51.3*			ng/L	36.16		**142**	*	70-130			S-23
Surrogate: D5-NEtFOSAA	*190*			ng/L	144.7		**131**	*	70-130			S-23

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B387994 - EPA 537.1												
LCS Dup (B387994-BSD1)					Prepared: 10/03/24 Analyzed: 10/04/24							
Perfluorobutanesulfonic acid (PFBS)	2.48	1.9		ng/L	1.682		147		50-150	1.15	50	
Perfluorohexanoic acid (PFHxA)	3.17	1.9		ng/L	1.897		**167**	*	50-150	1.70	50	L-06
Perfluorohexanesulfonic acid (PFHxS)	2.52	1.9		ng/L	1.734		145		50-150	0.530	50	
Perfluoroheptanoic acid (PFHpA)	3.06	1.9		ng/L	1.897		**161**	*	50-150	3.64	50	L-06
Perfluorooctanoic acid (PFOA)	3.17	1.9		ng/L	1.897		**167**	*	50-150	4.41	50	L-06
Perfluorooctanesulfonic acid (PFOS)	3.03	1.9		ng/L	1.760		**172**	*	50-150	4.45	50	L-06
Perfluorononanoic acid (PFNA)	3.87	1.9		ng/L	1.897		**204**	*	50-150	2.36	50	L-06
Perfluorodecanoic acid (PFDA)	3.46	1.9		ng/L	1.897		**182**	*	50-150	11.4	50	L-06
N-EtFOSAA (NEtFOSAA)	2.63	1.9		ng/L	1.897		139		50-150	7.08	50	
Perfluoroundecanoic acid (PFUnA)	3.14	1.9		ng/L	1.897		**166**	*	50-150	0.0149	50	L-02
N-MeFOSAA (NMeFOSAA)	3.02	1.9		ng/L	1.897		**159**	*	50-150	1.07	50	L-02
Perfluorododecanoic acid (PFDoA)	3.20	1.9		ng/L	1.897		**169**	*	50-150	2.99	50	L-02
Perfluorotridecanoic acid (PFTrDA)	3.13	1.9		ng/L	1.897		**165**	*	50-150	6.95	50	L-02
Perfluorotetradecanoic acid (PFTA)	3.48	1.9		ng/L	1.897		**184**	*	50-150	2.29	50	L-02
Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.76	1.9		ng/L	1.897		146		50-150	2.31	50	
11Cl-PF3OUdS (F53B Major)	2.70	1.9		ng/L	1.789		**151**	*	50-150	3.61	50	L-02
9Cl-PF3ONS (F53B Minor)	2.92	1.9		ng/L	1.770		**165**	*	50-150	4.69	50	L-02
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.88	1.9		ng/L	1.792		**160**	*	50-150	2.58	50	L-02
Surrogate: 13C-PFHxA	*50.9*			ng/L	37.93		**134**	*	70-130			S-23
Surrogate: M3HFPO-DA	*45.5*			ng/L	37.93		120		70-130			
Surrogate: 13C-PFDA	*53.3*			ng/L	37.93		**140**	*	70-130			S-23
Surrogate: D5-NEtFOSAA	*197*			ng/L	151.7		130		70-130			
Batch B388477 - EPA 537.1												
Blank (B388477-BLK1)					Prepared: 10/08/24 Analyzed: 10/09/24							
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L								
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L								
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L								
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L								
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L								
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L								
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L								
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L								
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L								
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L								
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L								
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L								
Surrogate: 13C-PFHxA	*35.2*			ng/L	37.81		93.0		70-130			
Surrogate: M3HFPO-DA	*34.1*			ng/L	37.81		90.3		70-130			
Surrogate: 13C-PFDA	*35.9*			ng/L	37.81		94.9		70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.3		94.9		70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B388477 - EPA 537.1											
LCS (B388477-BS1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.11	1.9		ng/L	1.682		65.8	50-150			
Perfluorohexanoic acid (PFHxA)	1.45	1.9		ng/L	1.897		76.3	50-150			
Perfluorohexanesulfonic acid (PFHxS)	1.46	1.9		ng/L	1.734		84.1	50-150			
Perfluoroheptanoic acid (PFHpA)	1.51	1.9		ng/L	1.897		79.7	50-150			
Perfluorooctanoic acid (PFOA)	1.41	1.9		ng/L	1.897		74.4	50-150			
Perfluorooctanesulfonic acid (PFOS)	1.37	1.9		ng/L	1.760		78.1	50-150			
Perfluorononanoic acid (PFNA)	1.27	1.9		ng/L	1.897		67.2	50-150			
Perfluorodecanoic acid (PFDA)	1.43	1.9		ng/L	1.897		75.4	50-150			
N-EtFOSAA (NEtFOSAA)	1.38	1.9		ng/L	1.897		72.9	50-150			
Perfluoroundecanoic acid (PFUnA)	1.36	1.9		ng/L	1.897		71.5	50-150			
N-MeFOSAA (NMeFOSAA)	1.24	1.9		ng/L	1.897		65.1	50-150			
Perfluorododecanoic acid (PFDoA)	1.41	1.9		ng/L	1.897		74.3	50-150			
Perfluorotridecanoic acid (PFTrDA)	1.34	1.9		ng/L	1.897		70.5	50-150			
Perfluorotetradecanoic acid (PFTA)	1.41	1.9		ng/L	1.897		74.6	50-150			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.53	1.9		ng/L	1.897		80.8	50-150			
11Cl-PF3OUdS (F53B Major)	1.34	1.9		ng/L	1.789		74.9	50-150			
9Cl-PF3ONS (F53B Minor)	1.33	1.9		ng/L	1.770		75.4	50-150			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.30	1.9		ng/L	1.792		72.3	50-150			
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.94		91.0	70-130			
Surrogate: M3HFPO-DA	*33.7*			ng/L	37.94		88.8	70-130			
Surrogate: 13C-PFDA	*35.2*			ng/L	37.94		92.9	70-130			
Surrogate: D5-NEtFOSAA	*144*			ng/L	151.7		94.8	70-130			
LCS Dup (B388477-BSD1)					Prepared: 10/08/24 Analyzed: 10/09/24						
Perfluorobutanesulfonic acid (PFBS)	1.27	1.9		ng/L	1.679		75.7	50-150	13.8	50	
Perfluorohexanoic acid (PFHxA)	1.55	1.9		ng/L	1.893		82.1	50-150	7.08	50	
Perfluorohexanesulfonic acid (PFHxS)	1.50	1.9		ng/L	1.730		86.9	50-150	3.00	50	
Perfluoroheptanoic acid (PFHpA)	1.57	1.9		ng/L	1.893		82.9	50-150	3.70	50	
Perfluorooctanoic acid (PFOA)	1.47	1.9		ng/L	1.893		77.4	50-150	3.73	50	
Perfluorooctanesulfonic acid (PFOS)	1.59	1.9		ng/L	1.757		90.3	50-150	14.3	50	
Perfluorononanoic acid (PFNA)	1.36	1.9		ng/L	1.893		71.8	50-150	6.51	50	
Perfluorodecanoic acid (PFDA)	1.55	1.9		ng/L	1.893		81.8	50-150	7.88	50	
N-EtFOSAA (NEtFOSAA)	1.45	1.9		ng/L	1.893		76.5	50-150	4.54	50	
Perfluoroundecanoic acid (PFUnA)	1.39	1.9		ng/L	1.893		73.3	50-150	2.19	50	
N-MeFOSAA (NMeFOSAA)	1.21	1.9		ng/L	1.893		63.7	50-150	2.42	50	
Perfluorododecanoic acid (PFDoA)	1.24	1.9		ng/L	1.893		65.4	50-150	12.9	50	
Perfluorotridecanoic acid (PFTrDA)	1.41	1.9		ng/L	1.893		74.4	50-150	5.25	50	
Perfluorotetradecanoic acid (PFTA)	1.46	1.9		ng/L	1.893		77.3	50-150	3.36	50	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.48	1.9		ng/L	1.893		78.2	50-150	3.48	50	
11Cl-PF3OUdS (F53B Major)	1.42	1.9		ng/L	1.785		79.5	50-150	5.77	50	
9Cl-PF3ONS (F53B Minor)	1.32	1.9		ng/L	1.766		74.8	50-150	1.07	50	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.42	1.9		ng/L	1.789		79.3	50-150	9.15	50	
Surrogate: 13C-PFHxA	*34.5*			ng/L	37.86		91.1	70-130			
Surrogate: M3HFPO-DA	*33.5*			ng/L	37.86		88.4	70-130			
Surrogate: 13C-PFDA	*34.3*			ng/L	37.86		90.7	70-130			
Surrogate: D5-NEtFOSAA	*138*			ng/L	151.4		90.9	70-130			

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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
DL	Method Detection Limit
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.
D	Sample analyzed at a dilution.
L-01	Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
L-02	Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
L-06	Laboratory fortified blank/laboratory control sample recovery and/or duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the high side.
PF-15	Surrogate recovery is outside of control limits. Unable to re-extract sample due to insufficient sample volume.
S-13	Surrogate recovery is outside of control limits on both columns. Data validation is not affected since all results are "not detected" and bias is on the high side.
S-23	Surrogate recovery outside of control limits in BS/MS spiked sample, all reported analytes are within control criteria.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

24I297KGM

Scan QR Code for instructions

Company Name: PA DEP	Contact/Report To: John Ciccone
Street Address: 208 W. 3rd St, Suite 101 Williamsport, PA 17701	Phone #: 570.205.2672
	E-Mail: jciccone@pa.gov
	Cc E-Mail:
Customer Project #:	Invoice to:
Project Name: N. Centre Twp PFAS	Invoice E-mail:
Site Collection Info/Facility ID (as applicable):	Purchase Order # (if applicable):
	Quote #:
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [✓] ET	County / State origin of sample(s):
Data Deliverables: Standard [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other	Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No
	Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other
	Date Results Requested:
	DW PWSID # or WW Permit # as applicable:
	Field Filtered (if applicable): [ ] Yes [ ] No
	Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	Specify Container Size ** (3)	Identify Container Preservative Type*** (11)	Analysis Requested: EPA 537.1, PFAS	Sample Comment
~~1147~~ 9544-1147SR	DW	G			9/25/24	1200	2					X	
9544-1147SR-FRB	OT	G			9/25/24	1201	2					X	

Lab Use Only: Proj. Mgr: | AcctNum / Client ID: | Table #: | Profile / Template: | Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample:

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Add, (10) MeOH, (11) Other

Additional Instructions from Pace®:

Collected By: Printed Name: John Ciccone Signature: John Ciccone

Customer Remarks / Special Conditions / Possible Hazards: Potential for PFAS >1000 ppt

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C): [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
John Ciccone	9/25/24 1530	1.8	9/26/24 13:32
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: [ ] In-Person [ ] Courier [ ] FedEx [ ] UPS [ ] Other

Page: of

Log In Back-Sheet

Login Sample Receipt Checklist – Rejection Criteria Listing – Using Acceptance Policy/ Any False statement will be brought to the attention of the Client – True or False

Client: PA DEP

Project: N. Center Twp

MCP/RCP Required: N/A

Deliverable Package Requirement: N/A

Location: PA

PWSID# (When Applicable): N/A

Arrival Method:

Courier ☐ Fed Ex ☑ Walk in ☐ Other ☐

Received By / Date / Time: Ryan 9-26-24 @ 0938

Back-Sheet By / Date / Time: EL 9-30-24 @ 9:29

Temperature Method: Gun = 6

WV samples, Yes (see note*) / No (follow normal procedure)

Temp X < 6° C Actual Temperature 1.6

Rush Samples: Yes (No) Notify:

Short Hold: Yes (No) Notify:

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☐	☑

COC Included: (Check all Included)

Client ☑	Analysis ☑	Sampler Name ☑	
Project ☑	IDs ☑	Collection Date/Time ☑	

All Samples Proper pH: (N/A)	☐	☐

Notes regarding Samples/COC outside of SOP:

Additional Container Notes

*Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250mL																				
Phosphoric																						
HCl																						
Unpreserved		100mL																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500mL																				
Sulfuric																						
Unpreserved		250mL																				
Trizma			2	1																		
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other/Fill in																					

Your shipment
1Z6610830197454906

Delivered On
Thursday, September 26 at 9:38 A.M. at Inside Delivery

Delivered To

AST LONGMEADOW, MA US

eceived By:
RROYO
roof of Delivery

Label Created
United States
09/25/2024, 3:21 P.M.

We Have Your Package
Williamsport, PA, United States
09/25/2024, 5:33 P.M.

On the Way
Windsor Locks, CT, United States
09/26/2024, 7:59 A.M.

Out for Delivery
Windsor Locks, CT, United States
09/26/2024, 9:13 A.M.

Delivered
EAST LONGMEADOW, MA, US
09/26/2024, 9:38 A.M.

View All Shipping Details

Get Answers Fast

Select "View All Shipping Details" to see the progress of your package. If you need help, use the Virtual Assistant.

Get Updates

File a Claim

Track Another Package

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October 18, 2024

John Ciccone
PA DEP
208 West 3rd Street
Williamsport, PA 17701

Project Location: PA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 24J1015

Enclosed are results of analyses for samples as received by the laboratory on October 4, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karriem G. Marius
Project Manager

Table of Contents

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PA DEP
208 West 3rd Street
Williamsport, PA 17701
ATTN: John Ciccone

REPORT DATE: 10/18/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24J1015

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

PROJECT LOCATION: PA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
9544-88MHR	24J1015-01	Drinking Water		EPA 537.1	
9544-88MHR-FRB	24J1015-02	Field Blank		EPA 537.1	

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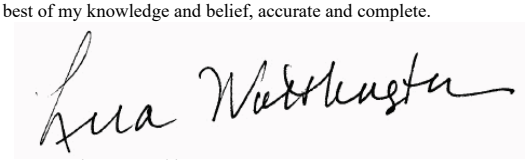
CASE NARRATIVE SUMMARY

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

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

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

Project Location: PA | Sample Description: | Work Order: 24J1015

Date Received: 10/4/2024

Field Sample #: 9544-88MHR | Sampled: 10/3/2024 11:00

Sample ID: 24J1015-01

Sample Matrix: Drinking Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	4.4	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
Perfluorohexanoic acid (PFHxA)	5.2	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
Perfluorohexanesulfonic acid (PFHxS)	14	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
Perfluoroheptanoic acid (PFHpA)	4.8	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
Perfluorooctanoic acid (PFOA)	32	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
Perfluorooctanesulfonic acid (PFOS)	130	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
Perfluorononanoic acid (PFNA)	2.0	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:10	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	104	70-130		10/16/24 15:10
M3HFPO-DA	101	70-130		10/16/24 15:10
13C-PFDA	108	70-130		10/16/24 15:10
D5-NEtFOSAA	102	70-130		10/16/24 15:10

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Project Location: PA | Sample Description: | Work Order: 24J1015

Date Received: 10/4/2024

Field Sample #: 9544-88MHR-FRB | Sampled: 10/3/2024 11:02

Sample ID: 24J1015-02

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	MCL/SMCL MA ORSG	Units	DF	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
Perfluorohexanoic acid (PFHxA)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
Perfluoroheptanoic acid (PFHpA)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
Perfluorooctanoic acid (PFOA)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
Perfluorooctanesulfonic acid (PFOS)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
Perfluorononanoic acid (PFNA)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
Perfluorodecanoic acid (PFDA)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
N-EtFOSAA (NEtFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
Perfluoroundecanoic acid (PFUnA)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
N-MeFOSAA (NMeFOSAA)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
Perfluorododecanoic acid (PFDoA)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
Perfluorotridecanoic acid (PFTrDA)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
Perfluorotetradecanoic acid (PFTA)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
11Cl-PF3OUdS (F53B Major)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
9Cl-PF3ONS (F53B Minor)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9		ng/L	1		EPA 537.1	10/14/24	10/16/24 15:17	CML

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	110	70-130		10/16/24 15:17
M3HFPO-DA	105	70-130		10/16/24 15:17
13C-PFDA	112	70-130		10/16/24 15:17
D5-NEtFOSAA	104	70-130		10/16/24 15:17

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Sample Extraction Data

Prep Method: EPA 537.1-EPA 537.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24J1015-01 [9544-88MHR]	B389500	275	1.00	10/14/24
24J1015-02 [9544-88MHR-FRB]	B389500	265	1.00	10/14/24

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389500 - EPA 537.1											
Blank (B389500-BLK1)					Prepared & Analyzed: 10/16/24						
Perfluorobutanesulfonic acid (PFBS)	ND	1.8		ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8		ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8		ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8		ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8		ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8		ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8		ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8		ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8		ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8		ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8		ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8		ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8		ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8		ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8		ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8		ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8		ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8		ng/L							
Surrogate: 13C-PFHxA	*29.9*			ng/L	35.73		83.6	70-130			
Surrogate: M3HFPO-DA	*29.0*			ng/L	35.73		81.1	70-130			
Surrogate: 13C-PFDA	*34.3*			ng/L	35.73		96.0	70-130			
Surrogate: D5-NEtFOSAA	*131*			ng/L	142.9		91.3	70-130			
LCS (B389500-BS1)					Prepared & Analyzed: 10/16/24						
Perfluorobutanesulfonic acid (PFBS)	16.9	1.9		ng/L	16.48		102	70-130			
Perfluorohexanoic acid (PFHxA)	18.9	1.9		ng/L	18.58		102	70-130			
Perfluorohexanesulfonic acid (PFHxS)	17.3	1.9		ng/L	16.98		102	70-130			
Perfluoroheptanoic acid (PFHpA)	18.7	1.9		ng/L	18.58		101	70-130			
Perfluorooctanoic acid (PFOA)	17.0	1.9		ng/L	18.58		91.7	70-130			
Perfluorooctanesulfonic acid (PFOS)	17.3	1.9		ng/L	17.24		100	70-130			
Perfluorononanoic acid (PFNA)	17.7	1.9		ng/L	18.58		95.3	70-130			
Perfluorodecanoic acid (PFDA)	19.1	1.9		ng/L	18.58		103	70-130			
N-EtFOSAA (NEtFOSAA)	18.0	1.9		ng/L	18.58		97.1	70-130			
Perfluoroundecanoic acid (PFUnA)	17.7	1.9		ng/L	18.58		95.1	70-130			
N-MeFOSAA (NMeFOSAA)	18.2	1.9		ng/L	18.58		98.0	70-130			
Perfluorododecanoic acid (PFDoA)	17.5	1.9		ng/L	18.58		94.2	70-130			
Perfluorotridecanoic acid (PFTrDA)	17.4	1.9		ng/L	18.58		93.5	70-130			
Perfluorotetradecanoic acid (PFTA)	19.3	1.9		ng/L	18.58		104	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	16.1	1.9		ng/L	18.58		86.8	70-130			
11Cl-PF3OUdS (F53B Major)	17.3	1.9		ng/L	17.52		98.7	70-130			
9Cl-PF3ONS (F53B Minor)	17.2	1.9		ng/L	17.34		99.2	70-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	17.3	1.9		ng/L	17.56		98.4	70-130			
Surrogate: 13C-PFHxA	*37.6*			ng/L	37.17		101	70-130			
Surrogate: M3HFPO-DA	*37.8*			ng/L	37.17		102	70-130			
Surrogate: 13C-PFDA	*36.8*			ng/L	37.17		99.1	70-130			
Surrogate: D5-NEtFOSAA	*143*			ng/L	148.7		96.1	70-130			

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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	DL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B389500 - EPA 537.1											
LCS Dup (B389500-BSD1)					Prepared & Analyzed: 10/16/24						
Perfluorobutanesulfonic acid (PFBS)	17.1	1.8		ng/L	16.24		105	70-130	1.02	30	
Perfluorohexanoic acid (PFHxA)	18.4	1.8		ng/L	18.30		100	70-130	2.73	30	
Perfluorohexanesulfonic acid (PFHxS)	17.0	1.8		ng/L	16.73		101	70-130	2.08	30	
Perfluoroheptanoic acid (PFHpA)	17.8	1.8		ng/L	18.30		97.0	70-130	5.34	30	
Perfluorooctanoic acid (PFOA)	17.5	1.8		ng/L	18.30		95.5	70-130	2.54	30	
Perfluorooctanesulfonic acid (PFOS)	16.9	1.8		ng/L	16.99		99.8	70-130	1.84	30	
Perfluorononanoic acid (PFNA)	17.7	1.8		ng/L	18.30		96.9	70-130	0.150	30	
Perfluorodecanoic acid (PFDA)	18.8	1.8		ng/L	18.30		103	70-130	1.33	30	
N-EtFOSAA (NEtFOSAA)	17.8	1.8		ng/L	18.30		97.5	70-130	1.08	30	
Perfluoroundecanoic acid (PFUnA)	17.6	1.8		ng/L	18.30		96.0	70-130	0.564	30	
N-MeFOSAA (NMeFOSAA)	17.7	1.8		ng/L	18.30		96.6	70-130	2.99	30	
Perfluorododecanoic acid (PFDoA)	17.7	1.8		ng/L	18.30		96.9	70-130	1.27	30	
Perfluorotridecanoic acid (PFTrDA)	17.3	1.8		ng/L	18.30		94.2	70-130	0.711	30	
Perfluorotetradecanoic acid (PFTA)	20.0	1.8		ng/L	18.30		109	70-130	3.78	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	15.9	1.8		ng/L	18.30		86.7	70-130	1.68	30	
11Cl-PF3OUdS (F53B Major)	17.3	1.8		ng/L	17.26		100	70-130	0.0413	30	
9Cl-PF3ONS (F53B Minor)	17.6	1.8		ng/L	17.08		103	70-130	2.48	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	16.8	1.8		ng/L	17.30		97.1	70-130	2.77	30	
Surrogate: 13C-PFHxA	*39.0*			ng/L	36.61		107	70-130			
Surrogate: M3HFPO-DA	*37.4*			ng/L	36.61		102	70-130			
Surrogate: 13C-PFDA	*40.4*			ng/L	36.61		110	70-130			
Surrogate: D5-NEtFOSAA	*156*			ng/L	146.4		106	70-130			

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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
DL	Method Detection Limit
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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorohexanoic acid (PFHxA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorohexanesulfonic acid (PFHxS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluoroheptanoic acid (PFHpA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorononanoic acid (PFNA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
Perfluorodecanoic acid (PFDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-EtFOSAA (NEtFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluoroundecanoic acid (PFUnA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
N-MeFOSAA (NMeFOSAA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorododecanoic acid (PFDoA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotridecanoic acid (PFTrDA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Perfluorotetradecanoic acid (PFTA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH,VA
11Cl-PF3OUdS (F53B Major)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
9Cl-PF3ONS (F53B Minor)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	VT-DW,NJ,CT,ME,PA,MI,MA,NY,NH,OH

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

Code	Description	Number	Expires
MA	Massachusetts DEP	M-MA100	06/30/2025
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2025
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2025
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2025
MI	Dept. of Env, Great Lakes, and Energy	9100	06/30/2025
OH	Ohio Environmental Protection Agency	87781	04/1/2025

Pace® Location Requested (City/State):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

2451015 KGM

Scan QR Code for instructions

Company Name: PA DEP
Street Address: 208 W. 3rd St, Suite 101, Williamsport, PA 17701
Customer Project #:
Project Name: N. Centre Twp PFAS
Site Collection Info/Facility ID (as applicable):

Contact/Report To: John Ciccone
Phone #: 570.205.2672
E-Mail: jciccone@pa.gov
Cc E-Mail:
Invoice to:
Invoice E-mail:
Purchase Order # (if applicable):
Quote #:
County / State origin of sample(s):

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [✓] ET

Data Deliverables: Standard
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable:
Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day Other
Date Results Requested:

DW PWSID # or WW Permit # as applicable:
Field Filtered (if applicable): [ ] Yes [ ] No
Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Specify Container Size **: 3
Identify Container Preservative Type***: 11
Analysis Requested: EPA 537.1, PFAS

** Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other
*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: | AcctNum / Client ID: | Table #: | Profile / Template: | Prelog / Bottle Ord. ID:

Preservation non-conformance identified for sample.

	Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Residual Chlorine Result	Residual Chlorine Units	Sample Comment
1	9544-88MHR	DW	G			10/03/24	1100	2			
2	9544-88MHR-FRB	OT	G			10/03/24	1102	1			Field reagent blank.

Additional Instructions from Pace®:
~~Sample~~ Bottles preserved with Trizma.
Potential for PFAS concentration >100 ng/L.

Collected By: Printed Name: John Ciccone
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

Coolers: | Thermometer ID: | Correction Factor (°C): | Obs. Temp. (°C): | Corrected Temp. (°C): | [ ] On Ice

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
John Ciccone	10/03/24 1330		10/4/24	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

ENV-FRM-CORQ-0019_v02_110123 ©

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client PA DEP

Project N. Centre Tap PFAS

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location PA

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☐ Fed Ex ☐ Walk In ☐ Other ☒ UPS

Received By / Date / Time RL 10/4/24 1003

Back-Sheet By / Date / Time STM 10/7/24 1845

Temperature Method Gun # 6

WV samples: Yes (see note*) / No (follow normal procedure)

Temp X < 6° C Actual Temperature 2.0

Rush Samples: Yes / No Notify

Short Hold: Yes / No Notify

Notes regarding Samples/COC outside of SOP:

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

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☐	☒
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐

COC Included: (Check all included)

Client ☒ Analysis ☒ Sampler Name ☒

Project ☒ IDs ☒ Collection Date/Time ☒

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

**Note: West Virginia requires all samples to have their temperature taken. Note any outliers.*

Qualtrax ID: 120836

Quatrex ID: 120836

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

Sample	Soils Jars (Circle Amb/Clear)	Ambers						Plastics										VOA Vials						Other / Fill in					
		1 Liter			250mL		100mL	1 Liter		500mL	250mL																		
	16oz Amb/Clear	Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCL	Unpreserved	Sulfuric	Unpreserved	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact						
1												2	1																
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Your shipment
1Z6610830198626326

Delivered On
Friday, October 04 at 10:03 A.M. at Inside Delivery

Delivered To

AST LONGMEADOW, MA US

eceived By:
ENRIQUES
roof of Delivery

Label Created
United States
10/03/2024, 3:23 P.M.

We Have Your Package
Williamsport, PA, United States
10/03/2024, 5:54 P.M.

On the Way
Windsor Locks, CT, United States
10/04/2024, 8:05 A.M.

Out for Delivery
Windsor Locks, CT, United States
10/04/2024, 9:05 A.M.

Delivered
EAST LONGMEADOW, MA, US
10/04/2024, 10:03 A.M.

View All Shipping Details

Get Answers Fast

Select "View All Shipping Details" to see the progress of your package. If you need help, use the Virtual Assistant.

Get Updates

File a Claim

Track Another Package