

June 28, 2021

Juan Manzano  
City of Delray Beach  
200 SW 6th St.  
Delray Beach, FL 33444

RE: Project: PFAs  
Pace Project No.: 35640044

Dear Juan Manzano:

Enclosed are the analytical results for sample(s) received by the laboratory on June 11, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

PFAs were analyzed by Pace-SC. Blanks were extracted then held pending results of the parent drinking water sample. All blanks except one needed to be analyzed.

FRB @Field Blank: This sample was extracted and held. Since the parent did not have a hit, the sample did not require analysis, and the analysis cost portion has been removed from the invoice.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa Harvey  
lisa.harvey@pacelabs.com  
(386) 672-5668  
Project Manager

Enclosures

cc: Lynne Ames, City of Delray Beach



## REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.

## SAMPLE SUMMARY

Project: PFAs  
Pace Project No.: 35640044

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35640044001	FWPOE	Drinking Water	06/09/21 09:40	06/11/21 09:20
35640044002	PW #8	Drinking Water	06/09/21 10:13	06/11/21 09:20
35640044003	PW #9	Drinking Water	06/09/21 10:26	06/11/21 09:20
35640044004	PW #12	Drinking Water	06/09/21 10:40	06/11/21 09:20
35640044005	PW #14	Drinking Water	06/09/21 10:52	06/11/21 09:20
35640044006	PW #16	Drinking Water	06/09/21 11:03	06/11/21 09:20
35640044007	PW #17	Drinking Water	06/09/21 11:20	06/11/21 09:20
35640044008	PW #21	Drinking Water	06/09/21 11:40	06/11/21 09:20
35640044009	PW #22	Drinking Water	06/09/21 12:00	06/11/21 09:20
35640044010	PW #22 Dup	Drinking Water	06/09/21 12:05	06/11/21 09:20
35640044011	PW #23	Drinking Water	06/09/21 12:50	06/11/21 09:20
35640044012	PW #24	Drinking Water	06/09/21 13:05	06/11/21 09:20
35640044013	PW #25	Drinking Water	06/09/21 13:15	06/11/21 09:20
35640044014	PW #26A	Drinking Water	06/09/21 13:30	06/11/21 09:20
35640044015	PW #27	Drinking Water	06/09/21 13:40	06/11/21 09:20
35640044016	PW #28	Drinking Water	06/09/21 13:55	06/11/21 09:20
35640044017	PW #29	Drinking Water	06/09/21 14:25	06/11/21 09:20
35640044018	PW #30	Drinking Water	06/09/21 14:40	06/11/21 09:20
35640044019	PW #31	Drinking Water	06/09/21 14:50	06/11/21 09:20
35640044020	PW #36	Drinking Water	06/09/21 15:10	06/11/21 09:20
35640044021	PW #38	Drinking Water	06/09/21 15:30	06/11/21 09:20
35640044022	PW #40	Drinking Water	06/09/21 15:40	06/11/21 09:20
35640044023	PW #44	Drinking Water	06/09/21 15:50	06/11/21 09:20
35640044024	Field Blank	Drinking Water	06/09/21 16:25	06/11/21 09:20
35640044025	FRB @FWPOE	Water	06/09/21 09:45	06/11/21 09:20
35640044026	FRB @PW #8	Water	06/09/21 10:15	06/11/21 09:20
35640044027	FRB @PW #9	Water	06/09/21 10:30	06/11/21 09:20
35640044028	FRB @PW #12	Water	06/09/21 10:42	06/11/21 09:20
35640044029	FRB @PW #14	Water	06/09/21 10:52	06/11/21 09:20
35640044030	FRB @PW #16	Water	06/09/21 11:06	06/11/21 09:20
35640044031	FRB @PW #17	Water	06/09/21 11:22	06/11/21 09:20
35640044032	FRB @PW #21	Water	06/09/21 11:42	06/11/21 09:20
35640044033	FRB @PW #22	Water	06/09/21 12:02	06/11/21 09:20
35640044034	FRB @PW #22 Dup	Water	06/09/21 12:07	06/11/21 09:20
35640044035	FRB @PW #23	Water	06/09/21 12:50	06/11/21 09:20
35640044036	FRB @PW #24	Water	06/09/21 13:05	06/11/21 09:20
35640044037	FRB @PW #25	Water	06/09/21 13:17	06/11/21 09:20

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: PFAs  
Pace Project No.: 35640044

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35640044038	FRB @PW #26A	Water	06/09/21 13:30	06/11/21 09:20
35640044039	FRB @PW #27	Water	06/09/21 13:43	06/11/21 09:20
35640044040	FRB @PW #28	Water	06/09/21 14:00	06/11/21 09:20
35640044041	FRB @PW #29	Water	06/09/21 14:27	06/11/21 09:20
35640044042	FRB @PW #30	Water	06/09/21 14:42	06/11/21 09:20
35640044043	FRB @PW #31	Water	06/09/21 14:52	06/11/21 09:20
35640044044	FRB @PW #36	Water	06/09/21 15:12	06/11/21 09:20
35640044045	FRB @PW #38	Water	06/09/21 15:32	06/11/21 09:20
35640044046	FRB @PW #40	Water	06/09/21 15:42	06/11/21 09:20
35640044047	FRB @PW #44	Water	06/09/21 15:52	06/11/21 09:20
35640044048	FRB @Field Blank	Water	06/09/21 16:27	06/11/21 09:20

## REPORT OF LABORATORY ANALYSIS

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NO#: 35640044



CHAIN-OF-CUSTO 35640044

PARENT SAMPLES

RENT SAMPLES



The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**  
 Required Client Information:  
 Company: City of Delray Beach  
 Address: 200 SW 6th St.  
 Delray Beach, FL 33444  
 Email To: Juan Manzano  
 Phone: (561) 234-7272 Fax:   
 Requested Due Date: W010

**Section B**  
 Required Project Information:  
 Report To: Juan Manzano  
 City To:   
 Purchase Order #:   
 Project Name: PFAS  
 PWSID #: 4500351

**Section C**  
 Invoice Information:  
 Attention: Accounts Payable  
 Company Name: See section A  
 Address:   
 Pace Dupie:  
 Pace Project Manager: Lisa Harvey  
 Pace Profile #: 16131-1 (DW) . 2 (WT)

Regulatory Agency: FL  
 State / Location: FL

Page: 1 Of 6

ITEM #	MATRIX CODE	DATE	TIME	COLLECTED		SAMPLE TYPE (G-GRAB C-COMP)	DATE	TIME	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
				START	END										
1	FWPOE	6/9/21	7:40	10:15	12:05	DWG	6/9/21	11:30	JD	6/10/21	11:30				
2	PW #8	6/9/21	10:15			DWG	6/9/21								
3	PW #9	6/9/21	10:15			DWG	6/9/21								
4	PW #12	6/9/21	10:40			DWG	6/9/21								
5	PW #14	6/9/21	12:50			DWG	6/9/21								
6	PW #16	6/9/21	11:00			DWG	6/9/21								
7	PW #17	6/9/21	11:20			DWG	6/9/21								
8	PW #21	6/9/21	11:40			DWG	6/9/21								
9	PW #22	6/9/21	12:00			DWG	6/9/21								
10	PW # 22 Dup	6/9/21	12:05			DWG	6/9/21								

**ADDITIONAL COMMENTS**  
 \*Blanks are extract and hold pending parent sample results. If no hits in parents, then blanks will not be analyzed, extraction will be charged.

Samples will be direct shipped from City of Delray Beach to Pace-SC  
 Parent (DW) samples are on one COC, the blanks (WT) are on a separate COC for ease of logging samples  
 PFAS: Isotope Dilution-list of 36 cmpds-analyzed by Pace-SC

SAMPLER NAME AND SIGNATURE  
 PRINT NAME OF SAMPLER: Juan Manzano/Julian Miranda  
 SIGNATURE OF SAMPLER: *[Signature]*  
 DATE SIGNED: 6/9/2021

Received on: (Y/N) \_\_\_\_\_  
 Custody: (Y/N) \_\_\_\_\_  
 Sealed: (Y/N) \_\_\_\_\_  
 Cooler: (Y/N) \_\_\_\_\_  
 Samples: (Y/N) \_\_\_\_\_

TEMP in C: \_\_\_\_\_



**CHAIN-OF-CUSTODY / Analytical Request Document**  
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**PARENT SAMPLES**

**PARENT SAMPLES**

<b>Section A</b>		<b>Section B</b>		<b>Section C</b>	
<b>Required Client Information:</b>		<b>Required Project Information:</b>		<b>Invoice Information:</b>	
Company:	City of Delray Beach	Report To:	Juan Manzano	Attention:	Accounts Payable
Address:	200 SW 6th St.	Copy To:		Company Name:	See section A
Email To:	Juan Manzano	Purchase Order #:		Address:	
Phone:	(561)234-7272	Project Name:	<b>PFAS</b>	Place Order:	
Requested Due Date:	W010	PWSID #:	4500351	Place Project Manager:	Lisa Harvey
				Place Profile #:	<b>16131-1 (DW) -2 (WT)</b>
				Regulatory Agency:	FL
				State / Location:	FL

Page: 2 of 6

ITEM #	MATRIX CODE	SAMPLE TYPE (C=GRAB C-COMP)	COLLECTED		DATE	TIME	PRESERVATIVES	ANALYSES TEST	Y/N	REQUESTED ANALYSIS FILTERED (Y/N)	RESIDUAL CHARGE (Y/N)	pH
			START	END								
11	PW #23	DW/G	6/9/21	12:50			HCl + Na Sulfite					line 1 7.40 @ 26.7
12	PW #24	DW/G	6/9/21	13:03								line 1 7.30 @ 28.7
13	PW #25	DW/G	6/9/21	13:15								line 1 7.41 @ 28.4
14	PW #26A	DW/G	6/9/21	9:30								line 1 7.27 @ 27.7
15	PW #27	DW/G	6/9/21	13:40								line 1 7.31 @ 28.9
16	PW #28	DW/G	6/9/21	13:55								line 1 7.41 @ 27.6
17	PW #29	DW/G	6/9/21	14:25								line 1 7.31 @ 27.5
18	PW #30	DW/G	6/9/21	14:40								line 1 7.40 @ 27.7
19	PW #31	DW/G	6/9/21	14:50								line 1 7.34 @ 26.8
20	PW #32 O/S	DW/G	6/9/21									line 1

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
*Blanks are extract and hold pending parent sample results. If no hits in parents, then blanks will not be analyzed, extraction will be charged.	JD / COB	6/10/21	11:30			

Samples will be direct shipped from City of Delray Beach to Pace-SC

Parent (DW) samples are on one COC, the blanks (WT) are on a separate COC for ease of logging samples

PFAS: Isotope Dilution-list of 36 cmpds-analyzed by Pace-SC

SAMPLER NAME AND SIGNATURE	TEMP in C
PRINT Name of SAMPLER: Juan Manzano/Juan Miranda	
SIGNATURE of SAMPLER: 	DATE Signed: 4/20/26



# PARENT SAMPLES

# CHAIN-OF-CUSTODY / Analytical Request Document

# PARENT SAMPLES

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	City of Delray Beach	Report To:	Juan Manzano	Attention:	Account's Payable
Address:	200 SW 6th St.	Copy To:		Company Name:	See section A
Email To:	Juan Manzano	Purchase Order #:		Address:	
Phone:	(561)234-7272	Project Name:	PFAS	Pace Project Manager:	Lisa Harvey
Requested Due Date:	W010	PWSID #:	4500351	Pace Profile #:	16131-1 (DW) , -2 (WT)
		Regulatory Agency		FL	
		State / Location		FL	

Page: 3 of 6

ITEM #	MATRIX CODE	MATRIX	COLLECTED		DATE	TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	Received on	Custody	Sealed	Coster	Samples	Interact	Y/N		
			START	END																Y/N	Requested Analysis Filtered (Y/N)
			DATE	TIME																DATE	TIME
21	DW-G	Drinking Water	6/9/21	15:10	6/9/21	11:30															
22	DW-G	Drinking Water	6/9/21	15:10	6/9/21	11:30															
23	DW-G	Drinking Water	6/9/21	15:40	6/9/21	11:30															
24	DW-G	Drinking Water	6/9/21	15:40	6/9/21	11:30															
25	DW-G	Drinking Water	6/9/21	15:50	6/9/21	11:30															
26	DW-G	Drinking Water	6/9/21	16:25	6/9/21	11:30															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	SAMPLER NAME AND SIGNATURE
Blanks are extract and hold pending parent sample results. If no hits in parents, then blanks will not be analyzed, extraction will be charged.	JPM / CDB	6/9/21	11:30	Juan Manzano/Julian Miranda



**BLANKS** **CHAIN-OF-CUSTODY / Analytical Request Document** **BLANKS**

The Chain-of-Custody is a LEGAL DOCUMENT. All release solely.

**Section A** Required Client Information: Company: City of Delray Beach, 200 SW 6th St., Delray Beach, FL 33444, Juan Manzano, (561)234-7272, Fax: W010

**Section B** Required Project Information: Report To: Juan Manzano, Copy To: Juan Manzano, Purchase Order #: PFA5, Project Name: PFA5, PWSID #: 4500351

**Section C** Invoice Information: Attention: Accounts Payable, Company Name: See section A, Address: Pace Quote: Lisa Harvey, Pace Project Manager: Lisa Harvey, Pace Profile #: 16131-1 (DW)

Regulatory Agency: FL, State / Location: FL

Page: 4 Of 6

*Handwritten notes:*  
 PFA5  
 Extract  
 to test  
 log

ITEM #	MATRIX	CODE	COLLECTED		DATE	TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
			START	END								
1	FRB @FWPOE	WT G	6/9/21	9:45	6/9/21	9:45	6/9/21	11:30	6/9/21	11:30	6/9/21	line 2
2	FRB @PW #8	WT G	6/9/21	10:15	6/9/21	10:15	6/9/21	11:30	6/9/21	11:30	6/9/21	line 2
3	FRB @PW #9	WT G	6/9/21	10:30	6/9/21	10:30	6/9/21	11:30	6/9/21	11:30	6/9/21	line 2
4	FRB @PW #12	WT G	6/9/21	10:42	6/9/21	10:42	6/9/21	11:30	6/9/21	11:30	6/9/21	line 2
5	FRB @PW #14	WT G	6/9/21	10:52	6/9/21	10:52	6/9/21	11:30	6/9/21	11:30	6/9/21	line 2
6	FRB @PW #16	WT G	6/9/21	11:06	6/9/21	11:06	6/9/21	11:30	6/9/21	11:30	6/9/21	line 2
7	FRB @PW #17	WT G	6/9/21	11:22	6/9/21	11:22	6/9/21	11:30	6/9/21	11:30	6/9/21	line 2
8	FRB @PW #21	WT G	6/9/21	11:42	6/9/21	11:42	6/9/21	11:30	6/9/21	11:30	6/9/21	line 2
9	FRB @PW #22	WT G	6/9/21	12:02	6/9/21	12:02	6/9/21	11:30	6/9/21	11:30	6/9/21	line 2
10	FRB @PW #22 Dup	WT G	6/9/21	12:07	6/9/21	12:07	6/9/21	11:30	6/9/21	11:30	6/9/21	line 2

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
<i>[Signature]</i>	6/9/21	11:30	<i>[Signature]</i>	6/9/21	11:30

**ADDITIONAL COMMENTS**

\*Blanks are extract and hold pending parent sample results. If no hits in parents, then blanks will not be analyzed. extraction will be charged.

Samples will be direct shipped from City of Delray Beach to Pace-SC

Parent (DW) samples are on one COC, the blanks (WT) are on a separate COC for ease of logging samples

PFA5: Isotope Dilution-list of 36 cmpds-analyzed by Pace-SC

SAMPLER NAME AND SIGNATURE: Juan Manzano/Julian Miranda

PRINT Name of SAMPLER: Juan Manzano/Julian Miranda

SIGNATURE of SAMPLER: *[Signature]*

DATE SIGNED: 6/9/2021

TEMP IN C

Received on

Ice (Y/N)

Sealed (Y/N)

Cooler (Y/N)

Samples (Y/N)



BLANKS

CHAIN-OF-CUSTODY / Analytical Request Document

BLANKS

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**  
 Required Client Information:  
 Company: City of Delray Beach  
 Address: 200 SW 6th St  
 Delray Beach, FL 33444  
 Email To: Juan Manzano  
 Phone: (561)254-7272 Fax  
 Requested Due Date: W010

**Section B**  
 Required Project Information:  
 Report To: Juan Manzano  
 Copy To:  
 Purchase Order #: PFAS  
 Project Name: PFAS  
 PWSID #: 4500351

**Section C**  
 Invoice Information:  
 Attention: Accounts Payable  
 Company Name: See section A  
 Address:  
 Pace Quote  
 Pace Project Manager: Lisa Harvey  
 Pace Profile #: 16131-1 (DW) -2 (WT)  
 Regulatory Agency: FL  
 State / Location: FL

ITEM #	MATRIX	DATE	TIME	COLLECTED		DATE	TIME	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
				START	END									
11	FRB @PW #23	6/9/21	12:50			6/9/21	11:30		6/9/21	11:30		6/9/21	11:30	
12	FRB @PW #24	6/9/21	13:55			6/9/21								
13	FRB @PW #25	6/9/21	15:17			6/9/21								
14	FRB @PW #26A	6/9/21	15:30			6/9/21								
15	FRB @PW #27	6/9/21	15:43			6/9/21								
16	FRB @PW #28	6/9/21	16:00			6/9/21								
17	FRB @PW #29	6/9/21	16:27			6/9/21								
18	FRB @PW #30	6/9/21	16:42			6/9/21								
19	FRB @PW #31	6/9/21	16:59			6/9/21								
20	FRB @PW #32 O/S	6/9/21				6/9/21								

**ADDITIONAL COMMENTS**  
 \*Blanks are extract and hold pending parent sample results. If no hits in parents, then blanks will not be analyzed, extraction will be charged.  
 Samples will be direct shipped from City of Delray Beach to Pace-SC  
 Parent (DW) samples are on one COC, the blanks (WT) are on a separate COC for ease of logging samples  
 PFAS: Isotope Dilution-list of 36 crmps-analyzed by Pace-SC

**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: Juan Manzano/Julian Miranda  
 SIGNATURE of SAMPLER: [Signature]  
 DATE SIGNED: 6/9/2021

**TEMP IN C**  
 Received on: [ ]  
 Sealed: [ ]  
 Cooler: [ ]  
 Custody: [ ]  
 Samples (Y/N): [ ]





BLANKS

CHAIN-OF-CUSTODY / Analytical Request Document

BLANKS

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A** Required Client Information: **Section B** Required Project Information: **Section C** Invoice Information:

Company: City of Delray Beach Report To: Juan Manzano Attention: Accounts Payable  
 Address: 200 SW 6th St. Copy To: Company Name: See section A  
 Delray Beach, FL 33444 Purchase Order #: Project Name: PFAS  
 Juan Manzano Phone: (561)234-7272 Fax: PWSID #: 4500351  
 Pace Project Manager: Lisa Harvey  
 Regulatory Agency: FL State / Location: FL  
 Pace Quote: Pace Profile #: 16131-1 (DW), -2 (WT)

**SAMPLE ID**  
 One Character per box.  
 (A-Z, 0-9 /, -)  
 Sample IDs must be unique

MATRIX: Drinking Water, Surface Water, Wastewater, Wastewater, Groundwater, Air, Soil, Sediment, Sludge, Tissue, Other, Unknown

CODE: Type, Matrix, Volume, Product, Quantity, Unit, Date, Time, Location, Other, Notes

ITEM #	MATRIX CODE	SAMPLE TYPE (G-GRAB C-COMP)	COLLECTED		DATE	TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
			START	END								
21	FRB @PW #34 O/S	WTG			6/9/21	15:20						
22	FRB @PW #36	WTG			6/9/21	15:22						
23	FRB @PW #38	WTG			6/9/21	15:42						
24	FRB @PW #40	WTG			6/9/21	15:52						
25	FRB @PW #44	WTG			6/9/21	16:27						
26	FRB @Field Blank	WTG										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Blanks are extract and hold pending parent sample results. If no hits in parents, then blanks will not be analyzed, extraction will be charged.	JRM / CDD	6/9/21	11:30				

SAMPLER NAME AND SIGNATURE: Juan Manzano/Julian Miranda  
 PRINT Name of SAMPLER: Juan Manzano/Julian Miranda  
 SIGNATURE of SAMPLER: [Signature]  
 DATE Signed: 6/9/2021

## PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WC16023-006
Description: FW POE	Matrix: Aqueous
Date Sampled: 03/11/2021 1410	Project Name: PFAS
Date Received: 03/16/2021	Project Number: 35618565

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	03/21/2021 1343	MMM	03/18/2021 1128	86102

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	2.6	VI	7.1	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	1.8	UQ	7.1	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	3.5	U	14	3.5	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
Perfluoro-1-butanefulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	9.5		3.5	0.89	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.89	U	3.5	0.89	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.89	U	3.5	0.89	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.89	U	3.5	0.89	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.89	U	3.5	0.89	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.89	U	3.5	0.89	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	6.2		3.5	0.89	ng/L	1
Perfluoro-n-butanefulfonic acid (PFBA)	375-22-4	PFAS by ID SOP	6.8		3.5	0.89	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.89	U	3.5	0.89	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.89	U	3.5	0.89	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	4.5		3.5	0.89	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	7.0		3.5	0.89	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	1.8	I	3.5	0.89	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	10		3.5	0.89	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	7.8		3.5	0.89	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.89	U	3.5	0.89	ng/L	1
Perfluoro-n-undecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.89	U	3.5	0.89	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.89	U	3.5	0.89	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	21		3.5	0.89	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	194	25-150
13C2_6:2FTS		124	25-150
13C2_8:2FTS		121	25-150
13C2_PFDaA		116	25-150
13C2_PFHxDA		116	25-150
13C2_PFTeDA		116	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 O = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com



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## Report of Analysis

**Pace Analytical Services, LLC**  
8 East Tower Circle  
Ormond Beach, FL 32174  
Attention: Lisa Harvey

Project Name: PFAS  
Project Number: 35640044  
Lot Number: **WF14017**  
Date Completed: 06/25/2021

*Karen Coonan*

06/28/2021 4:02 PM  
Approved and released by:  
Project Manager II: **Karen L. Coonan**



The electronic signature above is the equivalent of a handwritten signature.  
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# PACE ANALYTICAL SERVICES, LLC

SC DHEC No: 32010001

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

## Case Narrative Pace Analytical Services, LLC Lot Number: WF14017

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved The NELAC Institute (TNI) standards, the Pace Analytical Services, LLC ("Pace") Laboratory Quality Manual, standard operating procedures (SOPs), and Pace policies. Any exceptions to the TNI standards, the Laboratory Quality Manual, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Pace Project Manager listed on the cover page.

Samples were collected in client provided HDPE bottles, preserved with Trizma. While this is method compliant, the sample bottles were not provided by the laboratory.

Surrogate recoveries for the following samples were outside the upper control limit: WF14017-020, WF14017-021, WF14017-022, WF14017-023. This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

# PACE ANALYTICAL SERVICES, LLC

**Sample Summary**  
**Pace Analytical Services, LLC**  
**Lot Number: WF14017**  
**Project Name: PFAS**  
**Project Number: 35640044**

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	FWPOE	Aqueous	06/09/2021 0940	06/11/2021
002	PW #8	Aqueous	06/09/2021 1013	06/11/2021
003	PW #9	Aqueous	06/09/2021 1026	06/11/2021
004	PW #12	Aqueous	06/09/2021 1040	06/11/2021
005	PW #14	Aqueous	06/09/2021 1052	06/11/2021
006	PW #16	Aqueous	06/09/2021 1103	06/11/2021
007	PW #17	Aqueous	06/09/2021 1120	06/11/2021
008	PW #21	Aqueous	06/09/2021 1140	06/11/2021
009	PW #22	Aqueous	06/09/2021 1200	06/11/2021
010	PW #22 Dup	Aqueous	06/09/2021 1205	06/11/2021
011	PW #23	Aqueous	06/09/2021 1250	06/11/2021
012	PW #24	Aqueous	06/09/2021 1305	06/11/2021
013	PW #25	Aqueous	06/09/2021 1315	06/11/2021
014	PW #26A	Aqueous	06/09/2021 1330	06/11/2021
015	PW #27	Aqueous	06/09/2021 1340	06/11/2021
016	PW #28	Aqueous	06/09/2021 1355	06/11/2021
017	PW #29	Aqueous	06/09/2021 1425	06/11/2021
018	PW #30	Aqueous	06/09/2021 1440	06/11/2021
019	PW #31	Aqueous	06/09/2021 1450	06/11/2021
020	PW #36	Aqueous	06/09/2021 1510	06/11/2021
021	PW #38	Aqueous	06/09/2021 1530	06/11/2021
022	PW #40	Aqueous	06/09/2021 1540	06/11/2021
023	PW #44	Aqueous	06/09/2021 1550	06/11/2021
024	Field Blank	Aqueous	06/09/2021 1625	06/11/2021
025	FRB @ FWPOE	Aqueous	06/09/2021 0945	06/11/2021
026	FRB@PW #8	Aqueous	06/09/2021 1015	06/11/2021
027	FRB@PW #9	Aqueous	06/09/2021 1030	06/11/2021
028	FRB@PW #12	Aqueous	06/09/2021 1042	06/11/2021
029	FRB@PW #14	Aqueous	06/09/2021 1052	06/11/2021
030	FRB@PW #16	Aqueous	06/09/2021 1106	06/11/2021
031	FRB@PW #17	Aqueous	06/09/2021 1122	06/11/2021
032	FRB@PW #21	Aqueous	06/09/2021 1142	06/11/2021
033	FRB@PW #22	Aqueous	06/09/2021 1202	06/11/2021
034	FRB@PW #22 Dup	Aqueous	06/09/2021 1207	06/11/2021
035	FRB@PW #23	Aqueous	06/09/2021 1250	06/11/2021
036	FRB@PW #24	Aqueous	06/09/2021 1305	06/11/2021
037	FRB@PW #25	Aqueous	06/09/2021 1317	06/11/2021
038	FRB@PW #26A	Aqueous	06/09/2021 1330	06/11/2021
039	FRB@PW #27	Aqueous	06/09/2021 1343	06/11/2021
040	FRB@PW #28	Aqueous	06/09/2021 1400	06/11/2021
041	FRB@PW #29	Aqueous	06/09/2021 1427	06/11/2021
042	FRB@PW #30	Aqueous	06/09/2021 1442	06/11/2021
043	FRB@PW #31	Aqueous	06/09/2021 1452	06/11/2021

## Sample Summary (Continued)

Lot Number: WF14017

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
044	FRB@PW #36	Aqueous	06/09/2021 1512	06/11/2021
045	FRB@PW #38	Aqueous	06/09/2021 1532	06/11/2021
046	FRB@PW #40	Aqueous	06/09/2021 1542	06/11/2021
047	FRB@PW #44	Aqueous	06/09/2021 1552	06/11/2021
048	FRB@ Field Blank	Aqueous	06/09/2021 1627	06/11/2021

(48 samples)

# PACE ANALYTICAL SERVICES, LLC

**Detection Summary**  
**Pace Analytical Services, LLC**  
**Lot Number: WF14017**  
**Project Name: PFAS**  
**Project Number: 35640044**

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	FWPOE	Aqueous	PFBS	PFAS by ID	9.6		ng/L	11
001	FWPOE	Aqueous	PFHpS	PFAS by ID	0.71	I	ng/L	11
001	FWPOE	Aqueous	PFPeS	PFAS by ID	1.2	I	ng/L	11
001	FWPOE	Aqueous	PFHxS	PFAS by ID	7.6		ng/L	11
001	FWPOE	Aqueous	PFBA	PFAS by ID	8.5		ng/L	11
001	FWPOE	Aqueous	PFDA	PFAS by ID	0.92	I	ng/L	11
001	FWPOE	Aqueous	PFHpA	PFAS by ID	5.9		ng/L	11
001	FWPOE	Aqueous	PFHxA	PFAS by ID	8.4		ng/L	11
001	FWPOE	Aqueous	PFNA	PFAS by ID	2.0	I	ng/L	11
001	FWPOE	Aqueous	PFOA	PFAS by ID	13		ng/L	11
001	FWPOE	Aqueous	PFPeA	PFAS by ID	10		ng/L	11
001	FWPOE	Aqueous	PFOS	PFAS by ID	32		ng/L	11
002	PW #8	Aqueous	PFBS	PFAS by ID	15		ng/L	13
002	PW #8	Aqueous	PFHpS	PFAS by ID	1.2	I	ng/L	13
002	PW #8	Aqueous	PFPeS	PFAS by ID	1.8	I	ng/L	13
002	PW #8	Aqueous	PFHxS	PFAS by ID	16		ng/L	13
002	PW #8	Aqueous	PFBA	PFAS by ID	96		ng/L	13
002	PW #8	Aqueous	PFDA	PFAS by ID	0.99	I	ng/L	13
002	PW #8	Aqueous	PFHpA	PFAS by ID	8.6		ng/L	13
002	PW #8	Aqueous	PFHxA	PFAS by ID	11		ng/L	13
002	PW #8	Aqueous	PFNA	PFAS by ID	2.3	I	ng/L	13
002	PW #8	Aqueous	PFOA	PFAS by ID	20		ng/L	13
002	PW #8	Aqueous	PFPeA	PFAS by ID	13		ng/L	13
002	PW #8	Aqueous	PFOS	PFAS by ID	72		ng/L	13
003	PW #9	Aqueous	6:2 FTS	PFAS by ID	1.8	I	ng/L	15
003	PW #9	Aqueous	PFBS	PFAS by ID	18		ng/L	15
003	PW #9	Aqueous	PFHpS	PFAS by ID	1.5	I	ng/L	15
003	PW #9	Aqueous	PFPeS	PFAS by ID	2.0	I	ng/L	15
003	PW #9	Aqueous	PFHxS	PFAS by ID	15		ng/L	15
003	PW #9	Aqueous	PFBA	PFAS by ID	8.5		ng/L	15
003	PW #9	Aqueous	PFHpA	PFAS by ID	8.2		ng/L	15
003	PW #9	Aqueous	PFHxA	PFAS by ID	13		ng/L	15
003	PW #9	Aqueous	PFOA	PFAS by ID	23		ng/L	15
003	PW #9	Aqueous	PFPeA	PFAS by ID	12		ng/L	15
003	PW #9	Aqueous	PFOS	PFAS by ID	58		ng/L	15
004	PW #12	Aqueous	PFBS	PFAS by ID	13		ng/L	17
004	PW #12	Aqueous	PFPeS	PFAS by ID	0.80	I	ng/L	17
004	PW #12	Aqueous	PFHxS	PFAS by ID	7.4		ng/L	17
004	PW #12	Aqueous	PFBA	PFAS by ID	7.8		ng/L	17
004	PW #12	Aqueous	PFHpA	PFAS by ID	5.3		ng/L	17
004	PW #12	Aqueous	PFHxA	PFAS by ID	8.3		ng/L	17
004	PW #12	Aqueous	PFNA	PFAS by ID	1.3	I	ng/L	17
004	PW #12	Aqueous	PFOA	PFAS by ID	13		ng/L	17

# Detection Summary (Continued)

Lot Number: WF14017

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
004	PW #12	Aqueous	PFPeA	PFAS by ID	10		ng/L	17
004	PW #12	Aqueous	PFOS	PFAS by ID	30		ng/L	17
005	PW #14	Aqueous	6:2 FTS	PFAS by ID	8.2		ng/L	19
005	PW #14	Aqueous	PFBS	PFAS by ID	17		ng/L	19
005	PW #14	Aqueous	PFPeS	PFAS by ID	1.2	I	ng/L	19
005	PW #14	Aqueous	PFHxS	PFAS by ID	8.9		ng/L	19
005	PW #14	Aqueous	PFBA	PFAS by ID	12		ng/L	19
005	PW #14	Aqueous	PFDA	PFAS by ID	0.74	I	ng/L	19
005	PW #14	Aqueous	PFHpA	PFAS by ID	7.6		ng/L	19
005	PW #14	Aqueous	PFHxA	PFAS by ID	17		ng/L	19
005	PW #14	Aqueous	PFNA	PFAS by ID	1.5	I	ng/L	19
005	PW #14	Aqueous	PFOA	PFAS by ID	15		ng/L	19
005	PW #14	Aqueous	PFPeA	PFAS by ID	23		ng/L	19
005	PW #14	Aqueous	PFOS	PFAS by ID	40		ng/L	19
006	PW #16	Aqueous	PFBS	PFAS by ID	22		ng/L	21
006	PW #16	Aqueous	PFDS	PFAS by ID	1.0	I	ng/L	21
006	PW #16	Aqueous	PFHpS	PFAS by ID	0.96	I	ng/L	21
006	PW #16	Aqueous	PFPeS	PFAS by ID	1.2	I	ng/L	21
006	PW #16	Aqueous	PFHxS	PFAS by ID	12		ng/L	21
006	PW #16	Aqueous	PFBA	PFAS by ID	10		ng/L	21
006	PW #16	Aqueous	PFDA	PFAS by ID	3.5	I	ng/L	21
006	PW #16	Aqueous	PFHpA	PFAS by ID	12		ng/L	21
006	PW #16	Aqueous	PFHxA	PFAS by ID	20		ng/L	21
006	PW #16	Aqueous	PFNA	PFAS by ID	16		ng/L	21
006	PW #16	Aqueous	PFOA	PFAS by ID	29		ng/L	21
006	PW #16	Aqueous	PFPeA	PFAS by ID	24		ng/L	21
006	PW #16	Aqueous	PFOS	PFAS by ID	58		ng/L	21
007	PW #17	Aqueous	PFBS	PFAS by ID	25		ng/L	23
007	PW #17	Aqueous	PFPeS	PFAS by ID	3.9		ng/L	23
007	PW #17	Aqueous	PFHxS	PFAS by ID	23		ng/L	23
007	PW #17	Aqueous	PFBA	PFAS by ID	10		ng/L	23
007	PW #17	Aqueous	PFHpA	PFAS by ID	6.9		ng/L	23
007	PW #17	Aqueous	PFHxA	PFAS by ID	13		ng/L	23
007	PW #17	Aqueous	PFNA	PFAS by ID	1.1	I	ng/L	23
007	PW #17	Aqueous	PFOA	PFAS by ID	15		ng/L	23
007	PW #17	Aqueous	PFPeA	PFAS by ID	14		ng/L	23
007	PW #17	Aqueous	PFOS	PFAS by ID	30		ng/L	23
008	PW #21	Aqueous	PFBS	PFAS by ID	9.4		ng/L	25
008	PW #21	Aqueous	PFHpS	PFAS by ID	0.73	I	ng/L	25
008	PW #21	Aqueous	PFPeS	PFAS by ID	0.98	I	ng/L	25
008	PW #21	Aqueous	PFHxS	PFAS by ID	8.5		ng/L	25
008	PW #21	Aqueous	PFBA	PFAS by ID	5.5		ng/L	25
008	PW #21	Aqueous	PFDA	PFAS by ID	0.56	I	ng/L	25
008	PW #21	Aqueous	PFHpA	PFAS by ID	6.1		ng/L	25
008	PW #21	Aqueous	PFHxA	PFAS by ID	7.2		ng/L	25
008	PW #21	Aqueous	PFNA	PFAS by ID	1.1	I	ng/L	25
008	PW #21	Aqueous	PFOA	PFAS by ID	15		ng/L	25
008	PW #21	Aqueous	PFPeA	PFAS by ID	7.7		ng/L	25



## Detection Summary (Continued)

Lot Number: WF14017

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
008	PW #21	Aqueous	PFOS	PFAS by ID	32		ng/L	25
009	PW #22	Aqueous	EtFOSAA	PFAS by ID	1.2	I	ng/L	27
009	PW #22	Aqueous	PFBS	PFAS by ID	8.8		ng/L	27
009	PW #22	Aqueous	PFOSA	PFAS by ID	1.0	I	ng/L	27
009	PW #22	Aqueous	PFPeS	PFAS by ID	0.76	I	ng/L	27
009	PW #22	Aqueous	PFHxS	PFAS by ID	7.2		ng/L	27
009	PW #22	Aqueous	PFBA	PFAS by ID	6.7		ng/L	27
009	PW #22	Aqueous	PFDA	PFAS by ID	2.6	I	ng/L	27
009	PW #22	Aqueous	PFHpA	PFAS by ID	9.4		ng/L	27
009	PW #22	Aqueous	PFHxA	PFAS by ID	9.2		ng/L	27
009	PW #22	Aqueous	PFOA	PFAS by ID	16		ng/L	27
009	PW #22	Aqueous	PFPeA	PFAS by ID	11		ng/L	27
009	PW #22	Aqueous	PFUdA	PFAS by ID	0.92	I	ng/L	27
009	PW #22	Aqueous	PFOS	PFAS by ID	35		ng/L	27
010	PW #22 Dup	Aqueous	EtFOSAA	PFAS by ID	1.3	I	ng/L	29
010	PW #22 Dup	Aqueous	PFBS	PFAS by ID	9.4		ng/L	29
010	PW #22 Dup	Aqueous	PFPeS	PFAS by ID	1.0	I	ng/L	29
010	PW #22 Dup	Aqueous	PFHxS	PFAS by ID	6.5		ng/L	29
010	PW #22 Dup	Aqueous	PFBA	PFAS by ID	7.0		ng/L	29
010	PW #22 Dup	Aqueous	PFDA	PFAS by ID	2.2	I	ng/L	29
010	PW #22 Dup	Aqueous	PFHpA	PFAS by ID	9.8		ng/L	29
010	PW #22 Dup	Aqueous	PFHxA	PFAS by ID	9.4		ng/L	29
010	PW #22 Dup	Aqueous	PFNA	PFAS by ID	2.2	I	ng/L	29
010	PW #22 Dup	Aqueous	PFOA	PFAS by ID	16		ng/L	29
010	PW #22 Dup	Aqueous	PFPeA	PFAS by ID	11		ng/L	29
010	PW #22 Dup	Aqueous	PFUdA	PFAS by ID	1.0	I	ng/L	29
010	PW #22 Dup	Aqueous	PFOS	PFAS by ID	33		ng/L	29
011	PW #23	Aqueous	PFBS	PFAS by ID	13		ng/L	31
011	PW #23	Aqueous	PFHpS	PFAS by ID	0.74	I	ng/L	31
011	PW #23	Aqueous	PFPeS	PFAS by ID	0.76	I	ng/L	31
011	PW #23	Aqueous	PFHxS	PFAS by ID	8.1		ng/L	31
011	PW #23	Aqueous	PFBA	PFAS by ID	9.8		ng/L	31
011	PW #23	Aqueous	PFDA	PFAS by ID	2.1	I	ng/L	31
011	PW #23	Aqueous	PFDoA	PFAS by ID	0.47	I	ng/L	31
011	PW #23	Aqueous	PFHpA	PFAS by ID	10		ng/L	31
011	PW #23	Aqueous	PFHxA	PFAS by ID	17		ng/L	31
011	PW #23	Aqueous	PFNA	PFAS by ID	2.4	I	ng/L	31
011	PW #23	Aqueous	PFOA	PFAS by ID	22		ng/L	31
011	PW #23	Aqueous	PFPeA	PFAS by ID	22		ng/L	31
011	PW #23	Aqueous	PFOS	PFAS by ID	29		ng/L	31
012	PW #24	Aqueous	8:2 FTS	PFAS by ID	7.0	I	ng/L	33
012	PW #24	Aqueous	10:2 FTS	PFAS by ID	2.3	I	ng/L	33
012	PW #24	Aqueous	PFBS	PFAS by ID	6.1		ng/L	33
012	PW #24	Aqueous	PFHxS	PFAS by ID	4.7		ng/L	33
012	PW #24	Aqueous	PFBA	PFAS by ID	6.6		ng/L	33
012	PW #24	Aqueous	PFDA	PFAS by ID	2.4	I	ng/L	33
012	PW #24	Aqueous	PFDoA	PFAS by ID	1.4	I	ng/L	33
012	PW #24	Aqueous	PFHpA	PFAS by ID	8.5		ng/L	33

## Detection Summary (Continued)

Lot Number: WF14017

Sample ID	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
012	PW #24	Aqueous	PFHxA	PFAS by ID	8.6		ng/L	33
012	PW #24	Aqueous	PFNA	PFAS by ID	3.0	I	ng/L	33
012	PW #24	Aqueous	PFOA	PFAS by ID	24		ng/L	33
012	PW #24	Aqueous	PFPeA	PFAS by ID	11		ng/L	33
012	PW #24	Aqueous	PFTTrDA	PFAS by ID	0.64	I	ng/L	33
012	PW #24	Aqueous	PFUdA	PFAS by ID	1.2	I	ng/L	33
012	PW #24	Aqueous	PFOS	PFAS by ID	19		ng/L	33
013	PW #25	Aqueous	PFBS	PFAS by ID	5.0		ng/L	35
013	PW #25	Aqueous	PFHxS	PFAS by ID	4.4		ng/L	35
013	PW #25	Aqueous	PFBA	PFAS by ID	5.5		ng/L	35
013	PW #25	Aqueous	PFDA	PFAS by ID	2.1	I	ng/L	35
013	PW #25	Aqueous	PFDoA	PFAS by ID	0.62	I	ng/L	35
013	PW #25	Aqueous	PFHpA	PFAS by ID	5.5		ng/L	35
013	PW #25	Aqueous	PFHxA	PFAS by ID	6.5		ng/L	35
013	PW #25	Aqueous	PFNA	PFAS by ID	1.7	I	ng/L	35
013	PW #25	Aqueous	PFOA	PFAS by ID	11		ng/L	35
013	PW #25	Aqueous	PFPeA	PFAS by ID	8.2		ng/L	35
013	PW #25	Aqueous	PFTTrDA	PFAS by ID	0.58	I	ng/L	35
013	PW #25	Aqueous	PFOS	PFAS by ID	17		ng/L	35
014	PW #26A	Aqueous	PFBS	PFAS by ID	12		ng/L	37
014	PW #26A	Aqueous	PFHpS	PFAS by ID	0.49	I	ng/L	37
014	PW #26A	Aqueous	PFPeS	PFAS by ID	0.89	I	ng/L	37
014	PW #26A	Aqueous	PFHxS	PFAS by ID	8.7		ng/L	37
014	PW #26A	Aqueous	PFBA	PFAS by ID	7.5		ng/L	37
014	PW #26A	Aqueous	PFDA	PFAS by ID	1.7	I	ng/L	37
014	PW #26A	Aqueous	PFHpA	PFAS by ID	7.5		ng/L	37
014	PW #26A	Aqueous	PFHxA	PFAS by ID	13		ng/L	37
014	PW #26A	Aqueous	PFNA	PFAS by ID	13		ng/L	37
014	PW #26A	Aqueous	PFOA	PFAS by ID	17		ng/L	37
014	PW #26A	Aqueous	PFPeA	PFAS by ID	14		ng/L	37
014	PW #26A	Aqueous	PFOS	PFAS by ID	45		ng/L	37
015	PW #27	Aqueous	PFBS	PFAS by ID	8.8		ng/L	39
015	PW #27	Aqueous	PFPeS	PFAS by ID	0.91	I	ng/L	39
015	PW #27	Aqueous	PFHxS	PFAS by ID	7.2		ng/L	39
015	PW #27	Aqueous	PFBA	PFAS by ID	9.5		ng/L	39
015	PW #27	Aqueous	PFDA	PFAS by ID	0.75	I	ng/L	39
015	PW #27	Aqueous	PFHpA	PFAS by ID	6.3		ng/L	39
015	PW #27	Aqueous	PFHxA	PFAS by ID	11		ng/L	39
015	PW #27	Aqueous	PFNA	PFAS by ID	2.2	I	ng/L	39
015	PW #27	Aqueous	PFOA	PFAS by ID	10		ng/L	39
015	PW #27	Aqueous	PFPeA	PFAS by ID	12		ng/L	39
015	PW #27	Aqueous	PFOS	PFAS by ID	25		ng/L	39
016	PW #28	Aqueous	PFBS	PFAS by ID	13		ng/L	41
016	PW #28	Aqueous	PFPeS	PFAS by ID	0.91	I	ng/L	41
016	PW #28	Aqueous	PFHxS	PFAS by ID	9.3		ng/L	41
016	PW #28	Aqueous	PFBA	PFAS by ID	9.4		ng/L	41
016	PW #28	Aqueous	PFDA	PFAS by ID	0.76	I	ng/L	41
016	PW #28	Aqueous	PFHpA	PFAS by ID	5.8		ng/L	41

## Detection Summary (Continued)

Lot Number: WF14017

Sample ID	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
016	PW #28	Aqueous	PFHxA	PFAS by ID	10		ng/L	41
016	PW #28	Aqueous	PFNA	PFAS by ID	1.8	I	ng/L	41
016	PW #28	Aqueous	PFOA	PFAS by ID	13		ng/L	41
016	PW #28	Aqueous	PFPeA	PFAS by ID	11		ng/L	41
016	PW #28	Aqueous	PFOS	PFAS by ID	26		ng/L	41
017	PW #29	Aqueous	PFBS	PFAS by ID	9.1		ng/L	43
017	PW #29	Aqueous	PFPeS	PFAS by ID	0.79	I	ng/L	43
017	PW #29	Aqueous	PFHxS	PFAS by ID	6.6		ng/L	43
017	PW #29	Aqueous	PFBA	PFAS by ID	9.2		ng/L	43
017	PW #29	Aqueous	PFDA	PFAS by ID	0.55	I	ng/L	43
017	PW #29	Aqueous	PFHpA	PFAS by ID	5.6		ng/L	43
017	PW #29	Aqueous	PFHxA	PFAS by ID	10		ng/L	43
017	PW #29	Aqueous	PFNA	PFAS by ID	1.7	I	ng/L	43
017	PW #29	Aqueous	PFOA	PFAS by ID	11		ng/L	43
017	PW #29	Aqueous	PFPeA	PFAS by ID	11		ng/L	43
017	PW #29	Aqueous	PFOS	PFAS by ID	21		ng/L	43
018	PW #30	Aqueous	PFBS	PFAS by ID	8.9		ng/L	45
018	PW #30	Aqueous	PFPeS	PFAS by ID	0.83	I	ng/L	45
018	PW #30	Aqueous	PFHxS	PFAS by ID	7.7		ng/L	45
018	PW #30	Aqueous	PFBA	PFAS by ID	9.9		ng/L	45
018	PW #30	Aqueous	PFDA	PFAS by ID	0.68	I	ng/L	45
018	PW #30	Aqueous	PFHpA	PFAS by ID	4.7		ng/L	45
018	PW #30	Aqueous	PFHxA	PFAS by ID	9.5		ng/L	45
018	PW #30	Aqueous	PFNA	PFAS by ID	1.9	I	ng/L	45
018	PW #30	Aqueous	PFOA	PFAS by ID	10		ng/L	45
018	PW #30	Aqueous	PFPeA	PFAS by ID	11		ng/L	45
018	PW #30	Aqueous	PFOS	PFAS by ID	23		ng/L	45
019	PW #31	Aqueous	PFBS	PFAS by ID	9.8		ng/L	47
019	PW #31	Aqueous	PFHxS	PFAS by ID	7.5		ng/L	47
019	PW #31	Aqueous	PFBA	PFAS by ID	9.4		ng/L	47
019	PW #31	Aqueous	PFDA	PFAS by ID	0.62	I	ng/L	47
019	PW #31	Aqueous	PFHpA	PFAS by ID	5.1		ng/L	47
019	PW #31	Aqueous	PFHxA	PFAS by ID	9.2		ng/L	47
019	PW #31	Aqueous	PFNA	PFAS by ID	2.0	I	ng/L	47
019	PW #31	Aqueous	PFOA	PFAS by ID	12		ng/L	47
019	PW #31	Aqueous	PFPeA	PFAS by ID	9.2		ng/L	47
019	PW #31	Aqueous	PFOS	PFAS by ID	23		ng/L	47
020	PW #36	Aqueous	PFBS	PFAS by ID	7.2		ng/L	49
020	PW #36	Aqueous	PFHxS	PFAS by ID	6.2		ng/L	49
020	PW #36	Aqueous	PFBA	PFAS by ID	4.1		ng/L	49
020	PW #36	Aqueous	PFHpA	PFAS by ID	3.4	I	ng/L	49
020	PW #36	Aqueous	PFHxA	PFAS by ID	6.4		ng/L	49
020	PW #36	Aqueous	PFNA	PFAS by ID	0.86	I	ng/L	49
020	PW #36	Aqueous	PFOA	PFAS by ID	8.3		ng/L	49
020	PW #36	Aqueous	PFPeA	PFAS by ID	6.8		ng/L	49
020	PW #36	Aqueous	PFOS	PFAS by ID	17		ng/L	49
021	PW #38	Aqueous	PFBS	PFAS by ID	2.8	I	ng/L	51
021	PW #38	Aqueous	PFHpS	PFAS by ID	0.73	I	ng/L	51

## Detection Summary (Continued)

Lot Number: WF14017

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
021	PW #38	Aqueous	PFPeS	PFAS by ID	0.59	I	ng/L	51
021	PW #38	Aqueous	PFHxS	PFAS by ID	4.0		ng/L	51
021	PW #38	Aqueous	PFBA	PFAS by ID	3.9		ng/L	51
021	PW #38	Aqueous	PFHpA	PFAS by ID	2.6	I	ng/L	51
021	PW #38	Aqueous	PFHxA	PFAS by ID	3.9		ng/L	51
021	PW #38	Aqueous	PFNA	PFAS by ID	0.93	I	ng/L	51
021	PW #38	Aqueous	PFOA	PFAS by ID	7.4		ng/L	51
021	PW #38	Aqueous	PFPeA	PFAS by ID	3.7		ng/L	51
021	PW #38	Aqueous	PFOS	PFAS by ID	31		ng/L	51
022	PW #40	Aqueous	PFBS	PFAS by ID	3.8		ng/L	53
022	PW #40	Aqueous	PFPeS	PFAS by ID	1.1	I	ng/L	53
022	PW #40	Aqueous	PFHxS	PFAS by ID	4.9		ng/L	53
022	PW #40	Aqueous	PFBA	PFAS by ID	2.9	I	ng/L	53
022	PW #40	Aqueous	PFHpA	PFAS by ID	3.4	I	ng/L	53
022	PW #40	Aqueous	PFHxA	PFAS by ID	4.4		ng/L	53
022	PW #40	Aqueous	PFNA	PFAS by ID	0.71	I	ng/L	53
022	PW #40	Aqueous	PFOA	PFAS by ID	9.9		ng/L	53
022	PW #40	Aqueous	PFPeA	PFAS by ID	4.2		ng/L	53
022	PW #40	Aqueous	PFOS	PFAS by ID	47		ng/L	53
023	PW #44	Aqueous	PFBS	PFAS by ID	1.9	I	ng/L	55
023	PW #44	Aqueous	PFPeS	PFAS by ID	1.2	I	ng/L	55
023	PW #44	Aqueous	PFHxS	PFAS by ID	4.3		ng/L	55
023	PW #44	Aqueous	PFBA	PFAS by ID	2.0	I	ng/L	55
023	PW #44	Aqueous	PFHpA	PFAS by ID	2.0	I	ng/L	55
023	PW #44	Aqueous	PFHxA	PFAS by ID	2.9	I	ng/L	55
023	PW #44	Aqueous	PFNA	PFAS by ID	0.54	I	ng/L	55
023	PW #44	Aqueous	PFOA	PFAS by ID	9.7		ng/L	55
023	PW #44	Aqueous	PFPeA	PFAS by ID	2.3	I	ng/L	55
023	PW #44	Aqueous	PFOS	PFAS by ID	69		ng/L	55
047	FRB@PW #44	Aqueous	PFBS	PFAS by ID	0.41	I	ng/L	103

(265 detections)

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-001</b>
Description: <b>FWPOE</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 0940</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 1932	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	0.60	U	7.3	0.60	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.3	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.8	U	7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.3	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.79	U	7.3	0.79	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.3	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.68	U	7.3	0.68	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.87	U	7.3	0.87	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.1	U	15	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.85	U	7.3	0.85	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>9.6</b>		<b>3.6</b>	<b>0.38</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.71	U	3.6	0.71	ng/L	1
<b>Perfluoro-1-heptanesulfonic acid (PFHpS)</b>	<b>375-92-8</b>	<b>PFAS by ID SOP</b>	<b>0.71</b>	<b>I</b>	<b>3.6</b>	<b>0.45</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.65	U	3.6	0.65	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.56	U	3.6	0.56	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>1.2</b>	<b>I</b>	<b>3.6</b>	<b>0.54</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.95	U	7.3	0.95	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>7.6</b>		<b>3.6</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>8.5</b>		<b>3.6</b>	<b>0.55</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>0.92</b>	<b>I</b>	<b>3.6</b>	<b>0.48</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.43	U	3.6	0.43	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>5.9</b>		<b>3.6</b>	<b>0.41</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.74	U	7.3	0.74	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>8.4</b>		<b>3.6</b>	<b>0.63</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>2.0</b>	<b>I</b>	<b>3.6</b>	<b>0.42</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.91	U	7.3	0.91	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>13</b>		<b>3.6</b>	<b>0.75</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>10</b>		<b>3.6</b>	<b>0.49</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.55	U	3.6	0.55	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.57	U	3.6	0.57	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>32</b>		<b>3.6</b>	<b>1.8</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		150	25-150
13C2_6:2FTS		103	25-150
13C2_8:2FTS		93	25-150
13C2_PFDaA		88	25-150
13C2_PFHxDA		93	25-150
13C2_PFTeDA		90	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-001</b>
Description: <b>FWPOE</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 0940</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		91	25-150
13C3_PFHxS		91	25-150
13C3-HFPO-DA		90	25-150
13C4_PFBa		82	25-150
13C4_PFHpA		94	25-150
13C5_PFHxA		94	25-150
13C5_PFPeA		92	25-150
13C6_PFDA		96	25-150
13C7_PFUdA		93	25-150
13C8_PFOA		90	25-150
13C8_PFOS		94	25-150
13C8_PFOSA		97	10-150
13C9_PFNA		91	25-150
d-EtFOSA		65	10-150
d5-EtFOSAA		98	25-150
d9-EtFOSE		83	10-150
d-MeFOSA		80	10-150
d3-MeFOSAA		86	25-150
d7-MeFOSE		78	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-002**

Description: **PW #8**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1013**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2005	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.44	U	7.2	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.60	U	7.2	0.60	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.4	U	7.2	1.4	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.8	U	7.2	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.2	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.79	U	7.2	0.79	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.2	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.44	U	7.2	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.2	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.68	U	7.2	0.68	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.86	U	7.2	0.86	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.1	U	14	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.84	U	7.2	0.84	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.2	1.2	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>15</b>		<b>3.6</b>	<b>0.37</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.70	U	3.6	0.70	ng/L	1
<b>Perfluoro-1-heptanesulfonic acid (PFHpS)</b>	<b>375-92-8</b>	<b>PFAS by ID SOP</b>	<b>1.2</b>	<b>I</b>	<b>3.6</b>	<b>0.45</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.64	U	3.6	0.64	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.55	U	3.6	0.55	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>1.8</b>	<b>I</b>	<b>3.6</b>	<b>0.54</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.94	U	7.2	0.94	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>16</b>		<b>3.6</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>96</b>		<b>3.6</b>	<b>0.54</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>0.99</b>	<b>I</b>	<b>3.6</b>	<b>0.47</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.43	U	3.6	0.43	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>8.6</b>		<b>3.6</b>	<b>0.40</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.74	U	7.2	0.74	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>11</b>		<b>3.6</b>	<b>0.62</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>2.3</b>	<b>I</b>	<b>3.6</b>	<b>0.42</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.90	U	7.2	0.90	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>20</b>		<b>3.6</b>	<b>0.75</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>13</b>		<b>3.6</b>	<b>0.49</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.54	U	3.6	0.54	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.57	U	3.6	0.57	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>72</b>		<b>3.6</b>	<b>1.8</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		122	25-150
13C2_6:2FTS		96	25-150
13C2_8:2FTS		77	25-150
13C2_PFDaA		72	25-150
13C2_PFHxDA		68	25-150
13C2_PFTeDA		70	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-002</b>
Description: <b>PW #8</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1013</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		84	25-150
13C3_PFHxS		82	25-150
13C3-HFPO-DA		84	25-150
13C4_PFBa		82	25-150
13C4_PFHpA		85	25-150
13C5_PFHxA		91	25-150
13C5_PFPeA		87	25-150
13C6_PFDa		81	25-150
13C7_PFUdA		76	25-150
13C8_PFOA		81	25-150
13C8_PFOS		69	25-150
13C8_PFOSA		83	10-150
13C9_PFNA		82	25-150
d-EtFOSA		58	10-150
d5-EtFOSAA		77	25-150
d9-EtFOSE		65	10-150
d-MeFOSA		65	10-150
d3-MeFOSAA		76	25-150
d7-MeFOSE		61	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-003**

Description: **PW #9**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1026**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2015	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.60	U	7.3	0.60	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.3	1.5	ng/L	1
<b>1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)</b>	<b>27619-97-2</b>	<b>PFAS by ID SOP</b>	<b>1.8</b>	<b>I</b>	<b>7.3</b>	<b>1.8</b>	<b>ng/L</b>	<b>1</b>
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.3	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.79	U	7.3	0.79	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.3	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.68	U	7.3	0.68	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.87	U	7.3	0.87	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.1	U	15	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.85	U	7.3	0.85	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>18</b>		<b>3.6</b>	<b>0.38</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.71	U	3.6	0.71	ng/L	1
<b>Perfluoro-1-heptanesulfonic acid (PFHpS)</b>	<b>375-92-8</b>	<b>PFAS by ID SOP</b>	<b>1.5</b>	<b>I</b>	<b>3.6</b>	<b>0.45</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.65	U	3.6	0.65	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.56	U	3.6	0.56	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>2.0</b>	<b>I</b>	<b>3.6</b>	<b>0.54</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.95	U	7.3	0.95	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>15</b>		<b>3.6</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanefluoronic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>8.5</b>		<b>3.6</b>	<b>0.55</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.43	U	3.6	0.43	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>8.2</b>		<b>3.6</b>	<b>0.41</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.74	U	7.3	0.74	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>13</b>		<b>3.6</b>	<b>0.63</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.42	U	3.6	0.42	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.91	U	7.3	0.91	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>23</b>		<b>3.6</b>	<b>0.75</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>12</b>		<b>3.6</b>	<b>0.49</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.55	U	3.6	0.55	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.57	U	3.6	0.57	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>58</b>		<b>3.6</b>	<b>1.8</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		105	25-150
13C2_6:2FTS		88	25-150
13C2_8:2FTS		81	25-150
13C2_PFDaA		76	25-150
13C2_PFHxDA		73	25-150
13C2_PFTeDA		74	25-150

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 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-003</b>
Description: <b>PW #9</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1026</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		81	25-150
13C3_PFHxS		77	25-150
13C3-HFPO-DA		82	25-150
13C4_PFBa		77	25-150
13C4_PFHpA		84	25-150
13C5_PFHxA		84	25-150
13C5_PFPeA		87	25-150
13C6_PFDA		79	25-150
13C7_PFUdA		78	25-150
13C8_PFOA		78	25-150
13C8_PFOS		70	25-150
13C8_PFOSA		79	10-150
13C9_PFNA		77	25-150
d-EtFOSA		59	10-150
d5-EtFOSAA		70	25-150
d9-EtFOSE		68	10-150
d-MeFOSA		70	10-150
d3-MeFOSAA		78	25-150
d7-MeFOSE		76	10-150

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LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-004</b>
Description: <b>PW #12</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1040</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2026	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	0.60	U	7.3	0.60	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.3	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.8	U	7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.3	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.80	U	7.3	0.80	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.3	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.68	U	7.3	0.68	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.87	U	7.3	0.87	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.1	U	15	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.85	U	7.3	0.85	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>13</b>		<b>3.6</b>	<b>0.38</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.71	U	3.6	0.71	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.46	U	3.6	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.65	U	3.6	0.65	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.56	U	3.6	0.56	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>0.80</b>	<b>I</b>	<b>3.6</b>	<b>0.54</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.95	U	7.3	0.95	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>7.4</b>		<b>3.6</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>7.8</b>		<b>3.6</b>	<b>0.55</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.43	U	3.6	0.43	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>5.3</b>		<b>3.6</b>	<b>0.41</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.74	U	7.3	0.74	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>8.3</b>		<b>3.6</b>	<b>0.63</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>1.3</b>	<b>I</b>	<b>3.6</b>	<b>0.42</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.91	U	7.3	0.91	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>13</b>		<b>3.6</b>	<b>0.76</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>10</b>		<b>3.6</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.55	U	3.6	0.55	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.57	U	3.6	0.57	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>30</b>		<b>3.6</b>	<b>1.8</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		98	25-150
13C2_6:2FTS		92	25-150
13C2_8:2FTS		77	25-150
13C2_PFDaA		79	25-150
13C2_PFHxDA		83	25-150
13C2_PFTeDA		80	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-004</b>
Description: <b>PW #12</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1040</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		84	25-150
13C3_PFHxS		82	25-150
13C3-HFPO-DA		87	25-150
13C4_PFBa		85	25-150
13C4_PFHpA		86	25-150
13C5_PFHxA		85	25-150
13C5_PFPeA		86	25-150
13C6_PFDa		84	25-150
13C7_PFUdA		83	25-150
13C8_PFOA		83	25-150
13C8_PFOS		79	25-150
13C8_PFOSA		90	10-150
13C9_PFNA		85	25-150
d-EtFOSA		70	10-150
d5-EtFOSAA		85	25-150
d9-EtFOSE		84	10-150
d-MeFOSA		73	10-150
d3-MeFOSAA		82	25-150
d7-MeFOSE		78	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-005**

Description: **PW #14**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1052**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2037	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	0.60	U	7.3	0.60	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.3	1.5	ng/L	1
<b>1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)</b>	<b>27619-97-2</b>	<b>PFAS by ID SOP</b>	<b>8.2</b>		<b>7.3</b>	<b>1.8</b>	<b>ng/L</b>	<b>1</b>
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.3	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.80	U	7.3	0.80	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.3	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.68	U	7.3	0.68	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.87	U	7.3	0.87	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.1	U	15	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.85	U	7.3	0.85	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>17</b>		<b>3.6</b>	<b>0.38</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.71	U	3.6	0.71	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.46	U	3.6	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.65	U	3.6	0.65	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.56	U	3.6	0.56	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>1.2</b>	<b>I</b>	<b>3.6</b>	<b>0.54</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.95	U	7.3	0.95	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>8.9</b>		<b>3.6</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>12</b>		<b>3.6</b>	<b>0.55</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>0.74</b>	<b>I</b>	<b>3.6</b>	<b>0.48</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.43	U	3.6	0.43	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>7.6</b>		<b>3.6</b>	<b>0.41</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.74	U	7.3	0.74	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>17</b>		<b>3.6</b>	<b>0.63</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>1.5</b>	<b>I</b>	<b>3.6</b>	<b>0.42</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.91	U	7.3	0.91	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>15</b>		<b>3.6</b>	<b>0.76</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>23</b>		<b>3.6</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.55	U	3.6	0.55	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.57	U	3.6	0.57	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>40</b>		<b>3.6</b>	<b>1.8</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		113	25-150
13C2_6:2FTS		95	25-150
13C2_8:2FTS		79	25-150
13C2_PFDa		81	25-150
13C2_PFHxDA		77	25-150
13C2_PFTeDA		82	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-005</b>
Description: <b>PW #14</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1052</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		89	25-150
13C3_PFHxS		88	25-150
13C3-HFPO-DA		90	25-150
13C4_PFBa		91	25-150
13C4_PFHpA		88	25-150
13C5_PFHxA		88	25-150
13C5_PFPeA		88	25-150
13C6_PFDa		91	25-150
13C7_PFUdA		81	25-150
13C8_PFOA		93	25-150
13C8_PFOS		76	25-150
13C8_PFOsA		99	10-150
13C9_PFNa		86	25-150
d-EtFOsA		71	10-150
d5-EtFOsAA		85	25-150
d9-EtFOsE		77	10-150
d-MeFOsA		78	10-150
d3-MeFOsAA		86	25-150
d7-MeFOsE		70	10-150

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LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-006**

Description: **PW #16**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1103**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2047	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.61	U	7.3	0.61	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.3	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.8	U	7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.3	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.80	U	7.3	0.80	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.3	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.69	U	7.3	0.69	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.87	U	7.3	0.87	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.85	U	7.3	0.85	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>22</b>		<b>3.7</b>	<b>0.38</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-1-decanesulfonic acid (PFDS)</b>	<b>335-77-3</b>	<b>PFAS by ID SOP</b>	<b>1.0</b>	<b>I</b>	<b>3.7</b>	<b>0.71</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-1-heptanesulfonic acid (PFHpS)</b>	<b>375-92-8</b>	<b>PFAS by ID SOP</b>	<b>0.96</b>	<b>I</b>	<b>3.7</b>	<b>0.46</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.65	U	3.7	0.65	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>1.2</b>	<b>I</b>	<b>3.7</b>	<b>0.54</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.96	U	7.3	0.96	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>12</b>		<b>3.7</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>10</b>		<b>3.7</b>	<b>0.55</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>3.5</b>	<b>I</b>	<b>3.7</b>	<b>0.48</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>12</b>		<b>3.7</b>	<b>0.41</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.75	U	7.3	0.75	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>20</b>		<b>3.7</b>	<b>0.63</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>16</b>		<b>3.7</b>	<b>0.42</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.92	U	7.3	0.92	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>29</b>		<b>3.7</b>	<b>0.76</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>24</b>		<b>3.7</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.48	U	3.7	0.48	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>58</b>		<b>3.7</b>	<b>1.8</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		95	25-150
13C2_6:2FTS		83	25-150
13C2_8:2FTS		72	25-150
13C2_PFDaA		72	25-150
13C2_PFHxDA		74	25-150
13C2_PFTeDA		73	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-006</b>
Description: <b>PW #16</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1103</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		76	25-150
13C3_PFHxS		76	25-150
13C3-HFPO-DA		80	25-150
13C4_PFBa		85	25-150
13C4_PFHpA		84	25-150
13C5_PFHxA		86	25-150
13C5_PFPeA		82	25-150
13C6_PFDA		72	25-150
13C7_PFUdA		69	25-150
13C8_PFOA		77	25-150
13C8_PFOS		67	25-150
13C8_PFOSA		76	10-150
13C9_PFNA		75	25-150
d-EtFOSA		54	10-150
d5-EtFOSAA		72	25-150
d9-EtFOSE		67	10-150
d-MeFOSA		65	10-150
d3-MeFOSAA		77	25-150
d7-MeFOSE		68	10-150

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LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-007**

Description: **PW #17**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1120**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2058	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.61	U	7.3	0.61	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.3	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.8	U	7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.3	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.80	U	7.3	0.80	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.3	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.69	U	7.3	0.69	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.87	U	7.3	0.87	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.85	U	7.3	0.85	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>25</b>		<b>3.7</b>	<b>0.38</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.71	U	3.7	0.71	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.46	U	3.7	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.65	U	3.7	0.65	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>3.9</b>		<b>3.7</b>	<b>0.54</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.96	U	7.3	0.96	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>23</b>		<b>3.7</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>10</b>		<b>3.7</b>	<b>0.55</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.48	U	3.7	0.48	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>6.9</b>		<b>3.7</b>	<b>0.41</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.75	U	7.3	0.75	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>13</b>		<b>3.7</b>	<b>0.63</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>1.1</b>	<b>I</b>	<b>3.7</b>	<b>0.42</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.92	U	7.3	0.92	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>15</b>		<b>3.7</b>	<b>0.76</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>14</b>		<b>3.7</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.48	U	3.7	0.48	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>30</b>		<b>3.7</b>	<b>1.8</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		112	25-150
13C2_6:2FTS		91	25-150
13C2_8:2FTS		79	25-150
13C2_PFDa		80	25-150
13C2_PFHxDA		85	25-150
13C2_PFTeDA		83	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-007</b>
Description: <b>PW #17</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1120</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		86	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		91	25-150
13C4_PFBa		91	25-150
13C4_PFHpA		91	25-150
13C5_PFHxA		89	25-150
13C5_PFPeA		95	25-150
13C6_PFDa		88	25-150
13C7_PFUdA		86	25-150
13C8_PFOA		87	25-150
13C8_PFOS		82	25-150
13C8_PFOsA		94	10-150
13C9_PFNa		88	25-150
d-EtFOsA		62	10-150
d5-EtFOsAA		87	25-150
d9-EtFOsE		78	10-150
d-MeFOsA		77	10-150
d3-MeFOsAA		83	25-150
d7-MeFOsE		67	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-008**

Description: **PW #21**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1140**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2130	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.5	0.62	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.70	U	7.5	0.70	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.89	U	7.5	0.89	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.87	U	7.5	0.87	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>9.4</b>		<b>3.7</b>	<b>0.39</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.7	0.73	ng/L	1
<b>Perfluoro-1-heptanesulfonic acid (PFHpS)</b>	<b>375-92-8</b>	<b>PFAS by ID SOP</b>	<b>0.73</b>	<b>I</b>	<b>3.7</b>	<b>0.47</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.66	U	3.7	0.66	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>0.98</b>	<b>I</b>	<b>3.7</b>	<b>0.55</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.98	U	7.5	0.98	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>8.5</b>		<b>3.7</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>5.5</b>		<b>3.7</b>	<b>0.56</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>0.56</b>	<b>I</b>	<b>3.7</b>	<b>0.49</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.7	0.44	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>6.1</b>		<b>3.7</b>	<b>0.42</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.76	U	7.5	0.76	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>7.2</b>		<b>3.7</b>	<b>0.64</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>1.1</b>	<b>I</b>	<b>3.7</b>	<b>0.43</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.93	U	7.5	0.93	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>15</b>		<b>3.7</b>	<b>0.77</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>7.7</b>		<b>3.7</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.58	U	3.7	0.58	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>32</b>		<b>3.7</b>	<b>1.9</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		117	25-150
13C2_6:2FTS		88	25-150
13C2_8:2FTS		75	25-150
13C2_PFDaA		74	25-150
13C2_PFHxDA		67	25-150
13C2_PFTeDA		72	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-008</b>
Description: <b>PW #21</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1140</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		79	25-150
13C3_PFHxS		81	25-150
13C3-HFPO-DA		81	25-150
13C4_PFBa		79	25-150
13C4_PFHpA		81	25-150
13C5_PFHxA		86	25-150
13C5_PFPeA		87	25-150
13C6_PFDa		78	25-150
13C7_PFUdA		79	25-150
13C8_PFOA		81	25-150
13C8_PFOS		70	25-150
13C8_PFOSA		88	10-150
13C9_PFNA		80	25-150
d-EtFOSA		59	10-150
d5-EtFOSAA		76	25-150
d9-EtFOSE		64	10-150
d-MeFOSA		75	10-150
d3-MeFOSAA		80	25-150
d7-MeFOSE		71	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-009</b>
Description: <b>PW #22</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1200</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2141	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.5	0.62	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.5	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	1
<b>N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)</b>	<b>2991-50-6</b>	<b>PFAS by ID SOP</b>	<b>1.2</b>	<b>I</b>	<b>7.5</b>	<b>0.71</b>	<b>ng/L</b>	<b>1</b>
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.90	U	7.5	0.90	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.88	U	7.5	0.88	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>8.8</b>		<b>3.8</b>	<b>0.39</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.8	0.73	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.8	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.67	U	3.8	0.67	ng/L	1
<b>Perfluoro-1-octanesulfonamide (PFOSA)</b>	<b>754-91-6</b>	<b>PFAS by ID SOP</b>	<b>1.0</b>	<b>I</b>	<b>3.8</b>	<b>0.58</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>0.76</b>	<b>I</b>	<b>3.8</b>	<b>0.56</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.98	U	7.5	0.98	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>7.2</b>		<b>3.8</b>	<b>0.52</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>6.7</b>		<b>3.8</b>	<b>0.56</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>2.6</b>	<b>I</b>	<b>3.8</b>	<b>0.49</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.8	0.44	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>9.4</b>		<b>3.8</b>	<b>0.42</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.77	U	7.5	0.77	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>9.2</b>		<b>3.8</b>	<b>0.65</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.43	U	3.8	0.43	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.94	U	7.5	0.94	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>16</b>		<b>3.8</b>	<b>0.78</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>11</b>		<b>3.8</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.8	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
<b>Perfluoro-n-undecanoic acid (PFUdA)</b>	<b>2058-94-8</b>	<b>PFAS by ID SOP</b>	<b>0.92</b>	<b>I</b>	<b>3.8</b>	<b>0.59</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>35</b>		<b>3.8</b>	<b>1.9</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		112	25-150
13C2_6:2FTS		91	25-150
13C2_8:2FTS		73	25-150
13C2_PFDa		65	25-150
13C2_PFHxDA		37	25-150
13C2_PFTeDA		56	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-009</b>
Description: <b>PW #22</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1200</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		79	25-150
13C3_PFHxS		76	25-150
13C3-HFPO-DA		81	25-150
13C4_PFBa		80	25-150
13C4_PFHpA		80	25-150
13C5_PFHxA		81	25-150
13C5_PFPeA		82	25-150
13C6_PFDa		73	25-150
13C7_PFUdA		71	25-150
13C8_PFOA		80	25-150
13C8_PFOS		59	25-150
13C8_PFOSA		82	10-150
13C9_PFNA		76	25-150
d-EtFOSA		52	10-150
d5-EtFOSAA		76	25-150
d9-EtFOSE		53	10-150
d-MeFOSA		58	10-150
d3-MeFOSAA		73	25-150
d7-MeFOSE		63	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-010</b>
Description: <b>PW #22 Dup</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1205</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 1911	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.61	U	7.3	0.61	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.3	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.8	U	7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.3	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.80	U	7.3	0.80	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.3	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
<b>N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)</b>	<b>2991-50-6</b>	<b>PFAS by ID SOP</b>	<b>1.3</b>	<b>I</b>	<b>7.3</b>	<b>0.69</b>	<b>ng/L</b>	<b>1</b>
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.87	U	7.3	0.87	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.85	U	7.3	0.85	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>9.4</b>		<b>3.7</b>	<b>0.38</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.71	U	3.7	0.71	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.46	U	3.7	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.65	U	3.7	0.65	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>1.0</b>	<b>I</b>	<b>3.7</b>	<b>0.54</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.96	U	7.3	0.96	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>6.5</b>		<b>3.7</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>7.0</b>		<b>3.7</b>	<b>0.55</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>2.2</b>	<b>I</b>	<b>3.7</b>	<b>0.48</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>9.8</b>		<b>3.7</b>	<b>0.41</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.75	U	7.3	0.75	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>9.4</b>		<b>3.7</b>	<b>0.63</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>2.2</b>	<b>I</b>	<b>3.7</b>	<b>0.42</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.92	U	7.3	0.92	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>16</b>		<b>3.7</b>	<b>0.76</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>11</b>		<b>3.7</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.48	U	3.7	0.48	ng/L	1
<b>Perfluoro-n-undecanoic acid (PFUdA)</b>	<b>2058-94-8</b>	<b>PFAS by ID SOP</b>	<b>1.0</b>	<b>I</b>	<b>3.7</b>	<b>0.57</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>33</b>		<b>3.7</b>	<b>1.8</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		121	25-150
13C2_6:2FTS		91	25-150
13C2_8:2FTS		75	25-150
13C2_PFDa		70	25-150
13C2_PFHxDA		51	25-150
13C2_PFTeDA		64	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-010</b>
Description: <b>PW #22 Dup</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1205</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		79	25-150
13C3_PFHxS		83	25-150
13C3-HFPO-DA		80	25-150
13C4_PFBa		74	25-150
13C4_PFHpA		84	25-150
13C5_PFHxA		83	25-150
13C5_PFPeA		83	25-150
13C6_PFDA		79	25-150
13C7_PFUdA		74	25-150
13C8_PFOA		81	25-150
13C8_PFOS		71	25-150
13C8_PFOsA		80	10-150
13C9_PFNA		80	25-150
d-EtFOSA		47	10-150
d5-EtFOSAA		69	25-150
d9-EtFOSE		68	10-150
d-MeFOSA		56	10-150
d3-MeFOSAA		75	25-150
d7-MeFOSE		66	10-150

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LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-011**

Description: **PW #23**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1250**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 1517	JJG	06/15/2021 1903	95596

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.5	0.62	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.70	U	7.5	0.70	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.89	U	7.5	0.89	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.87	U	7.5	0.87	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>13</b>		<b>3.7</b>	<b>0.39</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.7	0.73	ng/L	1
<b>Perfluoro-1-heptanesulfonic acid (PFHpS)</b>	<b>375-92-8</b>	<b>PFAS by ID SOP</b>	<b>0.74</b>	<b>I</b>	<b>3.7</b>	<b>0.47</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.67	U	3.7	0.67	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>0.76</b>	<b>I</b>	<b>3.7</b>	<b>0.56</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.98	U	7.5	0.98	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>8.1</b>		<b>3.7</b>	<b>0.52</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>9.8</b>		<b>3.7</b>	<b>0.56</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>2.1</b>	<b>I</b>	<b>3.7</b>	<b>0.49</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-dodecanoic acid (PFDoA)</b>	<b>307-55-1</b>	<b>PFAS by ID SOP</b>	<b>0.47</b>	<b>I</b>	<b>3.7</b>	<b>0.44</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-heptanoic acid (PFHpA)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>10</b>		<b>3.7</b>	<b>0.42</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.76	U	7.5	0.76	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>17</b>		<b>3.7</b>	<b>0.64</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>2.4</b>	<b>I</b>	<b>3.7</b>	<b>0.43</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.94	U	7.5	0.94	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>22</b>		<b>3.7</b>	<b>0.78</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>22</b>		<b>3.7</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.7	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.59	U	3.7	0.59	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>29</b>		<b>3.7</b>	<b>1.9</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		121	25-150
13C2_6:2FTS		97	25-150
13C2_8:2FTS		75	25-150
13C2_PFDaA		72	25-150
13C2_PFHxDA		58	25-150
13C2_PFTeDA		65	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-011</b>
Description: <b>PW #23</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1250</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		79	25-150
13C3_PFHxS		74	25-150
13C3-HFPO-DA		82	25-150
13C4_PFBa		79	25-150
13C4_PFHpA		85	25-150
13C5_PFHxA		86	25-150
13C5_PFPeA		84	25-150
13C6_PFDa		78	25-150
13C7_PFUdA		81	25-150
13C8_PFOA		83	25-150
13C8_PFOS		66	25-150
13C8_PFOsA		87	10-150
13C9_PFNa		78	25-150
d-EtFOsA		69	10-150
d5-EtFOsAA		76	25-150
d9-EtFOsE		67	10-150
d-MeFOsA		77	10-150
d3-MeFOsAA		77	25-150
d7-MeFOsE		65	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-012</b>
Description: <b>PW #24</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1305</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2152	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	0.46	U	7.7	0.46	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	0.64	U	7.7	0.64	ng/L	1
<b>1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)</b>	<b>39108-34-4</b>	<b>PFAS by ID SOP</b>	<b>7.0</b>	<b>I</b>	<b>7.7</b>	<b>1.5</b>	<b>ng/L</b>	<b>1</b>
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.7	1.9	ng/L	1
<b>1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)</b>	<b>120226-60-0</b>	<b>PFAS by ID SOP</b>	<b>2.3</b>	<b>I</b>	<b>7.7</b>	<b>1.2</b>	<b>ng/L</b>	<b>1</b>
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.84	U	7.7	0.84	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.7	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.46	U	7.7	0.46	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.7	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.72	U	7.7	0.72	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.91	U	7.7	0.91	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.89	U	7.7	0.89	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.7	1.2	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>6.1</b>		<b>3.8</b>	<b>0.40</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.75	U	3.8	0.75	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.48	U	3.8	0.48	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.68	U	3.8	0.68	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.59	U	3.8	0.59	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	1.0	U	7.7	1.0	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>4.7</b>		<b>3.8</b>	<b>0.53</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanefluoronic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>6.6</b>		<b>3.8</b>	<b>0.57</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>2.4</b>	<b>I</b>	<b>3.8</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-dodecanoic acid (PFDoA)</b>	<b>307-55-1</b>	<b>PFAS by ID SOP</b>	<b>1.4</b>	<b>I</b>	<b>3.8</b>	<b>0.45</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-heptanoic acid (PFHpA)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>8.5</b>		<b>3.8</b>	<b>0.43</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.78	U	7.7	0.78	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>8.6</b>		<b>3.8</b>	<b>0.66</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>3.0</b>	<b>I</b>	<b>3.8</b>	<b>0.44</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.96	U	7.7	0.96	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>24</b>		<b>3.8</b>	<b>0.79</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>11</b>		<b>3.8</b>	<b>0.52</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
<b>Perfluoro-n-tridecanoic acid (PFTrDA)</b>	<b>72629-94-8</b>	<b>PFAS by ID SOP</b>	<b>0.64</b>	<b>I</b>	<b>3.8</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-undecanoic acid (PFUdA)</b>	<b>2058-94-8</b>	<b>PFAS by ID SOP</b>	<b>1.2</b>	<b>I</b>	<b>3.8</b>	<b>0.60</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>19</b>		<b>3.8</b>	<b>1.9</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		122	25-150
13C2_6:2FTS		85	25-150
13C2_8:2FTS		85	25-150
13C2_PFDaA		69	25-150
13C2_PFHxDA		48	25-150
13C2_PFTeDA		60	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-012</b>
Description: <b>PW #24</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1305</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		79	25-150
13C3_PFHxS		75	25-150
13C3-HFPO-DA		82	25-150
13C4_PFBa		80	25-150
13C4_PFHpA		80	25-150
13C5_PFHxA		83	25-150
13C5_PFPeA		84	25-150
13C6_PFDa		82	25-150
13C7_PFUdA		76	25-150
13C8_PFOA		77	25-150
13C8_PFOS		62	25-150
13C8_PFOSA		81	10-150
13C9_PFNA		79	25-150
d-EtFOSA		58	10-150
d5-EtFOSAA		74	25-150
d9-EtFOSE		55	10-150
d-MeFOSA		70	10-150
d3-MeFOSAA		74	25-150
d7-MeFOSE		63	10-150

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LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-013**

Description: **PW #25**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1315**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2202	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	0.47	U	7.8	0.47	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	0.64	U	7.8	0.64	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.6	U	7.8	1.6	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.8	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.2	U	7.8	1.2	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.85	U	7.8	0.85	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.8	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.47	U	7.8	0.47	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.8	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.73	U	7.8	0.73	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.93	U	7.8	0.93	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	16	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.91	U	7.8	0.91	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.3	U	7.8	1.3	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>5.0</b>		<b>3.9</b>	<b>0.40</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.76	U	3.9	0.76	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.49	U	3.9	0.49	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.69	U	3.9	0.69	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.60	U	3.9	0.60	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.58	U	3.9	0.58	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	1.0	U	7.8	1.0	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>4.4</b>		<b>3.9</b>	<b>0.54</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>5.5</b>		<b>3.9</b>	<b>0.58</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>2.1</b>	<b>I</b>	<b>3.9</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-dodecanoic acid (PFDoA)</b>	<b>307-55-1</b>	<b>PFAS by ID SOP</b>	<b>0.62</b>	<b>I</b>	<b>3.9</b>	<b>0.46</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-heptanoic acid (PFHpA)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>5.5</b>		<b>3.9</b>	<b>0.44</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.79	U	7.8	0.79	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>6.5</b>		<b>3.9</b>	<b>0.67</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>1.7</b>	<b>I</b>	<b>3.9</b>	<b>0.45</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.97	U	7.8	0.97	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>11</b>		<b>3.9</b>	<b>0.81</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>8.2</b>		<b>3.9</b>	<b>0.53</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.58	U	3.9	0.58	ng/L	1
<b>Perfluoro-n-tridecanoic acid (PFTrDA)</b>	<b>72629-94-8</b>	<b>PFAS by ID SOP</b>	<b>0.58</b>	<b>I</b>	<b>3.9</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.61	U	3.9	0.61	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>17</b>		<b>3.9</b>	<b>1.9</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		120	25-150
13C2_6:2FTS		97	25-150
13C2_8:2FTS		76	25-150
13C2_PFDaA		69	25-150
13C2_PFHxDA		58	25-150
13C2_PFTeDA		64	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-013</b>
Description: <b>PW #25</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1315</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		78	25-150
13C3_PFHxS		75	25-150
13C3-HFPO-DA		82	25-150
13C4_PFBa		79	25-150
13C4_PFHpA		80	25-150
13C5_PFHxA		83	25-150
13C5_PFPeA		82	25-150
13C6_PFDa		78	25-150
13C7_PFUdA		76	25-150
13C8_PFOA		79	25-150
13C8_PFOs		62	25-150
13C8_PFOsA		82	10-150
13C9_PFNa		78	25-150
d-EtFOsA		59	10-150
d5-EtFOsAA		75	25-150
d9-EtFOsE		68	10-150
d-MeFOsA		60	10-150
d3-MeFOsAA		78	25-150
d7-MeFOsE		64	10-150

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LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-014**

Description: **PW #26A**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1330**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2213	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	0.46	U	7.6	0.46	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	0.63	U	7.6	0.63	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.6	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.6	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.6	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.83	U	7.6	0.83	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.6	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.46	U	7.6	0.46	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.6	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.71	U	7.6	0.71	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.91	U	7.6	0.91	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.89	U	7.6	0.89	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.6	1.2	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>12</b>		<b>3.8</b>	<b>0.39</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.74	U	3.8	0.74	ng/L	1
<b>Perfluoro-1-heptanesulfonic acid (PFHpS)</b>	<b>375-92-8</b>	<b>PFAS by ID SOP</b>	<b>0.49</b>	<b>I</b>	<b>3.8</b>	<b>0.47</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.68	U	3.8	0.68	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.58	U	3.8	0.58	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>0.89</b>	<b>I</b>	<b>3.8</b>	<b>0.56</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.99	U	7.6	0.99	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>8.7</b>		<b>3.8</b>	<b>0.52</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>7.5</b>		<b>3.8</b>	<b>0.57</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>1.7</b>	<b>I</b>	<b>3.8</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.45	U	3.8	0.45	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>7.5</b>		<b>3.8</b>	<b>0.43</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.78	U	7.6	0.78	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>13</b>		<b>3.8</b>	<b>0.65</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>13</b>		<b>3.8</b>	<b>0.44</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.95	U	7.6	0.95	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>17</b>		<b>3.8</b>	<b>0.79</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>14</b>		<b>3.8</b>	<b>0.52</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.60	U	3.8	0.60	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>45</b>		<b>3.8</b>	<b>1.9</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		123	25-150
13C2_6:2FTS		95	25-150
13C2_8:2FTS		78	25-150
13C2_PFDaA		74	25-150
13C2_PFHxDA		63	25-150
13C2_PFTeDA		67	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-014</b>
Description: <b>PW #26A</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1330</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		79	25-150
13C3_PFHxS		81	25-150
13C3-HFPO-DA		87	25-150
13C4_PFBa		82	25-150
13C4_PFHpA		92	25-150
13C5_PFHxA		86	25-150
13C5_PFPeA		89	25-150
13C6_PFDa		85	25-150
13C7_PFUdA		83	25-150
13C8_PFOA		85	25-150
13C8_PFOS		69	25-150
13C8_PFOSA		89	10-150
13C9_PFNA		89	25-150
d-EtFOSA		53	10-150
d5-EtFOSAA		78	25-150
d9-EtFOSE		74	10-150
d-MeFOSA		63	10-150
d3-MeFOSAA		81	25-150
d7-MeFOSE		68	10-150

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LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-015</b>
Description: <b>PW #27</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1340</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2224	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.5	0.62	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.5	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.71	U	7.5	0.71	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.90	U	7.5	0.90	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.88	U	7.5	0.88	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>8.8</b>		<b>3.8</b>	<b>0.39</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.8	0.73	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.8	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.67	U	3.8	0.67	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.58	U	3.8	0.58	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>0.91</b>	<b>I</b>	<b>3.8</b>	<b>0.56</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.98	U	7.5	0.98	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>7.2</b>		<b>3.8</b>	<b>0.52</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>9.5</b>		<b>3.8</b>	<b>0.56</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>0.75</b>	<b>I</b>	<b>3.8</b>	<b>0.49</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.8	0.44	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>6.3</b>		<b>3.8</b>	<b>0.42</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.77	U	7.5	0.77	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>11</b>		<b>3.8</b>	<b>0.65</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>2.2</b>	<b>I</b>	<b>3.8</b>	<b>0.43</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.94	U	7.5	0.94	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>10</b>		<b>3.8</b>	<b>0.78</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>12</b>		<b>3.8</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.8	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.59	U	3.8	0.59	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>25</b>		<b>3.8</b>	<b>1.9</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		137	25-150
13C2_6:2FTS		86	25-150
13C2_8:2FTS		77	25-150
13C2_PFDaA		73	25-150
13C2_PFHxDA		77	25-150
13C2_PFTeDA		76	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-015</b>
Description: <b>PW #27</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1340</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		83	25-150
13C3_PFHxS		86	25-150
13C3-HFPO-DA		85	25-150
13C4_PFBa		76	25-150
13C4_PFHpA		84	25-150
13C5_PFHxA		85	25-150
13C5_PFPeA		86	25-150
13C6_PFDa		83	25-150
13C7_PFUdA		85	25-150
13C8_PFOA		80	25-150
13C8_PFOS		72	25-150
13C8_PFOSA		84	10-150
13C9_PFNA		84	25-150
d-EtFOSA		51	10-150
d5-EtFOSAA		85	25-150
d9-EtFOSE		71	10-150
d-MeFOSA		65	10-150
d3-MeFOSAA		80	25-150
d7-MeFOSE		76	10-150

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LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-016**

Description: **PW #28**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1355**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2234	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.46	U	7.6	0.46	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.63	U	7.6	0.63	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.6	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.6	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.6	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.83	U	7.6	0.83	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.6	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.46	U	7.6	0.46	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.6	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.72	U	7.6	0.72	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.91	U	7.6	0.91	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.89	U	7.6	0.89	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.6	1.2	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>13</b>		<b>3.8</b>	<b>0.40</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.74	U	3.8	0.74	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.48	U	3.8	0.48	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.68	U	3.8	0.68	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.58	U	3.8	0.58	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>0.91</b>	<b>I</b>	<b>3.8</b>	<b>0.57</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	1.0	U	7.6	1.0	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>9.3</b>		<b>3.8</b>	<b>0.53</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>9.4</b>		<b>3.8</b>	<b>0.57</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>0.76</b>	<b>I</b>	<b>3.8</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.45	U	3.8	0.45	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>5.8</b>		<b>3.8</b>	<b>0.43</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.78	U	7.6	0.78	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>10</b>		<b>3.8</b>	<b>0.66</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>1.8</b>	<b>I</b>	<b>3.8</b>	<b>0.44</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.95	U	7.6	0.95	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>13</b>		<b>3.8</b>	<b>0.79</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>11</b>		<b>3.8</b>	<b>0.52</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.60	U	3.8	0.60	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>26</b>		<b>3.8</b>	<b>1.9</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		127	25-150
13C2_6:2FTS		96	25-150
13C2_8:2FTS		73	25-150
13C2_PFDa		67	25-150
13C2_PFHxDA		46	25-150
13C2_PFTeDA		59	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-016</b>
Description: <b>PW #28</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1355</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		86	25-150
13C3_PFHxS		77	25-150
13C3-HFPO-DA		88	25-150
13C4_PFBa		80	25-150
13C4_PFHpA		91	25-150
13C5_PFHxA		88	25-150
13C5_PFPeA		90	25-150
13C6_PFDa		79	25-150
13C7_PFUdA		79	25-150
13C8_PFOA		87	25-150
13C8_PFOS		65	25-150
13C8_PFOSA		89	10-150
13C9_PFNA		79	25-150
d-EtFOSA		54	10-150
d5-EtFOSAA		74	25-150
d9-EtFOSE		60	10-150
d-MeFOSA		65	10-150
d3-MeFOSAA		77	25-150
d7-MeFOSE		64	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-017**

Description: **PW #29**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1425**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2245	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	0.46	U	7.6	0.46	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	0.63	U	7.6	0.63	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.6	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.6	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.6	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.83	U	7.6	0.83	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.6	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.46	U	7.6	0.46	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.6	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.71	U	7.6	0.71	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.90	U	7.6	0.90	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.88	U	7.6	0.88	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.6	1.2	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>9.1</b>		<b>3.8</b>	<b>0.39</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.74	U	3.8	0.74	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.8	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.67	U	3.8	0.67	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.58	U	3.8	0.58	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>0.79</b>	<b>I</b>	<b>3.8</b>	<b>0.56</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.99	U	7.6	0.99	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>6.6</b>		<b>3.8</b>	<b>0.52</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>9.2</b>		<b>3.8</b>	<b>0.57</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>0.55</b>	<b>I</b>	<b>3.8</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.45	U	3.8	0.45	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>5.6</b>		<b>3.8</b>	<b>0.42</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.77	U	7.6	0.77	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>10</b>		<b>3.8</b>	<b>0.65</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>1.7</b>	<b>I</b>	<b>3.8</b>	<b>0.44</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.95	U	7.6	0.95	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>11</b>		<b>3.8</b>	<b>0.79</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>11</b>		<b>3.8</b>	<b>0.52</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.59	U	3.8	0.59	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>21</b>		<b>3.8</b>	<b>1.9</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		136	25-150
13C2_6:2FTS		98	25-150
13C2_8:2FTS		81	25-150
13C2_PFDa		78	25-150
13C2_PFHxDA		76	25-150
13C2_PFTeDA		77	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-017</b>
Description: <b>PW #29</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1425</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		84	25-150
13C3_PFHxS		91	25-150
13C3-HFPO-DA		91	25-150
13C4_PFBa		77	25-150
13C4_PFHpA		83	25-150
13C5_PFHxA		85	25-150
13C5_PFPeA		86	25-150
13C6_PFDa		81	25-150
13C7_PFUdA		84	25-150
13C8_PFOA		83	25-150
13C8_PFOS		74	25-150
13C8_PFOSA		86	10-150
13C9_PFNA		84	25-150
d-EtFOSA		55	10-150
d5-EtFOSAA		87	25-150
d9-EtFOSE		74	10-150
d-MeFOSA		63	10-150
d3-MeFOSAA		86	25-150
d7-MeFOSE		62	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-018</b>
Description: <b>PW #30</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1440</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	SOP SPE	PFAS by ID SOP	1	06/19/2021 1645	JJG	06/18/2021 1738	96031

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	2
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.5	0.62	ng/L	2
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	2
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	2
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	2
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	2
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.5	2.0	ng/L	2
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	2
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	2
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.71	U	7.5	0.71	ng/L	2
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.90	U	7.5	0.90	ng/L	2
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	2
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.88	U	7.5	0.88	ng/L	2
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	2
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>8.9</b>		<b>3.8</b>	<b>0.39</b>	<b>ng/L</b>	<b>2</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.8	0.73	ng/L	2
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.8	0.47	ng/L	2
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.67	U	3.8	0.67	ng/L	2
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.58	U	3.8	0.58	ng/L	2
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>0.83</b>	<b>I</b>	<b>3.8</b>	<b>0.56</b>	<b>ng/L</b>	<b>2</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.98	U	7.5	0.98	ng/L	2
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>7.7</b>		<b>3.8</b>	<b>0.52</b>	<b>ng/L</b>	<b>2</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>9.9</b>		<b>3.8</b>	<b>0.56</b>	<b>ng/L</b>	<b>2</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>0.68</b>	<b>I</b>	<b>3.8</b>	<b>0.49</b>	<b>ng/L</b>	<b>2</b>
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.8	0.44	ng/L	2
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>4.7</b>		<b>3.8</b>	<b>0.42</b>	<b>ng/L</b>	<b>2</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.77	U	7.5	0.77	ng/L	2
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>9.5</b>		<b>3.8</b>	<b>0.65</b>	<b>ng/L</b>	<b>2</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>1.9</b>	<b>I</b>	<b>3.8</b>	<b>0.43</b>	<b>ng/L</b>	<b>2</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.94	U	7.5	0.94	ng/L	2
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>10</b>		<b>3.8</b>	<b>0.78</b>	<b>ng/L</b>	<b>2</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>11</b>		<b>3.8</b>	<b>0.51</b>	<b>ng/L</b>	<b>2</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.8	0.56	ng/L	2
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	2
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.59	U	3.8	0.59	ng/L	2
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>23</b>		<b>3.8</b>	<b>1.9</b>	<b>ng/L</b>	<b>2</b>

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
13C2_4:2FTS		145	25-150
13C2_6:2FTS		85	25-150
13C2_8:2FTS		89	25-150
13C2_PFDa		85	25-150
13C2_PFHxDA		65	25-150
13C2_PFTeDA		80	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-018</b>
Description: <b>PW #30</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1440</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
13C3_PFBs		83	25-150
13C3_PFHxS		82	25-150
13C3-HFPO-DA		78	25-150
13C4_PFBa		75	25-150
13C4_PFHpA		86	25-150
13C5_PFHxA		84	25-150
13C5_PFPeA		83	25-150
13C6_PFDa		88	25-150
13C7_PFUdA		85	25-150
13C8_PFOA		76	25-150
13C8_PFOS		82	25-150
13C8_PFOSA		89	10-150
13C9_PFNA		86	25-150
d-EtFOSA		65	10-150
d5-EtFOSAA		92	25-150
d9-EtFOSE		68	10-150
d-MeFOSA		70	10-150
d3-MeFOSAA		93	25-150
d7-MeFOSE		81	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-019**

Description: **PW #31**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1450**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2307	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.46	U	7.6	0.46	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.63	U	7.6	0.63	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.6	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.6	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.6	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.83	U	7.6	0.83	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.6	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.46	U	7.6	0.46	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.6	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.72	U	7.6	0.72	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.91	U	7.6	0.91	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.89	U	7.6	0.89	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.6	1.2	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>9.8</b>		<b>3.8</b>	<b>0.40</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.74	U	3.8	0.74	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.48	U	3.8	0.48	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.68	U	3.8	0.68	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.58	U	3.8	0.58	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	1.0	U	7.6	1.0	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>7.5</b>		<b>3.8</b>	<b>0.53</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>9.4</b>		<b>3.8</b>	<b>0.57</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-decanoic acid (PFDA)</b>	<b>335-76-2</b>	<b>PFAS by ID SOP</b>	<b>0.62</b>	<b>I</b>	<b>3.8</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.45	U	3.8	0.45	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>5.1</b>		<b>3.8</b>	<b>0.43</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.78	U	7.6	0.78	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>9.2</b>		<b>3.8</b>	<b>0.66</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>2.0</b>	<b>I</b>	<b>3.8</b>	<b>0.44</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.95	U	7.6	0.95	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>12</b>		<b>3.8</b>	<b>0.79</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>9.2</b>		<b>3.8</b>	<b>0.52</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.60	U	3.8	0.60	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>23</b>		<b>3.8</b>	<b>1.9</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		136	25-150
13C2_6:2FTS		93	25-150
13C2_8:2FTS		87	25-150
13C2_PFDa		73	25-150
13C2_PFHxDA		70	25-150
13C2_PFTeDA		73	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-019</b>
Description: <b>PW #31</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1450</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		82	25-150
13C3_PFHxS		78	25-150
13C3-HFPO-DA		85	25-150
13C4_PFBa		76	25-150
13C4_PFHpA		88	25-150
13C5_PFHxA		85	25-150
13C5_PFPeA		84	25-150
13C6_PFDa		81	25-150
13C7_PFUdA		76	25-150
13C8_PFOA		81	25-150
13C8_PFOs		71	25-150
13C8_PFOsA		86	10-150
13C9_PFNa		82	25-150
d-EtFOsA		58	10-150
d5-EtFOsAA		81	25-150
d9-EtFOsE		68	10-150
d-MeFOsA		67	10-150
d3-MeFOsAA		80	25-150
d7-MeFOsE		73	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-020**

Description: **PW #36**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1510**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 1901	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	0.61	U	7.4	0.61	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.4	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.4	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.81	UQ	7.4	0.81	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.4	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.69	U	7.4	0.69	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.88	U	7.4	0.88	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.86	U	7.4	0.86	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.4	1.2	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>7.2</b>		<b>3.7</b>	<b>0.38</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.72	U	3.7	0.72	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.46	U	3.7	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.66	U	3.7	0.66	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.97	U	7.4	0.97	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>6.2</b>		<b>3.7</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>4.1</b>		<b>3.7</b>	<b>0.56</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.7	0.44	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>3.4</b>	<b>I</b>	<b>3.7</b>	<b>0.41</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.75	U	7.4	0.75	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>6.4</b>		<b>3.7</b>	<b>0.64</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>0.86</b>	<b>I</b>	<b>3.7</b>	<b>0.43</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.93	U	7.4	0.93	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>8.3</b>		<b>3.7</b>	<b>0.77</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>6.8</b>		<b>3.7</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.58	U	3.7	0.58	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>17</b>		<b>3.7</b>	<b>1.9</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	186	25-150
13C2_6:2FTS		109	25-150
13C2_8:2FTS		97	25-150
13C2_PFDa		95	25-150
13C2_PFHxDA		79	25-150
13C2_PFTeDA		77	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-020</b>
Description: <b>PW #36</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1510</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		93	25-150
13C3_PFHxS		90	25-150
13C3-HFPO-DA		97	25-150
13C4_PFBa		76	25-150
13C4_PFHpA		90	25-150
13C5_PFHxA		100	25-150
13C5_PFPeA		96	25-150
13C6_PFDa		107	25-150
13C7_PFUdA		98	25-150
13C8_PFOA		93	25-150
13C8_PFOS		89	25-150
13C8_PFOSA		92	10-150
13C9_PFNA		95	25-150
d-EtFOSA		87	10-150
d5-EtFOSAA		88	25-150
d9-EtFOSE		89	10-150
d-MeFOSA		90	10-150
d3-MeFOSAA		91	25-150
d7-MeFOSE		87	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-021</b>
Description: <b>PW #38</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1530</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 1922	JJG	06/14/2021 1738	95468

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.60	U	7.3	0.60	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.3	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.8	U	7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.3	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.79	UQ	7.3	0.79	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.3	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.68	U	7.3	0.68	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.87	U	7.3	0.87	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.1	U	15	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.85	U	7.3	0.85	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>2.8</b>	<b>I</b>	<b>3.6</b>	<b>0.38</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.71	U	3.6	0.71	ng/L	1
<b>Perfluoro-1-heptanesulfonic acid (PFHpS)</b>	<b>375-92-8</b>	<b>PFAS by ID SOP</b>	<b>0.73</b>	<b>I</b>	<b>3.6</b>	<b>0.45</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.65	U	3.6	0.65	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.56	U	3.6	0.56	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>0.59</b>	<b>I</b>	<b>3.6</b>	<b>0.54</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.95	U	7.3	0.95	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>4.0</b>		<b>3.6</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>3.9</b>		<b>3.6</b>	<b>0.55</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.43	U	3.6	0.43	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>2.6</b>	<b>I</b>	<b>3.6</b>	<b>0.41</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.74	U	7.3	0.74	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>3.9</b>		<b>3.6</b>	<b>0.63</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>0.93</b>	<b>I</b>	<b>3.6</b>	<b>0.42</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.91	U	7.3	0.91	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>7.4</b>		<b>3.6</b>	<b>0.75</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>3.7</b>		<b>3.6</b>	<b>0.49</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.55	U	3.6	0.55	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.57	U	3.6	0.57	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>31</b>		<b>3.6</b>	<b>1.8</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	151	25-150
13C2_6:2FTS		97	25-150
13C2_8:2FTS		71	25-150
13C2_PFDa		66	25-150
13C2_PFHxDA		67	25-150
13C2_PFTeDA		63	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-021</b>
Description: <b>PW #38</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1530</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		80	25-150
13C3_PFHxS		75	25-150
13C3-HFPO-DA		86	25-150
13C4_PFBa		67	25-150
13C4_PFHpA		86	25-150
13C5_PFHxA		85	25-150
13C5_PFPeA		82	25-150
13C6_PFDa		71	25-150
13C7_PFUdA		67	25-150
13C8_PFOA		79	25-150
13C8_PFOS		63	25-150
13C8_PFOSA		76	10-150
13C9_PFNA		79	25-150
d-EtFOSA		41	10-150
d5-EtFOSAA		69	25-150
d9-EtFOSE		56	10-150
d-MeFOSA		51	10-150
d3-MeFOSAA		64	25-150
d7-MeFOSE		60	10-150

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LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-022**

Description: **PW #40**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1540**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 1932	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	0.61	U	7.4	0.61	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.4	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.4	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.81	UQ	7.4	0.81	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.4	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.69	U	7.4	0.69	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.88	U	7.4	0.88	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.86	U	7.4	0.86	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.4	1.2	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>3.8</b>		<b>3.7</b>	<b>0.38</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.72	U	3.7	0.72	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.46	U	3.7	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.66	U	3.7	0.66	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>1.1</b>	<b>I</b>	<b>3.7</b>	<b>0.55</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.97	U	7.4	0.97	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>4.9</b>		<b>3.7</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanefluoronic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>2.9</b>	<b>I</b>	<b>3.7</b>	<b>0.56</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.7	0.44	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>3.4</b>	<b>I</b>	<b>3.7</b>	<b>0.41</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.75	U	7.4	0.75	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>4.4</b>		<b>3.7</b>	<b>0.64</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>0.71</b>	<b>I</b>	<b>3.7</b>	<b>0.43</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.93	U	7.4	0.93	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>9.9</b>		<b>3.7</b>	<b>0.77</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>4.2</b>		<b>3.7</b>	<b>0.50</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.58	U	3.7	0.58	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>47</b>		<b>3.7</b>	<b>1.9</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	165	25-150
13C2_6:2FTS		116	25-150
13C2_8:2FTS		96	25-150
13C2_PFDa		87	25-150
13C2_PFHxDA		80	25-150
13C2_PFTeDA		80	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-022</b>
Description: <b>PW #40</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1540</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		92	25-150
13C3_PFHxS		90	25-150
13C3-HFPO-DA		92	25-150
13C4_PFBa		70	25-150
13C4_PFHpA		91	25-150
13C5_PFHxA		99	25-150
13C5_PFPeA		97	25-150
13C6_PFDa		95	25-150
13C7_PFUdA		94	25-150
13C8_PFOA		90	25-150
13C8_PFOS		86	25-150
13C8_PFOsA		90	10-150
13C9_PFNa		104	25-150
d-EtFOSA		75	10-150
d5-EtFOSAA		92	25-150
d9-EtFOSE		77	10-150
d-MeFOSA		111	10-150
d3-MeFOSAA		98	25-150
d7-MeFOSE		82	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-023**

Description: **PW #44**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1550**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 1943	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.4	0.62	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.4	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.4	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.81	UQ	7.4	0.81	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.4	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.70	U	7.4	0.70	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.89	U	7.4	0.89	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.87	U	7.4	0.87	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.4	1.2	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>1.9</b>	<b>I</b>	<b>3.7</b>	<b>0.39</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.72	U	3.7	0.72	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.46	U	3.7	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.66	U	3.7	0.66	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>1.2</b>	<b>I</b>	<b>3.7</b>	<b>0.55</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.97	U	7.4	0.97	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>4.3</b>	<b>I</b>	<b>3.7</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>2.0</b>	<b>I</b>	<b>3.7</b>	<b>0.56</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.7	0.44	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>2.0</b>	<b>I</b>	<b>3.7</b>	<b>0.42</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.76	U	7.4	0.76	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>2.9</b>	<b>I</b>	<b>3.7</b>	<b>0.64</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>0.54</b>	<b>I</b>	<b>3.7</b>	<b>0.43</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.93	U	7.4	0.93	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>9.7</b>	<b>I</b>	<b>3.7</b>	<b>0.77</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>2.3</b>	<b>I</b>	<b>3.7</b>	<b>0.51</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.58	U	3.7	0.58	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>69</b>	<b>I</b>	<b>3.7</b>	<b>1.9</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	192	25-150
13C2_6:2FTS		123	25-150
13C2_8:2FTS		95	25-150
13C2_PFDa		100	25-150
13C2_PFHxDA		80	25-150
13C2_PFTeDA		81	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-023</b>
Description: <b>PW #44</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1550</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		90	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		98	25-150
13C4_PFBa		66	25-150
13C4_PFHpA		89	25-150
13C5_PFHxA		97	25-150
13C5_PFPeA		94	25-150
13C6_PFDa		96	25-150
13C7_PFUdA		90	25-150
13C8_PFOA		89	25-150
13C8_PFOS		85	25-150
13C8_PFOsA		96	10-150
13C9_PFNa		94	25-150
d-EtFOsA		78	10-150
d5-EtFOsAA		93	25-150
d9-EtFOsE		86	10-150
d-MeFOsA		86	10-150
d3-MeFOsAA		93	25-150
d7-MeFOsE		83	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-024</b>
Description: <b>Field Blank</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1625</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/17/2021 1516	MMM	06/15/2021 1155	95531

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.5	0.62	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.70	U	7.5	0.70	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.89	U	7.5	0.89	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.87	U	7.5	0.87	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	1
Perfluoro-1-butanefluoro-1-octanesulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	0.39	U	3.7	0.39	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.7	0.73	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.7	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.67	U	3.7	0.67	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.98	U	7.5	0.98	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.52	U	3.7	0.52	ng/L	1
Perfluoro-n-butanefluoro-1-octanesulfonic acid (PFBA)	375-22-4	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.7	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.42	U	3.7	0.42	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.76	U	7.5	0.76	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.64	U	3.7	0.64	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.94	U	7.5	0.94	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.78	U	3.7	0.78	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.7	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.59	U	3.7	0.59	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.7	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		100	25-150
13C2_6:2FTS		103	25-150
13C2_8:2FTS		111	25-150
13C2_PFDa		101	25-150
13C2_PFHxDA		97	25-150
13C2_PFTeDA		97	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-024</b>
Description: <b>Field Blank</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1625</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		99	25-150
13C3_PFHxS		98	25-150
13C3-HFPO-DA		112	25-150
13C4_PFBa		103	25-150
13C4_PFHpA		93	25-150
13C5_PFHxA		90	25-150
13C5_PFPeA		101	25-150
13C6_PFDa		112	25-150
13C7_PFUdA		101	25-150
13C8_PFOA		103	25-150
13C8_PFOS		96	25-150
13C8_PFOSA		94	10-150
13C9_PFNA		109	25-150
d-EtFOSA		106	10-150
d5-EtFOSAA		112	25-150
d9-EtFOSE		107	10-150
d-MeFOSA		102	10-150
d3-MeFOSAA		112	25-150
d7-MeFOSE		114	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-025</b>
Description: <b>FRB @ FWPOE</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 0945</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 1953	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.5	0.62	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.70	U	7.5	0.70	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.89	U	7.5	0.89	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.87	U	7.5	0.87	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	0.39	U	3.7	0.39	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.7	0.73	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.7	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.66	U	3.7	0.66	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.98	U	7.5	0.98	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.7	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.42	U	3.7	0.42	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.76	U	7.5	0.76	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.64	U	3.7	0.64	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.93	U	7.5	0.93	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.77	U	3.7	0.77	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.58	U	3.7	0.58	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.7	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		108	25-150
13C2_6:2FTS		102	25-150
13C2_8:2FTS		106	25-150
13C2_PFDaA		102	25-150
13C2_PFHxDA		99	25-150
13C2_PFTeDA		100	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-025</b>
Description: <b>FRB @ FWPOE</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 0945</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		105	25-150
13C3_PFHxS		102	25-150
13C3-HFPO-DA		100	25-150
13C4_PFBa		97	25-150
13C4_PFHpA		88	25-150
13C5_PFHxA		93	25-150
13C5_PFPeA		95	25-150
13C6_PFDA		100	25-150
13C7_PFUdA		97	25-150
13C8_PFOA		94	25-150
13C8_PFOS		103	25-150
13C8_PFOSA		93	10-150
13C9_PFNA		105	25-150
d-EtFOSA		76	10-150
d5-EtFOSAA		97	25-150
d9-EtFOSE		93	10-150
d-MeFOSA		93	10-150
d3-MeFOSAA		91	25-150
d7-MeFOSE		97	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-026</b>
Description: <b>FRB@PW #8</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1015</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2004	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.43	U	7.1	0.43	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.59	U	7.1	0.59	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.4	U	7.1	1.4	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.1	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.78	U	7.1	0.78	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.8	U	7.1	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.43	U	7.1	0.43	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.1	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.67	U	7.1	0.67	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.85	U	7.1	0.85	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.1	U	14	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.83	U	7.1	0.83	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.1	U	7.1	1.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	0.37	U	3.6	0.37	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.69	U	3.6	0.69	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.44	U	3.6	0.44	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.63	U	3.6	0.63	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.55	U	3.6	0.55	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.53	U	3.6	0.53	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.93	U	7.1	0.93	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.49	U	3.6	0.49	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	0.53	U	3.6	0.53	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.47	U	3.6	0.47	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.42	U	3.6	0.42	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.40	U	3.6	0.40	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.73	U	7.1	0.73	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.61	U	3.6	0.61	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.41	U	3.6	0.41	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.89	U	7.1	0.89	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.74	U	3.6	0.74	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.53	U	3.6	0.53	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.47	U	3.6	0.47	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.56	U	3.6	0.56	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.8	U	3.6	1.8	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		87	25-150
13C2_6:2FTS		88	25-150
13C2_8:2FTS		82	25-150
13C2_PFDa		84	25-150
13C2_PFHxDA		82	25-150
13C2_PFTeDA		75	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-026</b>
Description: <b>FRB@PW #8</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1015</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		84	25-150
13C3_PFHxS		75	25-150
13C3-HFPO-DA		83	25-150
13C4_PFBa		87	25-150
13C4_PFHpA		74	25-150
13C5_PFHxA		82	25-150
13C5_PFPeA		84	25-150
13C6_PFDA		79	25-150
13C7_PFUdA		79	25-150
13C8_PFOA		77	25-150
13C8_PFOS		84	25-150
13C8_PFOSA		79	10-150
13C9_PFNA		83	25-150
d-EtFOSA		69	10-150
d5-EtFOSAA		79	25-150
d9-EtFOSE		74	10-150
d-MeFOSA		76	10-150
d3-MeFOSAA		84	25-150
d7-MeFOSE		74	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-027</b>
Description: <b>FRB@PW #9</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1030</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2015	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.61	U	7.4	0.61	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.4	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.4	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.81	U	7.4	0.81	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.4	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.69	U	7.4	0.69	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.88	U	7.4	0.88	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.86	U	7.4	0.86	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.4	1.2	ng/L	1
Perfluoro-1-butanefluoro-1-octanesulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	0.38	U	3.7	0.38	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.72	U	3.7	0.72	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.46	U	3.7	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.66	U	3.7	0.66	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.97	U	7.4	0.97	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-butanefluoro-1-octanesulfonic acid (PFBA)	375-22-4	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.7	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.41	U	3.7	0.41	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.75	U	7.4	0.75	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.64	U	3.7	0.64	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.93	U	7.4	0.93	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.77	U	3.7	0.77	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.50	U	3.7	0.50	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.58	U	3.7	0.58	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.7	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		105	25-150
13C2_6:2FTS		116	25-150
13C2_8:2FTS		102	25-150
13C2_PFDaA		101	25-150
13C2_PFHxDA		96	25-150
13C2_PFTeDA		96	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-027</b>
Description: <b>FRB@PW #9</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1030</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		98	25-150
13C3_PFHxS		94	25-150
13C3-HFPO-DA		99	25-150
13C4_PFBa		100	25-150
13C4_PFHpA		91	25-150
13C5_PFHxA		99	25-150
13C5_PFPeA		99	25-150
13C6_PFDa		97	25-150
13C7_PFUdA		96	25-150
13C8_PFOA		92	25-150
13C8_PFOS		95	25-150
13C8_PFOsA		103	10-150
13C9_PFNa		99	25-150
d-EtFOsA		79	10-150
d5-EtFOsAA		98	25-150
d9-EtFOsE		99	10-150
d-MeFOsA		101	10-150
d3-MeFOsAA		100	25-150
d7-MeFOsE		98	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-028</b>
Description: <b>FRB@PW #12</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1042</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2025	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.46	U	7.6	0.46	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.63	U	7.6	0.63	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.6	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.6	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.6	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.83	U	7.6	0.83	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.6	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.46	U	7.6	0.46	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.6	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.71	U	7.6	0.71	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.91	U	7.6	0.91	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.89	U	7.6	0.89	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.6	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	0.39	U	3.8	0.39	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.74	U	3.8	0.74	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.8	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.68	U	3.8	0.68	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.58	U	3.8	0.58	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.56	U	3.8	0.56	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.99	U	7.6	0.99	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.52	U	3.8	0.52	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.45	U	3.8	0.45	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.43	U	3.8	0.43	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.78	U	7.6	0.78	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.65	U	3.8	0.65	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.44	U	3.8	0.44	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.95	U	7.6	0.95	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.79	U	3.8	0.79	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.52	U	3.8	0.52	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.60	U	3.8	0.60	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.8	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		98	25-150
13C2_6:2FTS		99	25-150
13C2_8:2FTS		96	25-150
13C2_PFDa		100	25-150
13C2_PFHxDA		96	25-150
13C2_PFTeDA		93	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-028</b>
Description: <b>FRB@PW #12</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1042</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		101	25-150
13C3_PFHxS		93	25-150
13C3-HFPO-DA		98	25-150
13C4_PFBa		99	25-150
13C4_PFHpA		92	25-150
13C5_PFHxA		91	25-150
13C5_PFPeA		98	25-150
13C6_PFDa		94	25-150
13C7_PFUdA		95	25-150
13C8_PFOA		93	25-150
13C8_PFOS		100	25-150
13C8_PFOsA		91	10-150
13C9_PFNa		101	25-150
d-EtFOSA		84	10-150
d5-EtFOSAA		91	25-150
d9-EtFOSE		86	10-150
d-MeFOSA		89	10-150
d3-MeFOSAA		96	25-150
d7-MeFOSE		83	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-029</b>
Description: <b>FRB@PW #14</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1052</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2036	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.44	U	7.2	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.60	U	7.2	0.60	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.2	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.8	U	7.2	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.2	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.79	U	7.2	0.79	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.2	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.44	U	7.2	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.2	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.68	U	7.2	0.68	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.86	U	7.2	0.86	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.1	U	14	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.84	U	7.2	0.84	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.2	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	0.38	U	3.6	0.38	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.70	U	3.6	0.70	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.45	U	3.6	0.45	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.64	U	3.6	0.64	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.56	U	3.6	0.56	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.54	U	3.6	0.54	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.95	U	7.2	0.95	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.50	U	3.6	0.50	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	0.54	U	3.6	0.54	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.43	U	3.6	0.43	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.41	U	3.6	0.41	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.74	U	7.2	0.74	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.62	U	3.6	0.62	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.42	U	3.6	0.42	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.91	U	7.2	0.91	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.75	U	3.6	0.75	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.49	U	3.6	0.49	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.54	U	3.6	0.54	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.57	U	3.6	0.57	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.8	U	3.6	1.8	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		107	25-150
13C2_6:2FTS		118	25-150
13C2_8:2FTS		97	25-150
13C2_PFDaA		103	25-150
13C2_PFHxDA		100	25-150
13C2_PFTeDA		95	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-029</b>
Description: <b>FRB@PW #14</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1052</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		101	25-150
13C3_PFHxS		98	25-150
13C3-HFPO-DA		103	25-150
13C4_PFBa		101	25-150
13C4_PFHpA		90	25-150
13C5_PFHxA		100	25-150
13C5_PFPeA		104	25-150
13C6_PFDa		99	25-150
13C7_PFUdA		107	25-150
13C8_PFOA		92	25-150
13C8_PFOS		98	25-150
13C8_PFOsA		96	10-150
13C9_PFNa		107	25-150
d-EtFOSA		91	10-150
d5-EtFOSAA		97	25-150
d9-EtFOSE		101	10-150
d-MeFOSA		96	10-150
d3-MeFOSAA		103	25-150
d7-MeFOSE		91	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-030</b>
Description: <b>FRB@PW #16</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1106</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2046	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.60	U	7.3	0.60	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.3	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.8	U	7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.3	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.79	U	7.3	0.79	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.3	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.68	U	7.3	0.68	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.87	U	7.3	0.87	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.1	U	15	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.85	U	7.3	0.85	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
Perfluoro-1-butanefluoro-1-octanesulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	0.38	U	3.6	0.38	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.71	U	3.6	0.71	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.45	U	3.6	0.45	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.65	U	3.6	0.65	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.56	U	3.6	0.56	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.54	U	3.6	0.54	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.95	U	7.3	0.95	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.50	U	3.6	0.50	ng/L	1
Perfluoro-n-butanefluoro-1-octanesulfonic acid (PFBA)	375-22-4	PFAS by ID SOP	0.55	U	3.6	0.55	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.43	U	3.6	0.43	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.41	U	3.6	0.41	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.74	U	7.3	0.74	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.63	U	3.6	0.63	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.42	U	3.6	0.42	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.91	U	7.3	0.91	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.75	U	3.6	0.75	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.49	U	3.6	0.49	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.55	U	3.6	0.55	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.57	U	3.6	0.57	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.8	U	3.6	1.8	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		102	25-150
13C2_6:2FTS		109	25-150
13C2_8:2FTS		106	25-150
13C2_PFDa		107	25-150
13C2_PFHxDA		97	25-150
13C2_PFTeDA		98	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-030</b>
Description: <b>FRB@PW #16</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1106</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		99	25-150
13C3_PFHxS		89	25-150
13C3-HFPO-DA		109	25-150
13C4_PFBa		102	25-150
13C4_PFHpA		88	25-150
13C5_PFHxA		102	25-150
13C5_PFPeA		103	25-150
13C6_PFDa		101	25-150
13C7_PFUdA		104	25-150
13C8_PFOA		90	25-150
13C8_PFOS		96	25-150
13C8_PFOsA		98	10-150
13C9_PFNa		112	25-150
d-EtFOsA		83	10-150
d5-EtFOsAA		100	25-150
d9-EtFOsE		102	10-150
d-MeFOsA		89	10-150
d3-MeFOsAA		98	25-150
d7-MeFOsE		96	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-031</b>
Description: <b>FRB@PW #17</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1122</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2057	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.61	U	7.3	0.61	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.3	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.8	U	7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.3	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.80	U	7.3	0.80	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.3	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.69	U	7.3	0.69	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.87	U	7.3	0.87	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.85	U	7.3	0.85	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	0.38	U	3.7	0.38	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.71	U	3.7	0.71	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.46	U	3.7	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.65	U	3.7	0.65	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.54	U	3.7	0.54	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.96	U	7.3	0.96	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.48	U	3.7	0.48	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.41	U	3.7	0.41	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.75	U	7.3	0.75	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.63	U	3.7	0.63	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.42	U	3.7	0.42	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.92	U	7.3	0.92	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.76	U	3.7	0.76	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.50	U	3.7	0.50	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.48	U	3.7	0.48	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.8	U	3.7	1.8	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		103	25-150
13C2_6:2FTS		120	25-150
13C2_8:2FTS		99	25-150
13C2_PFDa		100	25-150
13C2_PFHxDA		95	25-150
13C2_PFTeDA		93	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-031</b>
Description: <b>FRB@PW #17</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1122</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		99	25-150
13C3_PFHxS		106	25-150
13C3-HFPO-DA		99	25-150
13C4_PFBa		102	25-150
13C4_PFHpA		94	25-150
13C5_PFHxA		97	25-150
13C5_PFPeA		96	25-150
13C6_PFDa		91	25-150
13C7_PFUdA		104	25-150
13C8_PFOA		96	25-150
13C8_PFOS		114	25-150
13C8_PFOSA		97	10-150
13C9_PFNA		109	25-150
d-EtFOSA		79	10-150
d5-EtFOSAA		99	25-150
d9-EtFOSE		92	10-150
d-MeFOSA		98	10-150
d3-MeFOSAA		98	25-150
d7-MeFOSE		88	10-150

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LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-032</b>
Description: <b>FRB@PW #21</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1142</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2129	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.5	0.62	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.5	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.71	U	7.5	0.71	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.90	U	7.5	0.90	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.88	U	7.5	0.88	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	1
Perfluoro-1-butanefluoro-1-octanesulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	0.39	U	3.8	0.39	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.8	0.73	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.8	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.67	U	3.8	0.67	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.58	U	3.8	0.58	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.56	U	3.8	0.56	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.98	U	7.5	0.98	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.52	U	3.8	0.52	ng/L	1
Perfluoro-n-butanefluoro-1-octanesulfonic acid (PFBA)	375-22-4	PFAS by ID SOP	0.56	U	3.8	0.56	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.8	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.8	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.42	U	3.8	0.42	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.77	U	7.5	0.77	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.65	U	3.8	0.65	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.43	U	3.8	0.43	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.94	U	7.5	0.94	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.78	U	3.8	0.78	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.51	U	3.8	0.51	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.8	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.59	U	3.8	0.59	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.8	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		105	25-150
13C2_6:2FTS		111	25-150
13C2_8:2FTS		98	25-150
13C2_PFDa		99	25-150
13C2_PFHxDA		85	25-150
13C2_PFTeDA		89	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-032</b>
Description: <b>FRB@PW #21</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1142</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		91	25-150
13C3_PFHxS		95	25-150
13C3-HFPO-DA		95	25-150
13C4_PFBa		96	25-150
13C4_PFHpA		85	25-150
13C5_PFHxA		95	25-150
13C5_PFPeA		95	25-150
13C6_PFDa		88	25-150
13C7_PFUdA		95	25-150
13C8_PFOA		102	25-150
13C8_PFOS		90	25-150
13C8_PFOSA		86	10-150
13C9_PFNA		95	25-150
d-EtFOSA		81	10-150
d5-EtFOSAA		95	25-150
d9-EtFOSE		96	10-150
d-MeFOSA		66	10-150
d3-MeFOSAA		97	25-150
d7-MeFOSE		80	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-033**

Description: **FRB@PW #22**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1202**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2140	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.47	U	7.8	0.47	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.64	U	7.8	0.64	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.6	U	7.8	1.6	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.8	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.2	U	7.8	1.2	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.85	U	7.8	0.85	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.8	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.47	U	7.8	0.47	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.8	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.73	U	7.8	0.73	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.93	U	7.8	0.93	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	16	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.91	U	7.8	0.91	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.3	U	7.8	1.3	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	0.40	U	3.9	0.40	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.76	U	3.9	0.76	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.49	U	3.9	0.49	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.69	U	3.9	0.69	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.60	U	3.9	0.60	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.58	U	3.9	0.58	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	1.0	U	7.8	1.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.54	U	3.9	0.54	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	0.58	U	3.9	0.58	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.51	U	3.9	0.51	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.46	U	3.9	0.46	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.44	U	3.9	0.44	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.79	U	7.8	0.79	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.67	U	3.9	0.67	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.45	U	3.9	0.45	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.97	U	7.8	0.97	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.81	U	3.9	0.81	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.53	U	3.9	0.53	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.58	U	3.9	0.58	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.51	U	3.9	0.51	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.61	U	3.9	0.61	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.9	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		93	25-150
13C2_6:2FTS		114	25-150
13C2_8:2FTS		107	25-150
13C2_PFDa		107	25-150
13C2_PFHxDA		98	25-150
13C2_PFTeDA		100	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-033</b>
Description: <b>FRB@PW #22</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1202</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		92	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		114	25-150
13C4_PFBa		99	25-150
13C4_PFHpA		83	25-150
13C5_PFHxA		97	25-150
13C5_PFPeA		102	25-150
13C6_PFDA		101	25-150
13C7_PFUdA		99	25-150
13C8_PFOA		94	25-150
13C8_PFOS		98	25-150
13C8_PFOSA		96	10-150
13C9_PFNA		100	25-150
d-EtFOSA		95	10-150
d5-EtFOSAA		100	25-150
d9-EtFOSE		88	10-150
d-MeFOSA		93	10-150
d3-MeFOSAA		97	25-150
d7-MeFOSE		86	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-034**

Description: **FRB@PW #22 Dup**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1207**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2150	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.61	U	7.4	0.61	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.4	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.4	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.81	U	7.4	0.81	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.4	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.69	U	7.4	0.69	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.88	U	7.4	0.88	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.86	U	7.4	0.86	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.4	1.2	ng/L	1
Perfluoro-1-butanefluoro-1-octanesulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	0.38	U	3.7	0.38	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.72	U	3.7	0.72	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.46	U	3.7	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.66	U	3.7	0.66	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.97	U	7.4	0.97	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-butanefluoro-1-octanesulfonic acid (PFBA)	375-22-4	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.7	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.41	U	3.7	0.41	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.75	U	7.4	0.75	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.64	U	3.7	0.64	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.93	U	7.4	0.93	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.77	U	3.7	0.77	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.50	U	3.7	0.50	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.58	U	3.7	0.58	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.7	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		107	25-150
13C2_6:2FTS		105	25-150
13C2_8:2FTS		97	25-150
13C2_PFDaA		107	25-150
13C2_PFHxDA		98	25-150
13C2_PFTeDA		95	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-034</b>
Description: <b>FRB@PW #22 Dup</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1207</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		104	25-150
13C3_PFHxS		101	25-150
13C3-HFPO-DA		100	25-150
13C4_PFBa		103	25-150
13C4_PFHpA		90	25-150
13C5_PFHxA		100	25-150
13C5_PFPeA		101	25-150
13C6_PFDa		97	25-150
13C7_PFUdA		100	25-150
13C8_PFOA		102	25-150
13C8_PFOS		100	25-150
13C8_PFOsA		106	10-150
13C9_PFNa		108	25-150
d-EtFOsA		87	10-150
d5-EtFOsAA		95	25-150
d9-EtFOSE		93	10-150
d-MeFOsA		79	10-150
d3-MeFOsAA		99	25-150
d7-MeFOSE		83	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-035</b>
Description: <b>FRB@PW #23</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1250</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2201	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.63	U	7.5	0.63	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.5	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.46	U	7.5	0.46	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.71	U	7.5	0.71	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.90	U	7.5	0.90	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.88	U	7.5	0.88	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	0.39	U	3.8	0.39	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.8	0.73	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.8	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.67	U	3.8	0.67	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.58	U	3.8	0.58	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.56	U	3.8	0.56	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.99	U	7.5	0.99	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.52	U	3.8	0.52	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.45	U	3.8	0.45	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.42	U	3.8	0.42	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.77	U	7.5	0.77	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.65	U	3.8	0.65	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.44	U	3.8	0.44	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.94	U	7.5	0.94	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.78	U	3.8	0.78	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.51	U	3.8	0.51	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.59	U	3.8	0.59	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.8	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		94	25-150
13C2_6:2FTS		110	25-150
13C2_8:2FTS		104	25-150
13C2_PFDa		104	25-150
13C2_PFHxDA		97	25-150
13C2_PFTeDA		94	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-035</b>
Description: <b>FRB@PW #23</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1250</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		109	25-150
13C3_PFHxS		97	25-150
13C3-HFPO-DA		102	25-150
13C4_PFBa		104	25-150
13C4_PFHpA		96	25-150
13C5_PFHxA		98	25-150
13C5_PFPeA		100	25-150
13C6_PFDa		95	25-150
13C7_PFUdA		96	25-150
13C8_PFOA		92	25-150
13C8_PFOS		99	25-150
13C8_PFOsA		95	10-150
13C9_PFNa		98	25-150
d-EtFOsA		85	10-150
d5-EtFOsAA		99	25-150
d9-EtFOsE		88	10-150
d-MeFOsA		91	10-150
d3-MeFOsAA		106	25-150
d7-MeFOsE		93	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-036</b>
Description: <b>FRB@PW #24</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1305</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2211	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.46	U	7.6	0.46	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.63	U	7.6	0.63	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.6	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.6	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.6	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.83	U	7.6	0.83	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.6	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.46	U	7.6	0.46	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.6	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.71	U	7.6	0.71	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.91	U	7.6	0.91	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.89	U	7.6	0.89	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.6	1.2	ng/L	1
Perfluoro-1-butanefluoro-1-octanesulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	0.39	U	3.8	0.39	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.74	U	3.8	0.74	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.8	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.68	U	3.8	0.68	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.58	U	3.8	0.58	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.56	U	3.8	0.56	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.99	U	7.6	0.99	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.52	U	3.8	0.52	ng/L	1
Perfluoro-n-butanefluoro-1-octanesulfonic acid (PFBA)	375-22-4	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.45	U	3.8	0.45	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.43	U	3.8	0.43	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.78	U	7.6	0.78	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.65	U	3.8	0.65	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.44	U	3.8	0.44	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.95	U	7.6	0.95	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.79	U	3.8	0.79	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.52	U	3.8	0.52	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.60	U	3.8	0.60	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.8	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		92	25-150
13C2_6:2FTS		100	25-150
13C2_8:2FTS		92	25-150
13C2_PFDa		102	25-150
13C2_PFHxDA		94	25-150
13C2_PFTeDA		92	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-036</b>
Description: <b>FRB@PW #24</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1305</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		96	25-150
13C3_PFHxS		94	25-150
13C3-HFPO-DA		110	25-150
13C4_PFBa		98	25-150
13C4_PFHpA		87	25-150
13C5_PFHxA		84	25-150
13C5_PFPeA		98	25-150
13C6_PFDa		96	25-150
13C7_PFUdA		93	25-150
13C8_PFOA		91	25-150
13C8_PFOS		101	25-150
13C8_PFOSA		91	10-150
13C9_PFNA		99	25-150
d-EtFOSA		68	10-150
d5-EtFOSAA		98	25-150
d9-EtFOSE		81	10-150
d-MeFOSA		80	10-150
d3-MeFOSAA		98	25-150
d7-MeFOSE		87	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-037</b>
Description: <b>FRB@PW #25</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1317</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2222	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.5	0.62	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.70	U	7.5	0.70	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.89	U	7.5	0.89	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.87	U	7.5	0.87	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	0.39	U	3.7	0.39	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.7	0.73	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.7	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.67	U	3.7	0.67	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.98	U	7.5	0.98	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.52	U	3.7	0.52	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.7	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.42	U	3.7	0.42	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.76	U	7.5	0.76	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.64	U	3.7	0.64	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.94	U	7.5	0.94	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.78	U	3.7	0.78	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.7	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.59	U	3.7	0.59	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.7	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		98	25-150
13C2_6:2FTS		112	25-150
13C2_8:2FTS		108	25-150
13C2_PFDa		106	25-150
13C2_PFHxDA		98	25-150
13C2_PFTeDA		101	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-037</b>
Description: <b>FRB@PW #25</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1317</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		107	25-150
13C3_PFHxS		105	25-150
13C3-HFPO-DA		105	25-150
13C4_PFBa		105	25-150
13C4_PFHpA		94	25-150
13C5_PFHxA		117	25-150
13C5_PFPeA		106	25-150
13C6_PFDa		99	25-150
13C7_PFUdA		103	25-150
13C8_PFOA		89	25-150
13C8_PFOS		106	25-150
13C8_PFOsA		98	10-150
13C9_PFNa		107	25-150
d-EtFOsA		100	10-150
d5-EtFOsAA		104	25-150
d9-EtFOsE		94	10-150
d-MeFOsA		94	10-150
d3-MeFOsAA		100	25-150
d7-MeFOsE		100	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-038</b>
Description: <b>FRB@PW #26A</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1330</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2233	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.4	0.62	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.4	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.4	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.81	U	7.4	0.81	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.4	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.70	U	7.4	0.70	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.89	U	7.4	0.89	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.87	U	7.4	0.87	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.4	1.2	ng/L	1
Perfluoro-1-butanefluoro-1-octanesulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	0.39	U	3.7	0.39	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.72	U	3.7	0.72	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.46	U	3.7	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.66	U	3.7	0.66	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.97	U	7.4	0.97	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-butanefluoro-1-octanesulfonic acid (PFBA)	375-22-4	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.7	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.42	U	3.7	0.42	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.76	U	7.4	0.76	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.64	U	3.7	0.64	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.93	U	7.4	0.93	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.77	U	3.7	0.77	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.58	U	3.7	0.58	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.7	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		95	25-150
13C2_6:2FTS		106	25-150
13C2_8:2FTS		95	25-150
13C2_PFDa		98	25-150
13C2_PFHxDA		90	25-150
13C2_PFTeDA		94	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-038</b>
Description: <b>FRB@PW #26A</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1330</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		102	25-150
13C3_PFHxS		95	25-150
13C3-HFPO-DA		105	25-150
13C4_PFBa		102	25-150
13C4_PFHpA		81	25-150
13C5_PFHxA		92	25-150
13C5_PFPeA		99	25-150
13C6_PFDA		114	25-150
13C7_PFUdA		96	25-150
13C8_PFOA		90	25-150
13C8_PFOS		94	25-150
13C8_PFOSA		93	10-150
13C9_PFNA		93	25-150
d-EtFOSA		79	10-150
d5-EtFOSAA		92	25-150
d9-EtFOSE		93	10-150
d-MeFOSA		84	10-150
d3-MeFOSAA		96	25-150
d7-MeFOSE		84	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-039**

Description: **FRB@PW #27**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1343**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2243	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.4	0.62	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.4	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.4	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.81	U	7.4	0.81	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.4	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.70	U	7.4	0.70	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.89	U	7.4	0.89	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.87	U	7.4	0.87	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.4	1.2	ng/L	1
Perfluoro-1-butanefluoro sulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	0.39	U	3.7	0.39	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.72	U	3.7	0.72	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.46	U	3.7	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.66	U	3.7	0.66	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.97	U	7.4	0.97	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-butanefluoro sulfonic acid (PFBA)	375-22-4	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.7	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.42	U	3.7	0.42	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.76	U	7.4	0.76	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.64	U	3.7	0.64	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.93	U	7.4	0.93	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.77	U	3.7	0.77	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.58	U	3.7	0.58	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.7	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		100	25-150
13C2_6:2FTS		114	25-150
13C2_8:2FTS		100	25-150
13C2_PFDa		112	25-150
13C2_PFHxDA		99	25-150
13C2_PFTeDA		102	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-039</b>
Description: <b>FRB@PW #27</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1343</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		107	25-150
13C3_PFHxS		98	25-150
13C3-HFPO-DA		112	25-150
13C4_PFBa		104	25-150
13C4_PFHpA		90	25-150
13C5_PFHxA		98	25-150
13C5_PFPeA		102	25-150
13C6_PFDa		108	25-150
13C7_PFUdA		107	25-150
13C8_PFOA		97	25-150
13C8_PFOS		104	25-150
13C8_PFOsA		104	10-150
13C9_PFNa		102	25-150
d-EtFOsA		93	10-150
d5-EtFOsAA		116	25-150
d9-EtFOsE		92	10-150
d-MeFOsA		97	10-150
d3-MeFOsAA		104	25-150
d7-MeFOsE		95	10-150

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LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-040</b>
Description: <b>FRB@PW #28</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1400</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2254	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.60	U	7.3	0.60	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.3	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.8	U	7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.3	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.79	U	7.3	0.79	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.3	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.68	U	7.3	0.68	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.87	U	7.3	0.87	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.1	U	15	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.85	U	7.3	0.85	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
Perfluoro-1-butanefluoro-1-octanesulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	0.38	U	3.6	0.38	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.71	U	3.6	0.71	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.45	U	3.6	0.45	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.65	U	3.6	0.65	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.56	U	3.6	0.56	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.54	U	3.6	0.54	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.95	U	7.3	0.95	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.50	U	3.6	0.50	ng/L	1
Perfluoro-n-butanefluoro-1-octanesulfonic acid (PFBA)	375-22-4	PFAS by ID SOP	0.55	U	3.6	0.55	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.43	U	3.6	0.43	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.41	U	3.6	0.41	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.74	U	7.3	0.74	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.63	U	3.6	0.63	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.42	U	3.6	0.42	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.91	U	7.3	0.91	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.75	U	3.6	0.75	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.49	U	3.6	0.49	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.55	U	3.6	0.55	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.48	U	3.6	0.48	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.57	U	3.6	0.57	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.8	U	3.6	1.8	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		89	25-150
13C2_6:2FTS		117	25-150
13C2_8:2FTS		83	25-150
13C2_PFDa		94	25-150
13C2_PFHxDA		91	25-150
13C2_PFTeDA		89	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-040</b>
Description: <b>FRB@PW #28</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1400</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		93	25-150
13C3_PFHxS		86	25-150
13C3-HFPO-DA		92	25-150
13C4_PFBa		91	25-150
13C4_PFHpA		81	25-150
13C5_PFHxA		94	25-150
13C5_PFPeA		91	25-150
13C6_PFDa		88	25-150
13C7_PFUdA		91	25-150
13C8_PFOA		82	25-150
13C8_PFOS		96	25-150
13C8_PFOSA		87	10-150
13C9_PFNA		90	25-150
d-EtFOSA		74	10-150
d5-EtFOSAA		89	25-150
d9-EtFOSE		94	10-150
d-MeFOSA		80	10-150
d3-MeFOSAA		96	25-150
d7-MeFOSE		91	10-150

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LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-041</b>
Description: <b>FRB@PW #29</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1427</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/16/2021 2305	MMM	06/15/2021 1140	95510

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.63	U	7.5	0.63	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.5	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.46	U	7.5	0.46	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.71	U	7.5	0.71	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.90	U	7.5	0.90	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.88	U	7.5	0.88	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	0.39	U	3.8	0.39	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.8	0.73	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.8	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.67	U	3.8	0.67	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.58	U	3.8	0.58	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.56	U	3.8	0.56	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.99	U	7.5	0.99	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.52	U	3.8	0.52	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.45	U	3.8	0.45	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.42	U	3.8	0.42	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.77	U	7.5	0.77	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.65	U	3.8	0.65	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.44	U	3.8	0.44	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.94	U	7.5	0.94	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.78	U	3.8	0.78	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.51	U	3.8	0.51	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.59	U	3.8	0.59	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.8	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		104	25-150
13C2_6:2FTS		108	25-150
13C2_8:2FTS		107	25-150
13C2_PFDa		108	25-150
13C2_PFHxDA		101	25-150
13C2_PFTeDA		100	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-041</b>
Description: <b>FRB@PW #29</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1427</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		107	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		108	25-150
13C4_PFBa		106	25-150
13C4_PFHpA		96	25-150
13C5_PFHxA		108	25-150
13C5_PFPeA		105	25-150
13C6_PFDA		102	25-150
13C7_PFUdA		99	25-150
13C8_PFOA		99	25-150
13C8_PFOS		101	25-150
13C8_PFOSA		96	10-150
13C9_PFNA		107	25-150
d-EtFOSA		88	10-150
d5-EtFOSAA		100	25-150
d9-EtFOSE		96	10-150
d-MeFOSA		92	10-150
d3-MeFOSAA		102	25-150
d7-MeFOSE		91	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-042**

Description: **FRB@PW #30**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1442**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/17/2021 1548	MMM	06/15/2021 1155	95531

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.61	U	7.4	0.61	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.4	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.4	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.81	U	7.4	0.81	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.4	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.4	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.4	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.69	U	7.4	0.69	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.88	U	7.4	0.88	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.86	U	7.4	0.86	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.4	1.2	ng/L	1
Perfluoro-1-butanefluoro-1-octanesulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	0.38	U	3.7	0.38	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.72	U	3.7	0.72	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.46	U	3.7	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.66	U	3.7	0.66	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.97	U	7.4	0.97	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-butanefluoro-1-octanesulfonic acid (PFBA)	375-22-4	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.7	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.41	U	3.7	0.41	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.75	U	7.4	0.75	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.64	U	3.7	0.64	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.93	U	7.4	0.93	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.77	U	3.7	0.77	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.50	U	3.7	0.50	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.58	U	3.7	0.58	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.7	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		110	25-150
13C2_6:2FTS		105	25-150
13C2_8:2FTS		112	25-150
13C2_PFDa		94	25-150
13C2_PFHxDA		96	25-150
13C2_PFTeDA		97	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-042</b>
Description: <b>FRB@PW #30</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1442</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		94	25-150
13C3_PFHxS		97	25-150
13C3-HFPO-DA		111	25-150
13C4_PFBa		101	25-150
13C4_PFHpA		99	25-150
13C5_PFHxA		101	25-150
13C5_PFPeA		95	25-150
13C6_PFDA		106	25-150
13C7_PFUdA		103	25-150
13C8_PFOA		103	25-150
13C8_PFOS		96	25-150
13C8_PFOSA		99	10-150
13C9_PFNA		102	25-150
d-EtFOSA		89	10-150
d5-EtFOSAA		109	25-150
d9-EtFOSE		100	10-150
d-MeFOSA		84	10-150
d3-MeFOSAA		110	25-150
d7-MeFOSE		102	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-043</b>
Description: <b>FRB@PW #31</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1452</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/17/2021 1558	MMM	06/15/2021 1155	95531

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.5	0.62	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.70	U	7.5	0.70	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.89	U	7.5	0.89	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.87	U	7.5	0.87	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	0.39	U	3.7	0.39	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.7	0.73	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.7	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.66	U	3.7	0.66	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.98	U	7.5	0.98	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.7	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.42	U	3.7	0.42	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.76	U	7.5	0.76	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.64	U	3.7	0.64	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.93	U	7.5	0.93	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.77	U	3.7	0.77	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.58	U	3.7	0.58	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.7	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		112	25-150
13C2_6:2FTS		117	25-150
13C2_8:2FTS		110	25-150
13C2_PFDa		109	25-150
13C2_PFHxDA		100	25-150
13C2_PFTeDA		101	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-043</b>
Description: <b>FRB@PW #31</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1452</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		104	25-150
13C3_PFHxS		99	25-150
13C3-HFPO-DA		115	25-150
13C4_PFBa		107	25-150
13C4_PFHpA		105	25-150
13C5_PFHxA		103	25-150
13C5_PFPeA		98	25-150
13C6_PFDA		104	25-150
13C7_PFUdA		94	25-150
13C8_PFOA		110	25-150
13C8_PFOS		100	25-150
13C8_PFOSA		110	10-150
13C9_PFNA		103	25-150
d-EtFOSA		97	10-150
d5-EtFOSAA		108	25-150
d9-EtFOSE		102	10-150
d-MeFOSA		103	10-150
d3-MeFOSAA		109	25-150
d7-MeFOSE		112	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-044</b>
Description: <b>FRB@PW #36</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1512</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/17/2021 1609	MMM	06/15/2021 1155	95531

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.61	U	7.3	0.61	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.3	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.8	U	7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.3	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.80	U	7.3	0.80	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.3	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.44	U	7.3	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.69	U	7.3	0.69	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.87	U	7.3	0.87	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.85	U	7.3	0.85	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.3	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	0.38	U	3.7	0.38	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.71	U	3.7	0.71	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.46	U	3.7	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.65	U	3.7	0.65	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.54	U	3.7	0.54	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.96	U	7.3	0.96	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.48	U	3.7	0.48	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.41	U	3.7	0.41	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.75	U	7.3	0.75	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.63	U	3.7	0.63	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.42	U	3.7	0.42	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.92	U	7.3	0.92	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.76	U	3.7	0.76	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.50	U	3.7	0.50	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.48	U	3.7	0.48	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.8	U	3.7	1.8	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		106	25-150
13C2_6:2FTS		113	25-150
13C2_8:2FTS		103	25-150
13C2_PFDa		102	25-150
13C2_PFHxDA		96	25-150
13C2_PFTeDA		103	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-044</b>
Description: <b>FRB@PW #36</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1512</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		104	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		111	25-150
13C4_PFBa		103	25-150
13C4_PFHpA		108	25-150
13C5_PFHxA		104	25-150
13C5_PFPeA		108	25-150
13C6_PFDA		110	25-150
13C7_PFUdA		103	25-150
13C8_PFOA		108	25-150
13C8_PFOS		99	25-150
13C8_PFOSA		102	10-150
13C9_PFNA		100	25-150
d-EtFOSA		102	10-150
d5-EtFOSAA		117	25-150
d9-EtFOSE		102	10-150
d-MeFOSA		96	10-150
d3-MeFOSAA		108	25-150
d7-MeFOSE		103	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WF14017-045**

Description: **FRB@PW #38**

Matrix: **Aqueous**

Date Sampled: **06/09/2021 1532**

Project Name: **PFAS**

Date Received: **06/11/2021**

Project Number: **35640044**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/17/2021 1619	MMM	06/15/2021 1155	95531

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.47	U	7.8	0.47	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.65	U	7.8	0.65	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.6	U	7.8	1.6	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	2.0	U	7.8	2.0	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.2	U	7.8	1.2	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.85	U	7.8	0.85	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.8	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.47	U	7.8	0.47	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.8	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.73	U	7.8	0.73	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.93	U	7.8	0.93	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	16	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.91	U	7.8	0.91	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.3	U	7.8	1.3	ng/L	1
Perfluoro-1-butanefluoro sulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	0.40	U	3.9	0.40	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.76	U	3.9	0.76	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.49	U	3.9	0.49	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.70	U	3.9	0.70	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.60	U	3.9	0.60	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.58	U	3.9	0.58	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	1.0	U	7.8	1.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.54	U	3.9	0.54	ng/L	1
Perfluoro-n-butanefluoro sulfonic acid (PFBA)	375-22-4	PFAS by ID SOP	0.59	U	3.9	0.59	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.51	U	3.9	0.51	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.46	U	3.9	0.46	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.44	U	3.9	0.44	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.80	U	7.8	0.80	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.67	U	3.9	0.67	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.45	U	3.9	0.45	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.98	U	7.8	0.98	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.81	U	3.9	0.81	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.53	U	3.9	0.53	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.59	U	3.9	0.59	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.52	U	3.9	0.52	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.61	U	3.9	0.61	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	2.0	U	3.9	2.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		108	25-150
13C2_6:2FTS		112	25-150
13C2_8:2FTS		118	25-150
13C2_PFDa		101	25-150
13C2_PFHxDA		102	25-150
13C2_PFTeDA		99	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-045</b>
Description: <b>FRB@PW #38</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1532</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		100	25-150
13C3_PFHxS		113	25-150
13C3-HFPO-DA		112	25-150
13C4_PFBa		101	25-150
13C4_PFHpA		105	25-150
13C5_PFHxA		104	25-150
13C5_PFPeA		102	25-150
13C6_PFDA		112	25-150
13C7_PFUdA		101	25-150
13C8_PFOA		100	25-150
13C8_PFOS		103	25-150
13C8_PFOSA		106	10-150
13C9_PFNA		106	25-150
d-EtFOSA		104	10-150
d5-EtFOSAA		114	25-150
d9-EtFOSE		106	10-150
d-MeFOSA		100	10-150
d3-MeFOSAA		111	25-150
d7-MeFOSE		98	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-046</b>
Description: <b>FRB@PW #40</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1542</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/17/2021 1630	MMM	06/15/2021 1155	95531

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.5	0.62	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.70	U	7.5	0.70	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.89	U	7.5	0.89	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.87	U	7.5	0.87	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	0.39	U	3.7	0.39	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.7	0.73	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.7	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.66	U	3.7	0.66	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.57	U	3.7	0.57	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.55	U	3.7	0.55	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.98	U	7.5	0.98	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.7	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.42	U	3.7	0.42	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.76	U	7.5	0.76	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.64	U	3.7	0.64	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.43	U	3.7	0.43	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.93	U	7.5	0.93	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.77	U	3.7	0.77	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.51	U	3.7	0.51	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.7	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.49	U	3.7	0.49	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.58	U	3.7	0.58	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.7	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		103	25-150
13C2_6:2FTS		118	25-150
13C2_8:2FTS		123	25-150
13C2_PFDaA		110	25-150
13C2_PFHxDA		107	25-150
13C2_PFTeDA		100	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-046</b>
Description: <b>FRB@PW #40</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1542</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		107	25-150
13C3_PFHxS		109	25-150
13C3-HFPO-DA		118	25-150
13C4_PFBa		107	25-150
13C4_PFHpA		106	25-150
13C5_PFHxA		105	25-150
13C5_PFPeA		105	25-150
13C6_PFDA		100	25-150
13C7_PFUdA		111	25-150
13C8_PFOA		107	25-150
13C8_PFOS		106	25-150
13C8_PFOSA		114	10-150
13C9_PFNA		108	25-150
d-EtFOSA		100	10-150
d5-EtFOSAA		118	25-150
d9-EtFOSE		100	10-150
d-MeFOSA		96	10-150
d3-MeFOSAA		113	25-150
d7-MeFOSE		101	10-150

LOQ = Limit of Quantitation	V = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	I = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
Q = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-047</b>
Description: <b>FRB@PW #44</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1552</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/17/2021 1641	MMM	06/15/2021 1155	95531

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.63	U	7.5	0.63	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.5	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.46	U	7.5	0.46	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.71	U	7.5	0.71	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.90	U	7.5	0.90	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.88	U	7.5	0.88	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>0.41</b>	<b>I</b>	<b>3.8</b>	<b>0.39</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.8	0.73	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.8	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.67	U	3.8	0.67	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.58	U	3.8	0.58	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.56	U	3.8	0.56	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.99	U	7.5	0.99	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.52	U	3.8	0.52	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.45	U	3.8	0.45	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.42	U	3.8	0.42	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.77	U	7.5	0.77	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.65	U	3.8	0.65	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.44	U	3.8	0.44	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.94	U	7.5	0.94	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.78	U	3.8	0.78	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.51	U	3.8	0.51	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.57	U	3.8	0.57	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.59	U	3.8	0.59	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.8	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		104	25-150
13C2_6:2FTS		115	25-150
13C2_8:2FTS		111	25-150
13C2_PFDaA		101	25-150
13C2_PFHxDA		99	25-150
13C2_PFTeDA		97	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-047</b>
Description: <b>FRB@PW #44</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1552</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		99	25-150
13C3_PFHxS		97	25-150
13C3-HFPO-DA		119	25-150
13C4_PFBa		107	25-150
13C4_PFHpA		105	25-150
13C5_PFHxA		105	25-150
13C5_PFPeA		106	25-150
13C6_PFDA		109	25-150
13C7_PFUdA		105	25-150
13C8_PFOA		106	25-150
13C8_PFOS		98	25-150
13C8_PFOSA		103	10-150
13C9_PFNA		99	25-150
d-EtFOSA		102	10-150
d5-EtFOSAA		112	25-150
d9-EtFOSE		96	10-150
d-MeFOSA		109	10-150
d3-MeFOSAA		106	25-150
d7-MeFOSE		99	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-048</b>
Description: <b>FRB@ Field Blank</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1627</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	06/17/2021 1651	MMM	06/15/2021 1155	95531

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	0.62	U	7.5	0.62	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	1.5	U	7.5	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	1.9	U	7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	1.1	U	7.5	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	0.82	U	7.5	0.82	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	2.0	U	7.5	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	0.45	U	7.5	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	1.3	U	7.5	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	0.71	U	7.5	0.71	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	0.90	U	7.5	0.90	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	1.2	U	15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	0.88	U	7.5	0.88	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	1.2	U	7.5	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	0.39	U	3.8	0.39	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	0.73	U	3.8	0.73	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	0.47	U	3.8	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	0.67	U	3.8	0.67	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.58	U	3.8	0.58	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.56	U	3.8	0.56	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	0.98	U	7.5	0.98	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.52	U	3.8	0.52	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	0.56	U	3.8	0.56	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.49	U	3.8	0.49	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	0.44	U	3.8	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.42	U	3.8	0.42	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	0.77	U	7.5	0.77	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	0.65	U	3.8	0.65	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.43	U	3.8	0.43	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	0.94	U	7.5	0.94	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	0.78	U	3.8	0.78	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	0.51	U	3.8	0.51	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	0.56	U	3.8	0.56	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	0.50	U	3.8	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	0.59	U	3.8	0.59	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	U	3.8	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		105	25-150
13C2_6:2FTS		103	25-150
13C2_8:2FTS		114	25-150
13C2_PFDaA		103	25-150
13C2_PFHxDA		101	25-150
13C2_PFTeDA		97	25-150

LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 U = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      I = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 Q = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

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# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WF14017-048</b>
Description: <b>FRB@ Field Blank</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/09/2021 1627</b>	Project Name: <b>PFAS</b>
Date Received: <b>06/11/2021</b>	Project Number: <b>35640044</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		102	25-150
13C3_PFHxS		106	25-150
13C3-HFPO-DA		114	25-150
13C4_PFBa		103	25-150
13C4_PFHpA		107	25-150
13C5_PFHxA		103	25-150
13C5_PFPeA		97	25-150
13C6_PFDA		113	25-150
13C7_PFUdA		104	25-150
13C8_PFOA		107	25-150
13C8_PFOS		103	25-150
13C8_PFOsA		113	10-150
13C9_PFNA		98	25-150
d-EtFOSA		101	10-150
d5-EtFOSAA		112	25-150
d9-EtFOSE		102	10-150
d-MeFOSA		101	10-150
d3-MeFOSAA		111	25-150
d7-MeFOSE		108	10-150

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LOQ = Limit of Quantitation      V = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
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## QC Summary

# PFAS by LC/MS/MS - MB

Sample ID: WQ95468-001

Matrix: Aqueous

Batch: 95468

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/14/2021 1738

Parameter	Result	Q	Dil	LOQ	MDL	Units	Analysis Date
9CI-PF3ONS	0.48	U	1	8.0	0.48	ng/L	06/15/2021 1953
11CI-PF3OUdS	0.66	U	1	8.0	0.66	ng/L	06/15/2021 1953
8:2 FTS	1.6	U	1	8.0	1.6	ng/L	06/15/2021 1953
6:2 FTS	2.0	U	1	8.0	2.0	ng/L	06/15/2021 1953
10:2 FTS	1.2	U	1	8.0	1.2	ng/L	06/15/2021 1953
4:2 FTS	0.87	U	1	8.0	0.87	ng/L	06/15/2021 1953
GenX	2.1	U	1	8.0	2.1	ng/L	06/15/2021 1953
ADONA	0.48	U	1	8.0	0.48	ng/L	06/15/2021 1953
EtFOSA	1.4	U	1	8.0	1.4	ng/L	06/15/2021 1953
EtFOSAA	0.75	U	1	8.0	0.75	ng/L	06/15/2021 1953
EtFOSE	0.95	U	1	8.0	0.95	ng/L	06/15/2021 1953
MeFOSA	1.3	U	1	16	1.3	ng/L	06/15/2021 1953
MeFOSAA	0.93	U	1	8.0	0.93	ng/L	06/15/2021 1953
MeFOSE	1.3	U	1	8.0	1.3	ng/L	06/15/2021 1953
PFBS	0.41	U	1	4.0	0.41	ng/L	06/15/2021 1953
PFDS	0.78	U	1	4.0	0.78	ng/L	06/15/2021 1953
PFHpS	0.50	U	1	4.0	0.50	ng/L	06/15/2021 1953
PFNS	0.71	U	1	4.0	0.71	ng/L	06/15/2021 1953
PFOSA	0.61	U	1	4.0	0.61	ng/L	06/15/2021 1953
PFPeS	0.59	U	1	4.0	0.59	ng/L	06/15/2021 1953
PFDOS	1.0	U	1	8.0	1.0	ng/L	06/15/2021 1953
PFHxS	0.55	U	1	4.0	0.55	ng/L	06/15/2021 1953
PFBA	0.60	U	1	4.0	0.60	ng/L	06/15/2021 1953
PFDA	0.52	U	1	4.0	0.52	ng/L	06/15/2021 1953
PFDoA	0.47	U	1	4.0	0.47	ng/L	06/15/2021 1953
PFHpA	0.45	U	1	4.0	0.45	ng/L	06/15/2021 1953
PFHxDA	0.82	U	1	8.0	0.82	ng/L	06/15/2021 1953
PFHxA	0.69	U	1	4.0	0.69	ng/L	06/15/2021 1953
PFNA	0.46	U	1	4.0	0.46	ng/L	06/15/2021 1953
PFODA	1.0	U	1	8.0	1.0	ng/L	06/15/2021 1953
PFOA	0.83	U	1	4.0	0.83	ng/L	06/15/2021 1953
PFPeA	0.54	U	1	4.0	0.54	ng/L	06/15/2021 1953
PFTeDA	0.60	U	1	4.0	0.60	ng/L	06/15/2021 1953
PFTrDA	0.53	U	1	4.0	0.53	ng/L	06/15/2021 1953
PFUdA	0.63	U	1	4.0	0.63	ng/L	06/15/2021 1953
PFOS	2.0	U	1	4.0	2.0	ng/L	06/15/2021 1953

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		91	25-150
13C2_6:2FTS		108	25-150
13C2_8:2FTS		97	25-150
13C2_PFDoA		88	25-150
13C2_PFHxDA		108	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

## PFAS by LC/MS/MS - MB

Sample ID: WQ95468-001

Matrix: Aqueous

Batch: 95468

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/14/2021 1738

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		94	25-150
13C3_PFBs		91	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		100	25-150
13C4_PFBa		95	25-150
13C4_PFHpA		95	25-150
13C5_PFHxA		98	25-150
13C5_PFPeA		99	25-150
13C6_PFDa		83	25-150
13C7_PFUdA		96	25-150
13C8_PFOA		98	25-150
13C8_PFOs		88	25-150
13C8_PFOsA		101	10-150
13C9_PFNa		92	25-150
d-EtFOsA		68	10-150
d5-EtFOsAA		111	25-150
d9-EtFOsE		111	10-150
d-MeFOsA		70	10-150
d3-MeFOsAA		102	25-150
d7-MeFOsE		94	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - LCS

Sample ID: WQ95468-002

Matrix: Aqueous

Batch: 95468

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/14/2021 1738

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
9CI-PF3ONS	15	15		1	99	50-150	06/15/2021 2004
11CI-PF3OUdS	15	15		1	98	50-150	06/15/2021 2004
8:2 FTS	15	20		1	128	50-150	06/15/2021 2004
6:2 FTS	15	17		1	112	50-150	06/15/2021 2004
10:2 FTS	15	15		1	99	50-150	06/15/2021 2004
4:2 FTS	15	13		1	88	50-150	06/15/2021 2004
GenX	32	33		1	103	50-150	06/15/2021 2004
ADONA	15	16		1	109	50-150	06/15/2021 2004
EtFOSA	16	16		1	100	50-150	06/15/2021 2004
EtFOSAA	16	16		1	103	50-150	06/15/2021 2004
EtFOSE	16	18		1	110	50-150	06/15/2021 2004
MeFOSA	16	19		1	117	50-150	06/15/2021 2004
MeFOSAA	16	16		1	98	50-150	06/15/2021 2004
MeFOSE	16	15		1	92	50-150	06/15/2021 2004
PFBS	14	15		1	104	50-150	06/15/2021 2004
PFDS	15	17		1	109	50-150	06/15/2021 2004
PFHpS	15	16		1	108	50-150	06/15/2021 2004
PFNS	15	14		1	92	50-150	06/15/2021 2004
PFOSA	16	17		1	106	50-150	06/15/2021 2004
PFPeS	15	15		1	102	50-150	06/15/2021 2004
PFDOS	15	14		1	89	50-150	06/15/2021 2004
PFHxS	15	15		1	106	50-150	06/15/2021 2004
PFBA	16	17		1	104	50-150	06/15/2021 2004
PFDA	16	18		1	111	50-150	06/15/2021 2004
PFDoA	16	17		1	103	50-150	06/15/2021 2004
PFHpA	16	16		1	100	50-150	06/15/2021 2004
PFHxDA	16	17		1	104	50-150	06/15/2021 2004
PFHxA	16	17		1	105	50-150	06/15/2021 2004
PFNA	16	17		1	108	50-150	06/15/2021 2004
PFODA	16	20		1	124	50-150	06/15/2021 2004
PFOA	16	16		1	102	50-150	06/15/2021 2004
PFPeA	16	16		1	102	50-150	06/15/2021 2004
PFTeDA	16	17		1	107	50-150	06/15/2021 2004
PFTrDA	16	16		1	100	50-150	06/15/2021 2004
PFUdA	16	16		1	99	50-150	06/15/2021 2004
PFOS	15	15		1	100	50-150	06/15/2021 2004

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		91	25-150
13C2_6:2FTS		106	25-150
13C2_8:2FTS		89	25-150
13C2_PFDoA		92	25-150
13C2_PFHxDA		101	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**



## PFAS by LC/MS/MS - LCS

Sample ID: WQ95468-002

Matrix: Aqueous

Batch: 95468

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/14/2021 1738

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		93	25-150
13C3_PFBs		87	25-150
13C3_PFHxS		95	25-150
13C3-HFPO-DA		95	25-150
13C4_PFBa		91	25-150
13C4_PFHpA		97	25-150
13C5_PFHxA		98	25-150
13C5_PFPeA		94	25-150
13C6_PFDa		81	25-150
13C7_PFUdA		88	25-150
13C8_PFOA		92	25-150
13C8_PFOs		82	25-150
13C8_PFOsA		100	10-150
13C9_PFNa		90	25-150
d-EtFOsA		76	10-150
d5-EtFOsAA		95	25-150
d9-EtFOsE		102	10-150
d-MeFOsA		74	10-150
d3-MeFOsAA		99	25-150
d7-MeFOsE		91	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MS

Sample ID: WF14017-001MS

Matrix: Aqueous

Batch: 95468

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/14/2021 1738

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
9CI-PF3ONS	0.0	14	12		1	86	50-150	06/16/2021 1943
11CI-PF3OUdS	0.0	14	11		1	78	50-150	06/16/2021 1943
8:2 FTS	0.0	14	15		1	105	50-150	06/16/2021 1943
6:2 FTS	0.0	14	12		1	85	50-150	06/16/2021 1943
10:2 FTS	0.0	14	16		1	116	50-150	06/16/2021 1943
4:2 FTS	0.0	14	13		1	94	50-150	06/16/2021 1943
GenX	0.0	29	28		1	96	50-150	06/16/2021 1943
ADONA	0.0	14	12		1	88	50-150	06/16/2021 1943
EtFOSA	0.0	14	14		1	96	50-150	06/16/2021 1943
EtFOSAA	0.0	14	13		1	93	50-150	06/16/2021 1943
EtFOSE	0.0	14	15		1	103	50-150	06/16/2021 1943
MeFOSA	0.0	14	14		1	98	50-150	06/16/2021 1943
MeFOSAA	0.0	14	13		1	92	50-150	06/16/2021 1943
MeFOSE	0.0	14	12		1	85	50-150	06/16/2021 1943
PFBS	9.6	13	22		1	93	50-150	06/16/2021 1943
PFDS	0.0	14	13		1	91	50-150	06/16/2021 1943
PFHpS	0.71	14	14		1	93	50-150	06/16/2021 1943
PFNS	0.0	14	14		1	100	50-150	06/16/2021 1943
PFOSA	0.0	14	14		1	98	50-150	06/16/2021 1943
PFPeS	1.2	14	13		1	89	50-150	06/16/2021 1943
PFDOS	0.0	14	11		1	81	50-150	06/16/2021 1943
PFHxS	7.6	13	19		1	84	50-150	06/16/2021 1943
PFBA	8.5	14	22		1	93	50-150	06/16/2021 1943
PFDA	0.92	14	15		1	98	50-150	06/16/2021 1943
PFDoA	0.0	14	14		1	94	50-150	06/16/2021 1943
PFHpA	5.9	14	19		1	88	50-150	06/16/2021 1943
PFHxDA	0.0	14	13		1	92	50-150	06/16/2021 1943
PFHxA	8.4	14	25		1	111	50-150	06/16/2021 1943
PFNA	2.0	14	16		1	98	50-150	06/16/2021 1943
PFODA	0.0	14	14		1	95	50-150	06/16/2021 1943
PFOA	13	14	22		1	57	50-150	06/16/2021 1943
PFPeA	10	14	24		1	94	50-150	06/16/2021 1943
PFTeDA	0.0	14	14		1	97	50-150	06/16/2021 1943
PFTrDA	0.0	14	12		1	86	50-150	06/16/2021 1943
PFUdA	0.0	14	13		1	92	50-150	06/16/2021 1943
PFOS	32	13	48		1	117	50-150	06/16/2021 1943

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		139	25-150
13C2_6:2FTS		105	25-150
13C2_8:2FTS		84	25-150
13C2_PFDoA		83	25-150
13C2_PFHxDA		91	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MS

Sample ID: WF14017-001MS

Matrix: Aqueous

Batch: 95468

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/14/2021 1738

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		85	25-150
13C3_PFBs		92	25-150
13C3_PFHxS		97	25-150
13C3-HFPO-DA		89	25-150
13C4_PFBa		82	25-150
13C4_PFHpA		91	25-150
13C5_PFHxA		87	25-150
13C5_PFPeA		91	25-150
13C6_PFDa		90	25-150
13C7_PFUdA		87	25-150
13C8_PFOA		89	25-150
13C8_PFOs		83	25-150
13C8_PFOsA		93	10-150
13C9_PFNa		88	25-150
d-EtFOsA		65	10-150
d5-EtFOsAA		89	25-150
d9-EtFOsE		79	10-150
d-MeFOsA		75	10-150
d3-MeFOsAA		87	25-150
d7-MeFOsE		78	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MSD

Sample ID: WF14017-001MD

Matrix: Aqueous

Batch: 95468

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/14/2021 1738

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
9CI-PF3ONS	0.0	14	12	1		90	4.9	50-150	30	06/16/2021 1954
11CI-PF3OUdS	0.0	14	9.8	1		72	8.5	50-150	30	06/16/2021 1954
8:2 FTS	0.0	14	15	1		107	1.9	50-150	30	06/16/2021 1954
6:2 FTS	0.0	14	13	1		95	12	50-150	30	06/16/2021 1954
10:2 FTS	0.0	14	13	1		91	24	50-150	30	06/16/2021 1954
4:2 FTS	0.0	14	13	1		100	6.3	50-150	30	06/16/2021 1954
GenX	0.0	29	28	1		95	0.99	50-150	30	06/16/2021 1954
ADONA	0.0	14	14	1		104	17	50-150	30	06/16/2021 1954
EtFOSA	0.0	14	16	1		107	12	50-150	30	06/16/2021 1954
EtFOSAA	0.0	14	15	1		104	11	50-150	30	06/16/2021 1954
EtFOSE	0.0	14	13	1		90	14	50-150	30	06/16/2021 1954
MeFOSA	0.0	14	16	1		111	12	50-150	30	06/16/2021 1954
MeFOSAA	0.0	14	13	1		87	5.5	50-150	30	06/16/2021 1954
MeFOSE	0.0	14	12	1		86	0.79	50-150	30	06/16/2021 1954
PFBS	9.6	13	23	1		101	4.7	50-150	30	06/16/2021 1954
PFDS	0.0	14	13	1		96	5.5	50-150	30	06/16/2021 1954
PFHpS	0.71	14	15	1		106	13	50-150	30	06/16/2021 1954
PFNS	0.0	14	12	1		85	16	50-150	30	06/16/2021 1954
PFOSA	0.0	14	15	1		101	3.0	50-150	30	06/16/2021 1954
PFPeS	1.2	14	13	1		87	1.6	50-150	30	06/16/2021 1954
PFDOS	0.0	14	10	1		74	10	50-150	30	06/16/2021 1954
PFHxS	7.6	13	20	1		95	7.3	50-150	30	06/16/2021 1954
PFBA	8.5	14	22	1		95	1.4	50-150	30	06/16/2021 1954
PFDA	0.92	14	15	1		95	2.0	50-150	30	06/16/2021 1954
PFDoA	0.0	14	14	1		93	0.29	50-150	30	06/16/2021 1954
PFHpA	5.9	14	19	1		91	2.3	50-150	30	06/16/2021 1954
PFHxDA	0.0	14	14	1		94	1.9	50-150	30	06/16/2021 1954
PFHxA	8.4	14	23	1		104	4.6	50-150	30	06/16/2021 1954
PFNA	2.0	14	16	1		93	4.4	50-150	30	06/16/2021 1954
PFODA	0.0	14	16	1		108	13	50-150	30	06/16/2021 1954
PFOA	13	14	28	1		99	24	50-150	30	06/16/2021 1954
PFPeA	10	14	23	1		91	1.7	50-150	30	06/16/2021 1954
PFTeDA	0.0	14	15	1		105	7.2	50-150	30	06/16/2021 1954
PFTrDA	0.0	14	12	1		85	1.5	50-150	30	06/16/2021 1954
PFUdA	0.0	14	15	1		103	12	50-150	30	06/16/2021 1954
PFOS	32	13	50	1		133	4.5	50-150	30	06/16/2021 1954

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		136	25-150
13C2_6:2FTS		96	25-150
13C2_8:2FTS		84	25-150
13C2_PFDoA		81	25-150
13C2_PFHxDA		88	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MSD

Sample ID: WF14017-001MD

Matrix: Aqueous

Batch: 95468

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/14/2021 1738

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		81	25-150
13C3_PFBs		84	25-150
13C3_PFHxS		84	25-150
13C3-HFPO-DA		89	25-150
13C4_PFBa		80	25-150
13C4_PFHpA		90	25-150
13C5_PFHxA		85	25-150
13C5_PFPeA		89	25-150
13C6_PFDa		88	25-150
13C7_PFUdA		82	25-150
13C8_PFOA		87	25-150
13C8_PFOs		83	25-150
13C8_PFOsA		89	10-150
13C9_PFNa		90	25-150
d-EtFOsA		58	10-150
d5-EtFOsAA		85	25-150
d9-EtFOsE		83	10-150
d-MeFOsA		74	10-150
d3-MeFOsAA		83	25-150
d7-MeFOsE		77	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MB

Sample ID: WQ95510-001

Matrix: Aqueous

Batch: 95510

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1140

Parameter	Result	Q	Dil	LOQ	MDL	Units	Analysis Date
9CI-PF3ONS	0.48	U	1	8.0	0.48	ng/L	06/16/2021 1839
11CI-PF3OUdS	0.66	U	1	8.0	0.66	ng/L	06/16/2021 1839
8:2 FTS	1.6	U	1	8.0	1.6	ng/L	06/16/2021 1839
6:2 FTS	2.0	U	1	8.0	2.0	ng/L	06/16/2021 1839
10:2 FTS	1.2	U	1	8.0	1.2	ng/L	06/16/2021 1839
4:2 FTS	0.87	U	1	8.0	0.87	ng/L	06/16/2021 1839
GenX	2.1	U	1	8.0	2.1	ng/L	06/16/2021 1839
ADONA	0.48	U	1	8.0	0.48	ng/L	06/16/2021 1839
EtFOSA	1.4	U	1	8.0	1.4	ng/L	06/16/2021 1839
EtFOSAA	0.75	U	1	8.0	0.75	ng/L	06/16/2021 1839
EtFOSE	0.95	U	1	8.0	0.95	ng/L	06/16/2021 1839
MeFOSA	1.3	U	1	16	1.3	ng/L	06/16/2021 1839
MeFOSAA	0.93	U	1	8.0	0.93	ng/L	06/16/2021 1839
MeFOSE	1.3	U	1	8.0	1.3	ng/L	06/16/2021 1839
PFBS	0.41	U	1	4.0	0.41	ng/L	06/16/2021 1839
PFDS	0.78	U	1	4.0	0.78	ng/L	06/16/2021 1839
PFHpS	0.50	U	1	4.0	0.50	ng/L	06/16/2021 1839
PFNS	0.71	U	1	4.0	0.71	ng/L	06/16/2021 1839
PFOSA	0.61	U	1	4.0	0.61	ng/L	06/16/2021 1839
PFPeS	0.59	U	1	4.0	0.59	ng/L	06/16/2021 1839
PFDOS	1.0	U	1	8.0	1.0	ng/L	06/16/2021 1839
PFHxS	0.55	U	1	4.0	0.55	ng/L	06/16/2021 1839
PFBA	0.60	U	1	4.0	0.60	ng/L	06/16/2021 1839
PFDA	0.52	U	1	4.0	0.52	ng/L	06/16/2021 1839
PFDoA	0.47	U	1	4.0	0.47	ng/L	06/16/2021 1839
PFHpA	0.45	U	1	4.0	0.45	ng/L	06/16/2021 1839
PFHxDA	0.82	U	1	8.0	0.82	ng/L	06/16/2021 1839
PFHxA	0.69	U	1	4.0	0.69	ng/L	06/16/2021 1839
PFNA	0.46	U	1	4.0	0.46	ng/L	06/16/2021 1839
PFODA	1.0	U	1	8.0	1.0	ng/L	06/16/2021 1839
PFOA	0.83	U	1	4.0	0.83	ng/L	06/16/2021 1839
PFPeA	0.54	U	1	4.0	0.54	ng/L	06/16/2021 1839
PFTeDA	0.60	U	1	4.0	0.60	ng/L	06/16/2021 1839
PFTrDA	0.53	U	1	4.0	0.53	ng/L	06/16/2021 1839
PFUdA	0.63	U	1	4.0	0.63	ng/L	06/16/2021 1839
PFOS	2.0	U	1	4.0	2.0	ng/L	06/16/2021 1839

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		101	25-150
13C2_6:2FTS		102	25-150
13C2_8:2FTS		97	25-150
13C2_PFDoA		100	25-150
13C2_PFHxDA		70	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

## PFAS by LC/MS/MS - MB

Sample ID: WQ95510-001

Matrix: Aqueous

Batch: 95510

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1140

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		80	25-150
13C3_PFBs		99	25-150
13C3_PFHxS		98	25-150
13C3-HFPO-DA		102	25-150
13C4_PFBa		102	25-150
13C4_PFHpA		87	25-150
13C5_PFHxA		98	25-150
13C5_PFPeA		104	25-150
13C6_PFDa		101	25-150
13C7_PFUdA		97	25-150
13C8_PFOA		92	25-150
13C8_PFOs		94	25-150
13C8_PFOsA		111	10-150
13C9_PFNa		101	25-150
d-EtFOsA		101	10-150
d5-EtFOsAA		101	25-150
d9-EtFOsE		95	10-150
d-MeFOsA		103	10-150
d3-MeFOsAA		102	25-150
d7-MeFOsE		104	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - LCS

Sample ID: WQ95510-002

Matrix: Aqueous

Batch: 95510

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1140

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
9CI-PF3ONS	15	18		1	119	50-150	06/16/2021 1850
11CI-PF3OUdS	15	17		1	110	50-150	06/16/2021 1850
8:2 FTS	15	16		1	103	50-150	06/16/2021 1850
6:2 FTS	15	17		1	110	50-150	06/16/2021 1850
10:2 FTS	15	17		1	113	50-150	06/16/2021 1850
4:2 FTS	15	16		1	110	50-150	06/16/2021 1850
GenX	32	41		1	129	50-150	06/16/2021 1850
ADONA	15	18		1	118	50-150	06/16/2021 1850
EtFOSA	16	21		1	129	50-150	06/16/2021 1850
EtFOSAA	16	16		1	99	50-150	06/16/2021 1850
EtFOSE	16	18		1	112	50-150	06/16/2021 1850
MeFOSA	16	20		1	124	50-150	06/16/2021 1850
MeFOSAA	16	19		1	120	50-150	06/16/2021 1850
MeFOSE	16	18		1	111	50-150	06/16/2021 1850
PFBS	14	16		1	113	50-150	06/16/2021 1850
PFDS	15	17		1	110	50-150	06/16/2021 1850
PFHpS	15	16		1	106	50-150	06/16/2021 1850
PFNS	15	16		1	107	50-150	06/16/2021 1850
PFOSA	16	19		1	116	50-150	06/16/2021 1850
PFPeS	15	17		1	110	50-150	06/16/2021 1850
PFDOS	15	13		1	84	50-150	06/16/2021 1850
PFHxS	15	15		1	104	50-150	06/16/2021 1850
PFBA	16	18		1	113	50-150	06/16/2021 1850
PFDA	16	21		1	131	50-150	06/16/2021 1850
PFDoA	16	19		1	117	50-150	06/16/2021 1850
PFHpA	16	16		1	100	50-150	06/16/2021 1850
PFHxDA	16	19		1	119	50-150	06/16/2021 1850
PFHxA	16	19		1	116	50-150	06/16/2021 1850
PFNA	16	17		1	108	50-150	06/16/2021 1850
PFODA	16	18		1	110	50-150	06/16/2021 1850
PFOA	16	17		1	107	50-150	06/16/2021 1850
PFPeA	16	18		1	111	50-150	06/16/2021 1850
PFTeDA	16	17		1	107	50-150	06/16/2021 1850
PFTrDA	16	18		1	110	50-150	06/16/2021 1850
PFUdA	16	18		1	115	50-150	06/16/2021 1850
PFOS	15	18		1	123	50-150	06/16/2021 1850

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		71	25-150
13C2_6:2FTS		79	25-150
13C2_8:2FTS		71	25-150
13C2_PFDoA		75	25-150
13C2_PFHxDA		52	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**



## PFAS by LC/MS/MS - LCS

Sample ID: WQ95510-002

Matrix: Aqueous

Batch: 95510

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1140

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		61	25-150
13C3_PFBs		75	25-150
13C3_PFHxS		73	25-150
13C3-HFPO-DA		80	25-150
13C4_PFBA		77	25-150
13C4_PFHpA		72	25-150
13C5_PFHxA		75	25-150
13C5_PFPeA		82	25-150
13C6_PFDA		73	25-150
13C7_PFUdA		73	25-150
13C8_PFOA		71	25-150
13C8_PFOS		71	25-150
13C8_PFOA		71	10-150
13C9_PFNA		78	25-150
d-EtFOSA		60	10-150
d5-EtFOSAA		71	25-150
d9-EtFOSE		69	10-150
d-MeFOSA		72	10-150
d3-MeFOSAA		72	25-150
d7-MeFOSE		72	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MS

Sample ID: WF14017-020MS

Matrix: Aqueous

Batch: 95510

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1140

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
9CI-PF3ONS	0.0	14	12		1	89	50-150	06/16/2021 1911
11CI-PF3OUdS	0.0	14	9.9		1	71	50-150	06/16/2021 1911
8:2 FTS	0.0	14	14		1	101	50-150	06/16/2021 1911
6:2 FTS	0.0	14	12		1	84	50-150	06/16/2021 1911
10:2 FTS	0.0	14	12		1	87	50-150	06/16/2021 1911
4:2 FTS	0.0	14	12		1	84	50-150	06/16/2021 1911
GenX	0.0	30	28		1	94	50-150	06/16/2021 1911
ADONA	0.0	14	13		1	93	50-150	06/16/2021 1911
EtFOSA	0.0	15	12		1	81	50-150	06/16/2021 1911
EtFOSAA	0.0	15	12		1	79	50-150	06/16/2021 1911
EtFOSE	0.0	15	12		1	79	50-150	06/16/2021 1911
MeFOSA	0.0	15	12		1	78	50-150	06/16/2021 1911
MeFOSAA	0.0	15	12		1	82	50-150	06/16/2021 1911
MeFOSE	0.0	15	13		1	86	50-150	06/16/2021 1911
PFBS	7.2	13	19		1	91	50-150	06/16/2021 1911
PFDS	0.0	14	11		1	77	50-150	06/16/2021 1911
PFHpS	0.0	14	13		1	89	50-150	06/16/2021 1911
PFNS	0.0	14	11		1	74	50-150	06/16/2021 1911
PFOSA	0.0	15	13		1	87	50-150	06/16/2021 1911
PFPeS	0.0	14	13		1	93	50-150	06/16/2021 1911
PFDOS	0.0	14	10		1	70	50-150	06/16/2021 1911
PFHxS	6.2	14	18		1	84	50-150	06/16/2021 1911
PFBA	4.1	15	17		1	89	50-150	06/16/2021 1911
PFDA	0.0	15	16		1	107	50-150	06/16/2021 1911
PFDaA	0.0	15	14		1	92	50-150	06/16/2021 1911
PFHpA	3.4	15	15		1	76	50-150	06/16/2021 1911
PFHxDA	0.0	15	14		1	93	50-150	06/16/2021 1911
PFHxA	6.4	15	19		1	83	50-150	06/16/2021 1911
PFNA	0.86	15	14		1	91	50-150	06/16/2021 1911
PFOA	0.0	15	13		1	89	50-150	06/16/2021 1911
PFOA	8.3	15	20		1	77	50-150	06/16/2021 1911
PFPeA	6.8	15	19		1	85	50-150	06/16/2021 1911
PFTeDA	0.0	15	14		1	92	50-150	06/16/2021 1911
PFTrDA	0.0	15	12		1	84	50-150	06/16/2021 1911
PFUdA	0.0	15	12		1	81	50-150	06/16/2021 1911
PFOS	17	14	29		1	85	50-150	06/16/2021 1911

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS	N	175	25-150
13C2_6:2FTS		127	25-150
13C2_8:2FTS		99	25-150
13C2_PFDaA		95	25-150
13C2_PFHxDA		82	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MS

Sample ID: WF14017-020MS

Matrix: Aqueous

Batch: 95510

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1140

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		80	25-150
13C3_PFBs		95	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		106	25-150
13C4_PFBa		75	25-150
13C4_PFHpA		92	25-150
13C5_PFHxA		100	25-150
13C5_PFPeA		100	25-150
13C6_PFDa		80	25-150
13C7_PFUdA		95	25-150
13C8_PFOA		102	25-150
13C8_PFOs		90	25-150
13C8_PFOsA		96	10-150
13C9_PFNa		101	25-150
d-EtFOsA		83	10-150
d5-EtFOsAA		97	25-150
d9-EtFOsE		83	10-150
d-MeFOsA		83	10-150
d3-MeFOsAA		94	25-150
d7-MeFOsE		73	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MSD

Sample ID: WF14017-020MD

Matrix: Aqueous

Batch: 95510

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1140

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
9CI-PF3ONS	0.0	14	13		1	96	7.2	50-150	30	06/16/2021 1922
11CI-PF3OUdS	0.0	14	11		1	76	7.0	50-150	30	06/16/2021 1922
8:2 FTS	0.0	14	13		1	90	12	50-150	30	06/16/2021 1922
6:2 FTS	0.0	14	13		1	94	12	50-150	30	06/16/2021 1922
10:2 FTS	0.0	14	13		1	90	3.4	50-150	30	06/16/2021 1922
4:2 FTS	0.0	14	13		1	93	10	50-150	30	06/16/2021 1922
GenX	0.0	30	32		1	108	13	50-150	30	06/16/2021 1922
ADONA	0.0	14	15		1	109	15	50-150	30	06/16/2021 1922
EtFOSA	0.0	15	16	+	1	111	32	50-150	30	06/16/2021 1922
EtFOSAA	0.0	15	13		1	90	12	50-150	30	06/16/2021 1922
EtFOSE	0.0	15	16	+	1	111	33	50-150	30	06/16/2021 1922
MeFOSA	0.0	15	14		1	95	20	50-150	30	06/16/2021 1922
MeFOSAA	0.0	15	13		1	88	6.5	50-150	30	06/16/2021 1922
MeFOSE	0.0	15	15		1	99	14	50-150	30	06/16/2021 1922
PFBS	7.2	13	18		1	85	4.8	50-150	30	06/16/2021 1922
PFDS	0.0	14	12		1	86	11	50-150	30	06/16/2021 1922
PFHpS	0.0	14	13		1	90	1.3	50-150	30	06/16/2021 1922
PFNS	0.0	14	14		1	96	25	50-150	30	06/16/2021 1922
PFOSA	0.0	15	14		1	96	10	50-150	30	06/16/2021 1922
PFPeS	0.0	14	14		1	101	8.7	50-150	30	06/16/2021 1922
PFDOS	0.0	14	10		1	70	1.1	50-150	30	06/16/2021 1922
PFHxS	6.2	13	18		1	87	1.5	50-150	30	06/16/2021 1922
PFBA	4.1	15	18		1	97	5.8	50-150	30	06/16/2021 1922
PFDA	0.0	15	12		1	84	24	50-150	30	06/16/2021 1922
PFDoA	0.0	15	14		1	97	5.2	50-150	30	06/16/2021 1922
PFHpA	3.4	15	15		1	81	4.5	50-150	30	06/16/2021 1922
PFHxDA	0.0	15	15		1	99	5.7	50-150	30	06/16/2021 1922
PFHxA	6.4	15	18		1	82	1.3	50-150	30	06/16/2021 1922
PFNA	0.86	15	14		1	90	1.0	50-150	30	06/16/2021 1922
PFODA	0.0	15	13		1	90	1.0	50-150	30	06/16/2021 1922
PFOA	8.3	15	24		1	109	21	50-150	30	06/16/2021 1922
PFPeA	6.8	15	21		1	96	7.5	50-150	30	06/16/2021 1922
PFTeDA	0.0	15	14		1	95	3.2	50-150	30	06/16/2021 1922
PFTrDA	0.0	15	13		1	87	3.0	50-150	30	06/16/2021 1922
PFUdA	0.0	15	15		1	99	19	50-150	30	06/16/2021 1922
PFOS	17	14	30		1	95	4.3	50-150	30	06/16/2021 1922

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS	N	164	25-150
13C2_6:2FTS		122	25-150
13C2_8:2FTS		108	25-150
13C2_PFDoA		94	25-150
13C2_PFHxDA		75	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

## PFAS by LC/MS/MS - MSD

Sample ID: WF14017-020MD

Matrix: Aqueous

Batch: 95510

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1140

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		79	25-150
13C3_PFBs		96	25-150
13C3_PFHxS		91	25-150
13C3-HFPO-DA		102	25-150
13C4_PFBa		74	25-150
13C4_PFHpA		94	25-150
13C5_PFHxA		103	25-150
13C5_PFPeA		98	25-150
13C6_PFDa		113	25-150
13C7_PFUdA		87	25-150
13C8_PFOA		92	25-150
13C8_PFOs		78	25-150
13C8_PFOsA		95	10-150
13C9_PFNa		100	25-150
d-EtFOsA		78	10-150
d5-EtFOsAA		86	25-150
d9-EtFOsE		82	10-150
d-MeFOsA		94	10-150
d3-MeFOsAA		87	25-150
d7-MeFOsE		84	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MB

Sample ID: WQ95531-001

Matrix: Aqueous

Batch: 95531

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1155

Parameter	Result	Q	Dil	LOQ	MDL	Units	Analysis Date
9CI-PF3ONS	0.48	U	1	8.0	0.48	ng/L	06/17/2021 1455
11CI-PF3OUdS	0.66	U	1	8.0	0.66	ng/L	06/17/2021 1455
8:2 FTS	1.6	U	1	8.0	1.6	ng/L	06/17/2021 1455
6:2 FTS	2.0	U	1	8.0	2.0	ng/L	06/17/2021 1455
10:2 FTS	1.2	U	1	8.0	1.2	ng/L	06/17/2021 1455
4:2 FTS	0.87	U	1	8.0	0.87	ng/L	06/17/2021 1455
GenX	2.1	U	1	8.0	2.1	ng/L	06/17/2021 1455
ADONA	0.48	U	1	8.0	0.48	ng/L	06/17/2021 1455
EtFOSA	1.4	U	1	8.0	1.4	ng/L	06/17/2021 1455
EtFOSAA	0.75	U	1	8.0	0.75	ng/L	06/17/2021 1455
EtFOSE	0.95	U	1	8.0	0.95	ng/L	06/17/2021 1455
MeFOSA	1.3	U	1	16	1.3	ng/L	06/17/2021 1455
MeFOSAA	0.93	U	1	8.0	0.93	ng/L	06/17/2021 1455
MeFOSE	1.3	U	1	8.0	1.3	ng/L	06/17/2021 1455
PFBS	0.41	U	1	4.0	0.41	ng/L	06/17/2021 1455
PFDS	0.78	U	1	4.0	0.78	ng/L	06/17/2021 1455
PFHpS	0.50	U	1	4.0	0.50	ng/L	06/17/2021 1455
PFNS	0.71	U	1	4.0	0.71	ng/L	06/17/2021 1455
PFOSA	0.61	U	1	4.0	0.61	ng/L	06/17/2021 1455
PFPeS	0.59	U	1	4.0	0.59	ng/L	06/17/2021 1455
PFDOS	1.0	U	1	8.0	1.0	ng/L	06/17/2021 1455
PFHxS	0.55	U	1	4.0	0.55	ng/L	06/17/2021 1455
PFBA	0.60	U	1	4.0	0.60	ng/L	06/17/2021 1455
PFDA	0.52	U	1	4.0	0.52	ng/L	06/17/2021 1455
PFDoA	0.47	U	1	4.0	0.47	ng/L	06/17/2021 1455
PFHpA	0.45	U	1	4.0	0.45	ng/L	06/17/2021 1455
PFHxDA	0.82	U	1	8.0	0.82	ng/L	06/17/2021 1455
PFHxA	0.69	U	1	4.0	0.69	ng/L	06/17/2021 1455
PFNA	0.46	U	1	4.0	0.46	ng/L	06/17/2021 1455
PFODA	1.0	U	1	8.0	1.0	ng/L	06/17/2021 1455
PFOA	0.83	U	1	4.0	0.83	ng/L	06/17/2021 1455
PFPeA	0.54	U	1	4.0	0.54	ng/L	06/17/2021 1455
PFTeDA	0.60	U	1	4.0	0.60	ng/L	06/17/2021 1455
PFTrDA	0.53	U	1	4.0	0.53	ng/L	06/17/2021 1455
PFUdA	0.63	U	1	4.0	0.63	ng/L	06/17/2021 1455
PFOS	2.0	U	1	4.0	2.0	ng/L	06/17/2021 1455

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		115	25-150
13C2_6:2FTS		131	25-150
13C2_8:2FTS		112	25-150
13C2_PFDoA		106	25-150
13C2_PFHxDA		101	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

## PFAS by LC/MS/MS - MB

Sample ID: WQ95531-001

Matrix: Aqueous

Batch: 95531

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1155

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		98	25-150
13C3_PFBs		106	25-150
13C3_PFHxS		91	25-150
13C3-HFPO-DA		121	25-150
13C4_PFBa		109	25-150
13C4_PFHpA		107	25-150
13C5_PFHxA		104	25-150
13C5_PFPeA		102	25-150
13C6_PFDa		109	25-150
13C7_PFUdA		103	25-150
13C8_PFOA		112	25-150
13C8_PFOs		96	25-150
13C8_PFOsA		122	10-150
13C9_PFNa		97	25-150
d-EtFOsA		104	10-150
d5-EtFOsAA		111	25-150
d9-EtFOsE		95	10-150
d-MeFOsA		117	10-150
d3-MeFOsAA		121	25-150
d7-MeFOsE		107	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - LCS

Sample ID: WQ95531-002

Matrix: Aqueous

Batch: 95531

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1155

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
9CI-PF3ONS	15	14		1	95	50-150	06/17/2021 1506
11CI-PF3OUdS	15	12		1	82	50-150	06/17/2021 1506
8:2 FTS	15	12		1	80	50-150	06/17/2021 1506
6:2 FTS	15	13		1	89	50-150	06/17/2021 1506
10:2 FTS	15	14		1	91	50-150	06/17/2021 1506
4:2 FTS	15	14		1	96	50-150	06/17/2021 1506
GenX	32	34		1	108	50-150	06/17/2021 1506
ADONA	15	14		1	91	50-150	06/17/2021 1506
EtFOSA	16	13		1	84	50-150	06/17/2021 1506
EtFOSAA	16	14		1	87	50-150	06/17/2021 1506
EtFOSE	16	15		1	92	50-150	06/17/2021 1506
MeFOSA	16	16		1	100	50-150	06/17/2021 1506
MeFOSAA	16	14		1	89	50-150	06/17/2021 1506
MeFOSE	16	14		1	87	50-150	06/17/2021 1506
PFBS	14	14		1	96	50-150	06/17/2021 1506
PFDS	15	15		1	98	50-150	06/17/2021 1506
PFHpS	15	12		1	79	50-150	06/17/2021 1506
PFNS	15	14		1	94	50-150	06/17/2021 1506
PFOSA	16	17		1	106	50-150	06/17/2021 1506
PFPeS	15	15		1	101	50-150	06/17/2021 1506
PFDOS	15	13		1	82	50-150	06/17/2021 1506
PFHxS	15	12		1	81	50-150	06/17/2021 1506
PFBA	16	15		1	96	50-150	06/17/2021 1506
PFDA	16	16		1	98	50-150	06/17/2021 1506
PFDoA	16	16		1	98	50-150	06/17/2021 1506
PFHpA	16	14		1	90	50-150	06/17/2021 1506
PFHxDA	16	16		1	97	50-150	06/17/2021 1506
PFHxA	16	17		1	108	50-150	06/17/2021 1506
PFNA	16	15		1	93	50-150	06/17/2021 1506
PFODA	16	15		1	95	50-150	06/17/2021 1506
PFOA	16	16		1	103	50-150	06/17/2021 1506
PFPeA	16	14		1	90	50-150	06/17/2021 1506
PFTeDA	16	14		1	87	50-150	06/17/2021 1506
PFTrDA	16	15		1	97	50-150	06/17/2021 1506
PFUdA	16	16		1	100	50-150	06/17/2021 1506
PFOS	15	15		1	104	50-150	06/17/2021 1506

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		103	25-150
13C2_6:2FTS		111	25-150
13C2_8:2FTS		122	25-150
13C2_PFDaA		100	25-150
13C2_PFHxDA		106	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**



## PFAS by LC/MS/MS - LCS

Sample ID: WQ95531-002

Matrix: Aqueous

Batch: 95531

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1155

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		103	25-150
13C3_PFBs		100	25-150
13C3_PFHxS		107	25-150
13C3-HFPO-DA		116	25-150
13C4_PFBa		107	25-150
13C4_PFHpA		112	25-150
13C5_PFHxA		99	25-150
13C5_PFPeA		105	25-150
13C6_PFDa		114	25-150
13C7_PFUdA		106	25-150
13C8_PFOA		108	25-150
13C8_PFOs		101	25-150
13C8_PFOsA		103	10-150
13C9_PFNa		103	25-150
d-EtFOsA		110	10-150
d5-EtFOsAA		114	25-150
d9-EtFOsE		107	10-150
d-MeFOsA		96	10-150
d3-MeFOsAA		120	25-150
d7-MeFOsE		113	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MS

Sample ID: WF14017-024MS

Matrix: Aqueous

Batch: 95531

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1155

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
9CI-PF3ONS	0.0	14	12		1	82	50-150	06/17/2021 1527
11CI-PF3OUdS	0.0	14	12		1	80	50-150	06/17/2021 1527
8:2 FTS	0.0	15	13		1	91	50-150	06/17/2021 1527
6:2 FTS	0.0	14	12		1	86	50-150	06/17/2021 1527
10:2 FTS	0.0	15	14		1	97	50-150	06/17/2021 1527
4:2 FTS	0.0	14	12		1	85	50-150	06/17/2021 1527
GenX	0.0	30	30		1	99	50-150	06/17/2021 1527
ADONA	0.0	14	14		1	95	50-150	06/17/2021 1527
EtFOSA	0.0	15	13		1	86	50-150	06/17/2021 1527
EtFOSAA	0.0	15	12		1	82	50-150	06/17/2021 1527
EtFOSE	0.0	15	14		1	90	50-150	06/17/2021 1527
MeFOSA	0.0	15	15		1	99	50-150	06/17/2021 1527
MeFOSAA	0.0	15	13		1	87	50-150	06/17/2021 1527
MeFOSE	0.0	15	14		1	89	50-150	06/17/2021 1527
PFBS	0.0	13	11		1	86	50-150	06/17/2021 1527
PFDS	0.0	15	14		1	96	50-150	06/17/2021 1527
PFHpS	0.0	14	13		1	88	50-150	06/17/2021 1527
PFNS	0.0	15	12		1	84	50-150	06/17/2021 1527
PFOSA	0.0	15	13		1	88	50-150	06/17/2021 1527
PFPeS	0.0	14	13		1	93	50-150	06/17/2021 1527
PFDOS	0.0	15	12		1	80	50-150	06/17/2021 1527
PFHxS	0.0	14	13		1	93	50-150	06/17/2021 1527
PFBA	0.0	15	14		1	92	50-150	06/17/2021 1527
PFDA	0.0	15	14		1	91	50-150	06/17/2021 1527
PFDoA	0.0	15	14		1	95	50-150	06/17/2021 1527
PFHpA	0.0	15	14		1	92	50-150	06/17/2021 1527
PFHxDA	0.0	15	15		1	96	50-150	06/17/2021 1527
PFHxA	0.0	15	13		1	88	50-150	06/17/2021 1527
PFNA	0.0	15	14		1	92	50-150	06/17/2021 1527
PFODA	0.0	15	14		1	95	50-150	06/17/2021 1527
PFOA	0.0	15	14		1	93	50-150	06/17/2021 1527
PFPeA	0.0	15	13		1	87	50-150	06/17/2021 1527
PFTeDA	0.0	15	14		1	89	50-150	06/17/2021 1527
PFTrDA	0.0	15	14		1	94	50-150	06/17/2021 1527
PFUdA	0.0	15	14		1	92	50-150	06/17/2021 1527
PFOS	0.0	14	12		1	86	50-150	06/17/2021 1527

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		108	25-150
13C2_6:2FTS		109	25-150
13C2_8:2FTS		113	25-150
13C2_PFDoA		107	25-150
13C2_PFHxDA		100	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MS

Sample ID: WF14017-024MS

Matrix: Aqueous

Batch: 95531

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1155

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		100	25-150
13C3_PFBs		101	25-150
13C3_PFHxS		100	25-150
13C3-HFPO-DA		115	25-150
13C4_PFBa		103	25-150
13C4_PFHpA		106	25-150
13C5_PFHxA		114	25-150
13C5_PFPeA		108	25-150
13C6_PFDa		110	25-150
13C7_PFUdA		108	25-150
13C8_PFOA		110	25-150
13C8_PFOs		106	25-150
13C8_PFOsA		105	10-150
13C9_PFNa		100	25-150
d-EtFOsA		112	10-150
d5-EtFOsAA		120	25-150
d9-EtFOsE		108	10-150
d-MeFOsA		105	10-150
d3-MeFOsAA		119	25-150
d7-MeFOsE		112	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MSD

Sample ID: WF14017-024MD

Matrix: Aqueous

Batch: 95531

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1155

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
9CI-PF3ONS	0.0	14	13	1		95	12	50-150	30	06/17/2021 1537
11CI-PF3OUdS	0.0	14	13	1		92	10	50-150	30	06/17/2021 1537
8:2 FTS	0.0	14	14	1		102	8.2	50-150	30	06/17/2021 1537
6:2 FTS	0.0	14	13	1		90	1.2	50-150	30	06/17/2021 1537
10:2 FTS	0.0	14	13	1		91	9.3	50-150	30	06/17/2021 1537
4:2 FTS	0.0	14	13	1		95	9.1	50-150	30	06/17/2021 1537
GenX	0.0	30	29	1		97	5.6	50-150	30	06/17/2021 1537
ADONA	0.0	14	13	1		90	7.6	50-150	30	06/17/2021 1537
EtFOSA	0.0	15	13	1		87	0.69	50-150	30	06/17/2021 1537
EtFOSAA	0.0	15	9.9	1		67	22	50-150	30	06/17/2021 1537
EtFOSE	0.0	15	13	1		87	5.9	50-150	30	06/17/2021 1537
MeFOSA	0.0	15	12	1		83	21	50-150	30	06/17/2021 1537
MeFOSAA	0.0	15	14	1		93	4.1	50-150	30	06/17/2021 1537
MeFOSE	0.0	15	17	1		112	20	50-150	30	06/17/2021 1537
PFBS	0.0	13	12	1		89	1.4	50-150	30	06/17/2021 1537
PFDS	0.0	14	13	1		89	10	50-150	30	06/17/2021 1537
PFHpS	0.0	14	12	1		86	4.9	50-150	30	06/17/2021 1537
PFNS	0.0	14	13	1		90	3.5	50-150	30	06/17/2021 1537
PFOSA	0.0	15	13	1		88	3.2	50-150	30	06/17/2021 1537
PFPeS	0.0	14	11	1		82	16	50-150	30	06/17/2021 1537
PFDOS	0.0	14	12	1		84	1.6	50-150	30	06/17/2021 1537
PFHxS	0.0	13	12	1		90	5.8	50-150	30	06/17/2021 1537
PFBA	0.0	15	14	1		93	1.3	50-150	30	06/17/2021 1537
PFDA	0.0	15	11	1		72	25	50-150	30	06/17/2021 1537
PFDoA	0.0	15	14	1		98	0.62	50-150	30	06/17/2021 1537
PFHpA	0.0	15	12	1		84	12	50-150	30	06/17/2021 1537
PFHxDA	0.0	15	15	1		100	0.64	50-150	30	06/17/2021 1537
PFHxA	0.0	15	13	1		91	0.64	50-150	30	06/17/2021 1537
PFNA	0.0	15	14	1		93	1.5	50-150	30	06/17/2021 1537
PFODA	0.0	15	14	1		98	0.020	50-150	30	06/17/2021 1537
PFOA	0.0	15	14	1		97	2.0	50-150	30	06/17/2021 1537
PFPeA	0.0	15	13	1		90	0.70	50-150	30	06/17/2021 1537
PFTeDA	0.0	15	14	1		92	0.26	50-150	30	06/17/2021 1537
PFTrDA	0.0	15	14	1		93	4.7	50-150	30	06/17/2021 1537
PFUdA	0.0	15	13	1		88	7.5	50-150	30	06/17/2021 1537
PFOS	0.0	14	13	1		93	5.1	50-150	30	06/17/2021 1537

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		104	25-150
13C2_6:2FTS		101	25-150
13C2_8:2FTS		103	25-150
13C2_PFDoA		92	25-150
13C2_PFHxDA		92	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

## PFAS by LC/MS/MS - MSD

Sample ID: WF14017-024MD

Matrix: Aqueous

Batch: 95531

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1155

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		90	25-150
13C3_PFBs		96	25-150
13C3_PFHxS		95	25-150
13C3-HFPO-DA		114	25-150
13C4_PFBa		94	25-150
13C4_PFHpA		94	25-150
13C5_PFHxA		99	25-150
13C5_PFPeA		94	25-150
13C6_PFDa		132	25-150
13C7_PFUdA		100	25-150
13C8_PFOA		96	25-150
13C8_PFOs		92	25-150
13C8_PFOsA		95	10-150
13C9_PFNa		94	25-150
d-EtFOsA		98	10-150
d5-EtFOsAA		129	25-150
d9-EtFOsE		100	10-150
d-MeFOsA		100	10-150
d3-MeFOsAA		110	25-150
d7-MeFOsE		95	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MB

Sample ID: WQ95596-001

Matrix: Aqueous

Batch: 95596

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1903

Parameter	Result	Q	Dil	LOQ	MDL	Units	Analysis Date
9CI-PF3ONS	0.48	U	1	8.0	0.48	ng/L	06/16/2021 1309
11CI-PF3OUdS	0.66	U	1	8.0	0.66	ng/L	06/16/2021 1309
8:2 FTS	1.6	U	1	8.0	1.6	ng/L	06/16/2021 1309
6:2 FTS	2.0	U	1	8.0	2.0	ng/L	06/16/2021 1309
10:2 FTS	1.2	U	1	8.0	1.2	ng/L	06/16/2021 1309
4:2 FTS	0.87	U	1	8.0	0.87	ng/L	06/16/2021 1309
GenX	2.1	U	1	8.0	2.1	ng/L	06/16/2021 1309
ADONA	0.48	U	1	8.0	0.48	ng/L	06/16/2021 1309
EtFOSA	1.4	U	1	8.0	1.4	ng/L	06/16/2021 1309
EtFOSAA	0.75	U	1	8.0	0.75	ng/L	06/16/2021 1309
EtFOSE	0.95	U	1	8.0	0.95	ng/L	06/16/2021 1309
MeFOSA	1.3	U	1	16	1.3	ng/L	06/16/2021 1309
MeFOSAA	0.93	U	1	8.0	0.93	ng/L	06/16/2021 1309
MeFOSE	1.3	U	1	8.0	1.3	ng/L	06/16/2021 1309
PFBS	0.41	U	1	4.0	0.41	ng/L	06/16/2021 1309
PFDS	0.78	U	1	4.0	0.78	ng/L	06/16/2021 1309
PFHpS	0.50	U	1	4.0	0.50	ng/L	06/16/2021 1309
PFNS	0.71	U	1	4.0	0.71	ng/L	06/16/2021 1309
PFOSA	0.61	U	1	4.0	0.61	ng/L	06/16/2021 1309
PFPeS	0.59	U	1	4.0	0.59	ng/L	06/16/2021 1309
PFDOS	1.0	U	1	8.0	1.0	ng/L	06/16/2021 1309
PFHxS	0.55	U	1	4.0	0.55	ng/L	06/16/2021 1309
PFBA	0.60	U	1	4.0	0.60	ng/L	06/16/2021 1309
PFDA	0.52	U	1	4.0	0.52	ng/L	06/16/2021 1309
PFDoA	0.47	U	1	4.0	0.47	ng/L	06/16/2021 1309
PFHpA	0.45	U	1	4.0	0.45	ng/L	06/16/2021 1309
PFHxDA	0.82	U	1	8.0	0.82	ng/L	06/16/2021 1309
PFHxA	0.69	U	1	4.0	0.69	ng/L	06/16/2021 1309
PFNA	0.46	U	1	4.0	0.46	ng/L	06/16/2021 1309
PFODA	1.0	U	1	8.0	1.0	ng/L	06/16/2021 1309
PFOA	0.83	U	1	4.0	0.83	ng/L	06/16/2021 1309
PFPeA	0.54	U	1	4.0	0.54	ng/L	06/16/2021 1309
PFTeDA	0.60	U	1	4.0	0.60	ng/L	06/16/2021 1309
PFTrDA	0.53	U	1	4.0	0.53	ng/L	06/16/2021 1309
PFUdA	0.63	U	1	4.0	0.63	ng/L	06/16/2021 1309
PFOS	2.0	U	1	4.0	2.0	ng/L	06/16/2021 1309

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		107	25-150
13C2_6:2FTS		115	25-150
13C2_8:2FTS		94	25-150
13C2_PFDoA		94	25-150
13C2_PFHxDA		66	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

## PFAS by LC/MS/MS - MB

Sample ID: WQ95596-001

Matrix: Aqueous

Batch: 95596

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1903

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		75	25-150
13C3_PFBs		96	25-150
13C3_PFHxS		98	25-150
13C3-HFPO-DA		104	25-150
13C4_PFBa		103	25-150
13C4_PFHpA		104	25-150
13C5_PFHxA		98	25-150
13C5_PFPeA		102	25-150
13C6_PFDa		100	25-150
13C7_PFUdA		97	25-150
13C8_PFOA		101	25-150
13C8_PFOs		90	25-150
13C8_PFOsA		98	10-150
13C9_PFNa		95	25-150
d-EtFOsA		79	10-150
d5-EtFOsAA		96	25-150
d9-EtFOsE		98	10-150
d-MeFOsA		96	10-150
d3-MeFOsAA		103	25-150
d7-MeFOsE		91	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - LCS

Sample ID: WQ95596-002

Matrix: Aqueous

Batch: 95596

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1903

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
9CI-PF3ONS	15	15		1	97	50-150	06/16/2021 1320
11CI-PF3OUdS	15	13		1	85	50-150	06/16/2021 1320
8:2 FTS	15	18		1	117	50-150	06/16/2021 1320
6:2 FTS	15	14		1	93	50-150	06/16/2021 1320
10:2 FTS	15	16		1	103	50-150	06/16/2021 1320
4:2 FTS	15	14		1	94	50-150	06/16/2021 1320
GenX	32	33		1	103	50-150	06/16/2021 1320
ADONA	15	16		1	105	50-150	06/16/2021 1320
EtFOSA	16	15		1	96	50-150	06/16/2021 1320
EtFOSAA	16	17		1	108	50-150	06/16/2021 1320
EtFOSE	16	15		1	93	50-150	06/16/2021 1320
MeFOSA	16	17		1	105	50-150	06/16/2021 1320
MeFOSAA	16	17		1	105	50-150	06/16/2021 1320
MeFOSE	16	17		1	107	50-150	06/16/2021 1320
PFBS	14	13		1	95	50-150	06/16/2021 1320
PFDS	15	15		1	97	50-150	06/16/2021 1320
PFHpS	15	15		1	98	50-150	06/16/2021 1320
PFNS	15	15		1	100	50-150	06/16/2021 1320
PFOSA	16	16		1	99	50-150	06/16/2021 1320
PFPeS	15	14		1	95	50-150	06/16/2021 1320
PFDOS	15	12		1	75	50-150	06/16/2021 1320
PFHxS	15	14		1	99	50-150	06/16/2021 1320
PFBA	16	16		1	100	50-150	06/16/2021 1320
PFDA	16	15		1	96	50-150	06/16/2021 1320
PFDoA	16	16		1	102	50-150	06/16/2021 1320
PFHpA	16	16		1	99	50-150	06/16/2021 1320
PFHxDA	16	15		1	96	50-150	06/16/2021 1320
PFHxA	16	16		1	102	50-150	06/16/2021 1320
PFNA	16	16		1	98	50-150	06/16/2021 1320
PFODA	16	16		1	100	50-150	06/16/2021 1320
PFOA	16	17		1	109	50-150	06/16/2021 1320
PFPeA	16	16		1	98	50-150	06/16/2021 1320
PFTeDA	16	16		1	99	50-150	06/16/2021 1320
PFTrDA	16	14		1	86	50-150	06/16/2021 1320
PFUdA	16	15		1	95	50-150	06/16/2021 1320
PFOS	15	14		1	96	50-150	06/16/2021 1320

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		108	25-150
13C2_6:2FTS		127	25-150
13C2_8:2FTS		89	25-150
13C2_PFDoA		94	25-150
13C2_PFHxDA		69	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**



## PFAS by LC/MS/MS - LCS

Sample ID: WQ95596-002

Matrix: Aqueous

Batch: 95596

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1903

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		81	25-150
13C3_PFBs		93	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		97	25-150
13C4_PFBa		96	25-150
13C4_PFHpA		95	25-150
13C5_PFHxA		95	25-150
13C5_PFPeA		97	25-150
13C6_PFDa		100	25-150
13C7_PFUdA		90	25-150
13C8_PFOA		96	25-150
13C8_PFOs		86	25-150
13C8_PFOsA		98	10-150
13C9_PFNa		92	25-150
d-EtFOsA		74	10-150
d5-EtFOsAA		89	25-150
d9-EtFOsE		96	10-150
d-MeFOsA		83	10-150
d3-MeFOsAA		89	25-150
d7-MeFOsE		82	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MS

Sample ID: WF14017-011MS

Matrix: Aqueous

Batch: 95596

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1903

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
9CI-PF3ONS	0.0	14	13		1	96	50-150	06/16/2021 1527
11CI-PF3OUdS	0.0	14	11		1	77	50-150	06/16/2021 1527
8:2 FTS	0.0	14	19		1	128	50-150	06/16/2021 1527
6:2 FTS	0.0	14	12		1	85	50-150	06/16/2021 1527
10:2 FTS	0.0	15	15		1	101	50-150	06/16/2021 1527
4:2 FTS	0.0	14	15		1	104	50-150	06/16/2021 1527
GenX	0.0	30	29		1	97	50-150	06/16/2021 1527
ADONA	0.0	14	14		1	98	50-150	06/16/2021 1527
EtFOSA	0.0	15	13		1	87	50-150	06/16/2021 1527
EtFOSAA	0.0	15	15		1	97	50-150	06/16/2021 1527
EtFOSE	0.0	15	13		1	86	50-150	06/16/2021 1527
MeFOSA	0.0	15	18		1	122	50-150	06/16/2021 1527
MeFOSAA	0.0	15	16		1	104	50-150	06/16/2021 1527
MeFOSE	0.0	15	16		1	104	50-150	06/16/2021 1527
PFBS	13	13	26		1	101	50-150	06/16/2021 1527
PFDS	0.0	15	14		1	94	50-150	06/16/2021 1527
PFHpS	0.74	14	13		1	87	50-150	06/16/2021 1527
PFNS	0.0	14	13		1	90	50-150	06/16/2021 1527
PFOSA	0.0	15	15		1	101	50-150	06/16/2021 1527
PFPeS	0.76	14	16		1	105	50-150	06/16/2021 1527
PFDOS	0.0	15	9.5		1	65	50-150	06/16/2021 1527
PFHxS	8.1	14	19		1	77	50-150	06/16/2021 1527
PFBA	9.8	15	24		1	91	50-150	06/16/2021 1527
PFDA	2.1	15	17		1	99	50-150	06/16/2021 1527
PFDoA	0.47	15	16		1	103	50-150	06/16/2021 1527
PFHpA	10	15	25		1	101	50-150	06/16/2021 1527
PFHxDA	0.0	15	15		1	98	50-150	06/16/2021 1527
PFHxA	17	15	35		1	115	50-150	06/16/2021 1527
PFNA	2.4	15	17		1	97	50-150	06/16/2021 1527
PFODA	0.0	15	13		1	88	50-150	06/16/2021 1527
PFOA	22	15	39		1	112	50-150	06/16/2021 1527
PFPeA	22	15	37		1	100	50-150	06/16/2021 1527
PFTeDA	0.0	15	15		1	100	50-150	06/16/2021 1527
PFTrDA	0.0	15	13		1	87	50-150	06/16/2021 1527
PFUdA	0.0	15	15		1	100	50-150	06/16/2021 1527
PFOS	29	14	44		1	106	50-150	06/16/2021 1527

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		122	25-150
13C2_6:2FTS		105	25-150
13C2_8:2FTS		84	25-150
13C2_PFDoA		78	25-150
13C2_PFHxDA		50	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MS

Sample ID: WF14017-011MS

Matrix: Aqueous

Batch: 95596

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1903

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		71	25-150
13C3_PFBs		84	25-150
13C3_PFHxS		88	25-150
13C3-HFPO-DA		87	25-150
13C4_PFBa		81	25-150
13C4_PFHpA		87	25-150
13C5_PFHxA		86	25-150
13C5_PFPeA		85	25-150
13C6_PFDa		87	25-150
13C7_PFUdA		81	25-150
13C8_PFOA		84	25-150
13C8_PFOs		74	25-150
13C8_PFOsA		87	10-150
13C9_PFNa		86	25-150
d-EtFOsA		70	10-150
d5-EtFOsAA		81	25-150
d9-EtFOsE		76	10-150
d-MeFOsA		69	10-150
d3-MeFOsAA		76	25-150
d7-MeFOsE		68	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MSD

Sample ID: WF14017-011MD

Matrix: Aqueous

Batch: 95596

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1903

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
9CI-PF3ONS	0.0	14	13		1	94	2.3	50-150	30	06/16/2021 1538
11CI-PF3OUdS	0.0	14	10		1	73	5.9	50-150	30	06/16/2021 1538
8:2 FTS	0.0	14	14		1	101	26	50-150	30	06/16/2021 1538
6:2 FTS	0.0	14	14		1	99	14	50-150	30	06/16/2021 1538
10:2 FTS	0.0	14	12		1	85	19	50-150	30	06/16/2021 1538
4:2 FTS	0.0	14	12		1	89	16	50-150	30	06/16/2021 1538
GenX	0.0	30	33		1	110	12	50-150	30	06/16/2021 1538
ADONA	0.0	14	16		1	111	11	50-150	30	06/16/2021 1538
EtFOSA	0.0	15	18	+	1	120	31	50-150	30	06/16/2021 1538
EtFOSAA	0.0	15	14		1	92	7.1	50-150	30	06/16/2021 1538
EtFOSE	0.0	15	16		1	106	20	50-150	30	06/16/2021 1538
MeFOSA	0.0	15	14		1	97	24	50-150	30	06/16/2021 1538
MeFOSAA	0.0	15	16		1	110	4.7	50-150	30	06/16/2021 1538
MeFOSE	0.0	15	16		1	107	0.90	50-150	30	06/16/2021 1538
PFBS	13	13	24		1	82	11	50-150	30	06/16/2021 1538
PFDS	0.0	14	14		1	96	0.39	50-150	30	06/16/2021 1538
PFHpS	0.74	14	14		1	97	9.3	50-150	30	06/16/2021 1538
PFNS	0.0	14	15		1	103	12	50-150	30	06/16/2021 1538
PFOSA	0.0	15	16		1	105	3.0	50-150	30	06/16/2021 1538
PFPeS	0.76	14	14		1	95	10	50-150	30	06/16/2021 1538
PFDOS	0.0	14	9.2		1	64	2.8	50-150	30	06/16/2021 1538
PFHxS	8.1	14	21		1	97	13	50-150	30	06/16/2021 1538
PFBA	9.8	15	24		1	93	0.36	50-150	30	06/16/2021 1538
PFDA	2.1	15	17		1	103	2.3	50-150	30	06/16/2021 1538
PFDoA	0.47	15	16		1	105	1.5	50-150	30	06/16/2021 1538
PFHpA	10	15	24		1	91	6.9	50-150	30	06/16/2021 1538
PFHxDA	0.0	15	15		1	100	1.6	50-150	30	06/16/2021 1538
PFHxA	17	15	34		1	110	2.7	50-150	30	06/16/2021 1538
PFNA	2.4	15	17		1	98	0.13	50-150	30	06/16/2021 1538
PFODA	0.0	15	15		1	101	13	50-150	30	06/16/2021 1538
PFOA	22	15	40		1	121	2.7	50-150	30	06/16/2021 1538
PFPeA	22	15	36		1	91	3.9	50-150	30	06/16/2021 1538
PFTeDA	0.0	15	15		1	99	2.1	50-150	30	06/16/2021 1538
PFTrDA	0.0	15	13		1	90	2.8	50-150	30	06/16/2021 1538
PFUdA	0.0	15	15		1	104	2.4	50-150	30	06/16/2021 1538
PFOS	29	14	43		1	100	2.1	50-150	30	06/16/2021 1538

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		127	25-150
13C2_6:2FTS		96	25-150
13C2_8:2FTS		83	25-150
13C2_PFDoA		78	25-150
13C2_PFHxDA		52	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

## PFAS by LC/MS/MS - MSD

Sample ID: WF14017-011MD

Matrix: Aqueous

Batch: 95596

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/15/2021 1903

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		70	25-150
13C3_PFBs		88	25-150
13C3_PFHxS		83	25-150
13C3-HFPO-DA		84	25-150
13C4_PFBa		83	25-150
13C4_PFHpA		90	25-150
13C5_PFHxA		85	25-150
13C5_PFPeA		87	25-150
13C6_PFDa		87	25-150
13C7_PFUdA		82	25-150
13C8_PFOA		83	25-150
13C8_PFOs		73	25-150
13C8_PFOsA		89	10-150
13C9_PFNa		85	25-150
d-EtFOsA		62	10-150
d5-EtFOsAA		79	25-150
d9-EtFOsE		77	10-150
d-MeFOsA		79	10-150
d3-MeFOsAA		79	25-150
d7-MeFOsE		67	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MB

Sample ID: WQ96031-001

Matrix: Aqueous

Batch: 96031

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/18/2021 1738

Parameter	Result	Q	Dil	LOQ	MDL	Units	Analysis Date
9CI-PF3ONS	0.48	U	1	8.0	0.48	ng/L	06/19/2021 1613
11CI-PF3OUdS	0.66	U	1	8.0	0.66	ng/L	06/19/2021 1613
8:2 FTS	1.6	U	1	8.0	1.6	ng/L	06/19/2021 1613
6:2 FTS	2.0	U	1	8.0	2.0	ng/L	06/19/2021 1613
10:2 FTS	1.2	U	1	8.0	1.2	ng/L	06/19/2021 1613
4:2 FTS	0.87	U	1	8.0	0.87	ng/L	06/19/2021 1613
GenX	2.1	U	1	8.0	2.1	ng/L	06/19/2021 1613
ADONA	0.48	U	1	8.0	0.48	ng/L	06/19/2021 1613
EtFOSA	1.4	U	1	8.0	1.4	ng/L	06/19/2021 1613
EtFOSAA	0.75	U	1	8.0	0.75	ng/L	06/19/2021 1613
EtFOSE	0.95	U	1	8.0	0.95	ng/L	06/19/2021 1613
MeFOSA	1.3	U	1	16	1.3	ng/L	06/19/2021 1613
MeFOSAA	0.93	U	1	8.0	0.93	ng/L	06/19/2021 1613
MeFOSE	1.3	U	1	8.0	1.3	ng/L	06/19/2021 1613
PFBS	0.41	U	1	4.0	0.41	ng/L	06/19/2021 1613
PFDS	0.78	U	1	4.0	0.78	ng/L	06/19/2021 1613
PFHpS	0.50	U	1	4.0	0.50	ng/L	06/19/2021 1613
PFNS	0.71	U	1	4.0	0.71	ng/L	06/19/2021 1613
PFOSA	0.61	U	1	4.0	0.61	ng/L	06/19/2021 1613
PFPeS	0.59	U	1	4.0	0.59	ng/L	06/19/2021 1613
PFDOS	1.0	U	1	8.0	1.0	ng/L	06/19/2021 1613
PFHxS	0.55	U	1	4.0	0.55	ng/L	06/19/2021 1613
PFBA	0.60	U	1	4.0	0.60	ng/L	06/19/2021 1613
PFDA	0.52	U	1	4.0	0.52	ng/L	06/19/2021 1613
PFDoA	0.47	U	1	4.0	0.47	ng/L	06/19/2021 1613
PFHpA	0.45	U	1	4.0	0.45	ng/L	06/19/2021 1613
PFHxDA	0.82	U	1	8.0	0.82	ng/L	06/19/2021 1613
PFHxA	0.69	U	1	4.0	0.69	ng/L	06/19/2021 1613
PFNA	0.46	U	1	4.0	0.46	ng/L	06/19/2021 1613
PFODA	1.0	U	1	8.0	1.0	ng/L	06/19/2021 1613
PFOA	0.83	U	1	4.0	0.83	ng/L	06/19/2021 1613
PFPeA	0.54	U	1	4.0	0.54	ng/L	06/19/2021 1613
PFTeDA	0.60	U	1	4.0	0.60	ng/L	06/19/2021 1613
PFTrDA	0.53	U	1	4.0	0.53	ng/L	06/19/2021 1613
PFUdA	0.63	U	1	4.0	0.63	ng/L	06/19/2021 1613
PFOS	2.0	U	1	4.0	2.0	ng/L	06/19/2021 1613

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		96	25-150
13C2_6:2FTS		85	25-150
13C2_8:2FTS		81	25-150
13C2_PFDoA		82	25-150
13C2_PFHxDA		88	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

## PFAS by LC/MS/MS - MB

Sample ID: WQ96031-001

Matrix: Aqueous

Batch: 96031

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/18/2021 1738

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		81	25-150
13C3_PFBs		85	25-150
13C3_PFHxS		88	25-150
13C3-HFPO-DA		85	25-150
13C4_PFBa		85	25-150
13C4_PFHpA		91	25-150
13C5_PFHxA		86	25-150
13C5_PFPeA		87	25-150
13C6_PFDa		92	25-150
13C7_PFUdA		87	25-150
13C8_PFOA		85	25-150
13C8_PFOs		82	25-150
13C8_PFOsA		90	10-150
13C9_PFNa		85	25-150
d-EtFOsA		69	10-150
d5-EtFOsAA		90	25-150
d9-EtFOsE		84	10-150
d-MeFOsA		83	10-150
d3-MeFOsAA		92	25-150
d7-MeFOsE		89	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - LCS

Sample ID: WQ96031-002

Matrix: Aqueous

Batch: 96031

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/18/2021 1738

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
9CI-PF3ONS	15	15		1	102	50-150	06/19/2021 1624
11CI-PF3OUdS	15	14		1	95	50-150	06/19/2021 1624
8:2 FTS	15	18		1	115	50-150	06/19/2021 1624
6:2 FTS	15	16		1	103	50-150	06/19/2021 1624
10:2 FTS	15	14		1	93	50-150	06/19/2021 1624
4:2 FTS	15	17		1	114	50-150	06/19/2021 1624
GenX	32	34		1	105	50-150	06/19/2021 1624
ADONA	15	17		1	113	50-150	06/19/2021 1624
EtFOSA	16	21		1	128	50-150	06/19/2021 1624
EtFOSAA	16	16		1	98	50-150	06/19/2021 1624
EtFOSE	16	18		1	112	50-150	06/19/2021 1624
MeFOSA	16	19		1	121	50-150	06/19/2021 1624
MeFOSAA	16	16		1	100	50-150	06/19/2021 1624
MeFOSE	16	16		1	101	50-150	06/19/2021 1624
PFBS	14	15		1	109	50-150	06/19/2021 1624
PFDS	15	15		1	96	50-150	06/19/2021 1624
PFHpS	15	18		1	115	50-150	06/19/2021 1624
PFNS	15	18		1	114	50-150	06/19/2021 1624
PFOSA	16	17		1	105	50-150	06/19/2021 1624
PFPeS	15	17		1	110	50-150	06/19/2021 1624
PFDOS	15	11		1	69	50-150	06/19/2021 1624
PFHxS	15	15		1	106	50-150	06/19/2021 1624
PFBA	16	17		1	108	50-150	06/19/2021 1624
PFDA	16	19		1	119	50-150	06/19/2021 1624
PFDoA	16	17		1	108	50-150	06/19/2021 1624
PFHpA	16	16		1	98	50-150	06/19/2021 1624
PFHxDA	16	17		1	107	50-150	06/19/2021 1624
PFHxA	16	18		1	113	50-150	06/19/2021 1624
PFNA	16	17		1	106	50-150	06/19/2021 1624
PFODA	16	18		1	112	50-150	06/19/2021 1624
PFOA	16	17		1	105	50-150	06/19/2021 1624
PFPeA	16	17		1	107	50-150	06/19/2021 1624
PFTeDA	16	17		1	108	50-150	06/19/2021 1624
PFTrDA	16	13		1	83	50-150	06/19/2021 1624
PFUdA	16	18		1	110	50-150	06/19/2021 1624
PFOS	15	17		1	112	50-150	06/19/2021 1624

  

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		90	25-150
13C2_6:2FTS		94	25-150
13C2_8:2FTS		82	25-150
13C2_PFDoA		82	25-150
13C2_PFHxDA		55	25-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**



## PFAS by LC/MS/MS - LCS

Sample ID: WQ96031-002

Matrix: Aqueous

Batch: 96031

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 06/18/2021 1738

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		65	25-150
13C3_PFBs		83	25-150
13C3_PFHxS		89	25-150
13C3-HFPO-DA		86	25-150
13C4_PFBa		87	25-150
13C4_PFHpA		94	25-150
13C5_PFHxA		84	25-150
13C5_PFPeA		90	25-150
13C6_PFDa		89	25-150
13C7_PFUdA		86	25-150
13C8_PFOA		90	25-150
13C8_PFOs		78	25-150
13C8_PFOsA		89	10-150
13C9_PFNa		84	25-150
d-EtFOsA		64	10-150
d5-EtFOsAA		89	25-150
d9-EtFOsE		87	10-150
d-MeFOsA		75	10-150
d3-MeFOsAA		92	25-150
d7-MeFOsE		88	10-150

LOQ = Limit of Quantitation

U = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

I = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

**Chain of Custody  
and  
Miscellaneous Documents**

**PARENT SAMPLES**

**CHAIN-OF-CUSTODY / Analytical Request Document**

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**PARENT SAMPLES**

**Section A**  
Required Client Information:  
Company: City of Delray Beach  
Address: 200 SW 8th St.  
Delray Beach, FL 33414  
Request To: John Menzard  
Project Name: PFAS  
Phone: (561) 224-2272 Fax:   
Requested Date: 1/10/20

**Section B**  
Required Project Information:  
Request For: John Menzard  
Copy To:   
Invoice Order #:   
Project Name: PFAS  
PWS D.U.P.: 1/10/20

**Section C**  
Invoice Information:  
Material: Accounts Payable  
Company Name: See Section A  
Address:   
State: FL  
City:   
Zip:   
Project Manager: Lisa Haney  
Phone Profile #: 1613-1-1 (DW) -2 (WT)  
Requested Analytes Filtered (Y/N):

Page: 1 of 6



ITEM #	MATRIX CODE	COLLECTED		SAMPLE TYPE (S-SUB-C-COMP)	SAMPLE TEMP AT COLLECTION	H-COMMENTS	PRESERVATIVES	ANALYTES TEST	ACCEPTED BY / AFFILIATION	DATE	TIME	ADDITIONAL COMMENTS
		START DATE	END DATE									
1	FWPCE	01/10/20	01/10/20	10:10								
2	PW #8	01/10/20	01/10/20	10:24								
3	PW #9	01/10/20	01/10/20	10:40								
4	PW #12	01/10/20	01/10/20	11:00								
5	PW #14	01/10/20	01/10/20	11:20								
6	PW #15	01/10/20	01/10/20	11:40								
7	PW #17	01/10/20	01/10/20	12:00								
8	PW #21	01/10/20	01/10/20	12:20								
9	PW #22	01/10/20	01/10/20	12:40								
10	PW # 22 Dup	01/10/20	01/10/20	12:50								

**REQUISITIONED BY / AFFILIATION:** John Menzard **DATE:** 1/10/20 **TIME:** 11:30

**ACCEPTED BY / AFFILIATION:** John Menzard **DATE:** 1/10/20 **TIME:** 11:30

**SIGNATURE OF SAMPLER:** John Menzard **DATE SIGNED:** 1/10/20

**PRINT NAME OF SAMPLER:** John Menzard

**SIGNATURE OF SAMPLER:** John Menzard

**DATE SIGNED:** 1/10/20

**TEMPERATURE:** 4 **COOLING:** Y **SCALE:** Y **COOLANT:** Y **SCALE:** Y **COOLANT:** Y

## Internal Transfer Chain of Custody



Samples Pre-Logged into eCOC.

State Of Origin: FL  
 Cert. Needed:  Yes  No

Owner Received Date: 8/11/2021 Results Requested By: 7/2/2021



Workorder: 35640044 Workorder Name: PFAs

Report To: Subcontract To:

Lisa Harvey  
 Pace Analytical Ormond Beach  
 8 East Tower Circle  
 Ormond Beach, FL 32174  
 Phone (386) 672-5668

Pace Analytical West Columbia  
 106 Vantage Point Drive  
 West Columbia, SC 29172  
 Phone (803) 791-9700

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers		DW-Intoxc (Minimum PFAs-level of 36 compounds)	PFA Extract/Field Fee	PFA Blank Extract & Fee	Requested Analysis	LAB USE ONLY
						eCOC#	2					
40	FRB @PW #28	PS	6/5/2021 14:00	35640044040	Water		2		X			
41	FRB @PW #26	PS	6/5/2021 14:27	35640044041	Water		2		X			
42	FRB @PW #30	PS	6/9/2021 14:42	35640044042	Water		2		X			
43	FRB @PW #31	PS	6/9/2021 14:52	35640044043	Water		2		X			
44	FRB @PW #28	PS	6/9/2021 15:12	35640044044	Water		2		X			
45	FRB @PW #38	PS	6/9/2021 15:32	35640044045	Water		2		X			
46	FRB @PW #40	PS	6/9/2021 15:42	35640044046	Water		2		X			
47	FRB @PW #44	PS	6/9/2021 15:52	35640044047	Water		2		X			
48	FRB @F-01 Blank	PS	6/9/2021 16:27	35640044048	Water		2		X			

*WF 14017*

Transfers	Released By	Date/Time	Received By	Date/Time
1				
2				
3	<i>FEDA</i>	<i>6/10/21 09:20</i>	<i>Weste</i>	<i>6/10/21 09:20</i>

Cooler Temperature on Receipt: *1.6* °C      Custody Seal: *Y* or *N*      Received on Ice: *Y* or *N*      Samples Intact: *Y* or *N*

*Temp @ receipt: 0.9 °C, 2.4 °C, 1.6 °C*

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.  
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

## CHAIN-OF-CUSTODY / Analytical Request Document

**PARENT SAMPLES**

**PARENT SAMPLES**

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b>		<b>Section B</b>		<b>Section C</b>	
<b>Required Client Information:</b>		<b>Required Project Information:</b>		<b>Invoice Information:</b>	
Company: City of Delray Beach	Request To: Juan Marcano	Project No: PFA5	Company Name: See section A	Account: ACCOUNTS Payable	Page: 2 of 6
Address: 200 SW 8th St	Copy To: Delray Beach, FL 33444	Supervisor Under: PFA5	Address: See section A	Project Manager: Lisa Harvey	Regulatory Agency: FL
Email To: Juan Marcano	Phone: (561) 234-7272	Request Due Date: WFC10	Project Name: PFA5	Trace Profile #: 16131-1 (DW) -2 (WT)	State/Location: FL
			Requester Analytic Types (Y/N)		

ITEM #	MATRIX CODE	SAMPLER TYPE (USE 99A-C-COCP)	COLLECTED		SAMPLER TEMP AT COLLECTION	# OF CONTAINERS	UNSPICED	SOLUM TREATMENT & H2SO4	HVO3	MCI + No. BOTT	TAPES	NAD303	MPC DIBS & Spikes Test/Date	ANALYSIS, HPLC, KROCHAL	ANALYSIS TEST	PFA5 (S-35PFA5)	PFA5 - BLANKS (S1-S16CSM)	PFA Extract/Holder Fee? (S17-GC5V)	Regional Charge (Y/N)	PH
			START DATE TIME	END DATE TIME																
11	PW #23	DWG 16021	17:50			4				4										7.40 @ 27.7
12	PW #24	DWG 16021	18:05			2				2										7.30 @ 27.7
13	PW #25	DWG 16021	18:15			2				2										7.40 @ 27.7
14	PW #26A	DWG 16021	19:20			2				2										7.27 @ 27.7
15	PW #27	DWG 16021	19:40			2				2										7.31 @ 27.6
16	PW #28	DWG 16021	19:55			2				2										7.46 @ 27.5
17	PW #28	DWG 16021	19:55			2				2										7.46 @ 27.7
18	PW #30	DWG 16021	19:40			2				2										7.34 @ 26.8
19	PW #31	DWG 16021	19:50			2				2										
20	PW #32 OVS	DWG 16021				2				2										

<b>RELEASUED BY / AFFILIATION</b>	<b>DATE</b>	<b>TIME</b>	<b>ACCEPTED BY / AFFILIATION</b>	<b>DATE</b>	<b>TIME</b>
<i>[Signature]</i>	11/12/10	11:30	<i>[Signature]</i>	11/11/10	11:30
<b>ADDITIONAL COMMENTS</b>					
Samples will be direct shipped from City of Delray Beach to Pace. SC Parent (DW) samples are on one COC, the blanks (WT) are on a separate COC for ease of logging samples PFA5: Isotopic Dilution - list of 46 crimped-analyzed by Pace-SC-12-106					
<b>RELEASUED BY / AFFILIATION</b>			<b>ACCEPTED BY / AFFILIATION</b>		
<i>[Signature]</i>			<i>[Signature]</i>		
<b>PRINT Name of SAMPLER:</b>			<b>SAMPLER NAME AND SIGNATURE</b>		
John Marcano/Juan Marcano			<i>[Signature]</i>		
<b>SIGNATURE OF SAMPLER:</b>			<b>DATE</b>		
<i>[Signature]</i>			11/11/10		
<b>TEMP °C</b>			<b>REMARKS</b>		
Y			Y		
N			N		
Y			Y		
N			N		



**PARENT SAMPLES**

**CHAIN-OF-CUSTODY / Analytical Request Document**

**PARENT SAMPLES**

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 3 of 6

<b>Section A</b> Required Client Information: Company: City of Delray Beach Address: 200 SW 6th St. Delray Beach, FL 33444 Email To: Juan Miranda Phone: (561) 334-7272 Requested Date: 6/20/10		<b>Section B</b> Required Project Information: Report To: Juan Miranda City To: Juan Miranda Address: Project Name: <b>PFAs</b> PWSID #: 4500663	
<b>Section C</b> Inmate Information: Attention: Accounts Payable Company Name: See Section A Address: Inmate Name: Inmate Project Manager: <b>LISA HARVEY</b> POC Profile #: <b>18131-1 (DW), -2 (WT)</b>		Regulatory Agency: FL State/Location: FL	

ITEM #	VOLUME	DATE	COLLECTED		ANALYSES TEST	PRESERVATIVES	REQUESTED ANALYSIS FILTERED (Y/N)	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
			START	END									
21	PW #31 @5	06/21											
22	PW #36	06/21	15:10		PFAs (SI-3E-PFAs)	None	Y						
23	PW #38	06/21	15:30		PFAs (SI-3E-PFAs)	None	Y						
24	PW #40	06/21	15:40		PFAs (SI-3E-PFAs)	None	Y						
25	PW #44	06/21	15:50		PFAs (SI-3E-PFAs)	None	Y						
26	Field Blank	06/21	16:25		PFAs (SI-3E-PFAs)	None	Y						

**WF14017**  
4-02

**ADDITIONAL COMMENTS**  
 REQUISITIONED BY / AFFILIATION: *[Signature]*  
 DATE: 6/20/10  
 TIME: 11:30

**RELINQUISHED BY / AFFILIATION**  
 DATE: 6/21/10  
 TIME: 11:30

**SAMPLE NAME AND SIGNATURE**  
 PRAT Name of SAMPLER: Juan Miranda  
 SIGNATURE of SAMPLER: *[Signature]*  
 DATE: 6/20/10

**RECEIVED BY**  
 DATE: 6/21/10  
 TIME: 11:30

**TEMP IN C**  
 RECEIVED BY: *[Signature]*  
 DATE: 6/20/10  
 TIME: 11:30

## CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**BLANKS**



<p><b>Section A</b>                  Required Client Information:                  Company: City of Delray Beach                  Address: 200 SW 6th St                  Delray Beach, FL 33444                  Email To: Juan Manzano                  Phone: (561) 334-7272                  Fax: _____                  Recipient Date: WB10</p>	<p><b>Section B</b>                  Recipient Project Information:                  Report To: Juan Manzano                  Copy To: _____                  Purchase Order #: PFAS                  Project Name: PFAS                  PWSID #: 4500361</p>
<p><b>Section C</b>                  Invoice Information:                  Attention: Account's Payable                  Company Name: See section A                  Address: _____                  City: _____                  State: FL                  Zip: _____</p>	<p><b>Section D</b>                  Payer Information:                  Payer Name: Lisa Harvey                  Payer Title: _____                  Payer Phone: 16131-1 (DW) -2 (WT)                  Payer Email: _____</p>

Page: 4 of 6

ITEM #	MATRIX CODE	SAMPLE TYPE (E-GRAV DRYWEI)	COLLECTED		DATE	TIME	PRESERVATIVES	ANALYSES TEST	REQUESTED ANALYSES FILTERED (Y/N)	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLING CONDITIONS	
			START	END												
1	FRB @PW0E	WTG	09:20	09:45			Unpreserved	Ascorbic Acid / Ascorbic Acid								
2	FRB @PW #8	WTG	09:20	10:15			Unpreserved	Ascorbic Acid / Ascorbic Acid								
3	FRB @PW #9	WTG	09:20	10:30			Unpreserved	Ascorbic Acid / Ascorbic Acid								
4	FRB @PW #12	WTG	09:21	10:45			Unpreserved	Ascorbic Acid / Ascorbic Acid								
5	FRB @PW #14	WTG	09:21	11:52			Unpreserved	Ascorbic Acid / Ascorbic Acid								
6	FRB @PW #10	WTG	09:21	11:06			Unpreserved	Ascorbic Acid / Ascorbic Acid								
7	FRB @PW #17	WTG	09:21	11:22			Unpreserved	Ascorbic Acid / Ascorbic Acid								
8	FRB @PW #21	WTG	09:21	11:42			Unpreserved	Ascorbic Acid / Ascorbic Acid								
9	FRB @PW #22	WTG	09:21	12:00			Unpreserved	Ascorbic Acid / Ascorbic Acid								
10	FRB @PW # 22 Dup.	WTG	09:21	12:01			Unpreserved	Ascorbic Acid / Ascorbic Acid								



<p><b>ADDITIONAL COMMENTS</b>                  Blank and hold pending parent sample results. If no hits in parent, then blank will not be analyzed, extraction will be changed.                  Samples will be direct shipped from City of Delray Beach to Pace-SC                  Parent (DW) samples are on one CDC. The blanks (WT) are on a separate CDC for ease of logging samples                  PFAS: Isotope Dilution-list of 38 cmpds-analyzed by Pace-SC 2-26-10</p>	<p><b>REQUISITIONED BY / AFFILIATION</b>                  JCS                  DATE: 6/24/11                  TIME: 11:20</p> <p><b>ACCEPTED BY / AFFILIATION</b>                  JCS                  DATE: 6/24/11                  TIME: 09:20</p> <p><b>SAMPLER NAME AND SIGNATURE</b>                  Juan Manzano                  SIGNATURE: [Signature]</p> <p><b>PRINT Name of SAMPLER:</b>                  Juan Manzano  <b>DATE SIGNED:</b>                  6/24/11</p>
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## BLANKS CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**BLANKS**

**BLANKS**

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: City of Delray Beach	Report To: Juan Marinero	Agency: Accounts Payable	Company Name: Sep 2018 on A	Regulatory Agency: FL	Page: 5 of 6
Address: 200 SW 8th St.	City To: Delray Beach, FL 33444	Address: P.O. Box 11000	State (Location): FL	Regulatory Agency: FL	Page: 5 of 6
Email To: Juan Marinero	Phone: (561) 234-7272	Project Name: PFAS	Project Profile #: 18131-1 (DW) - 2 (WT)	Regulatory Agency: FL	Page: 5 of 6
Requested Due Date: W010	Purchase Order #: PFAS	Face Project Manager: Lisa Harvey	State (Location): FL	Regulatory Agency: FL	Page: 5 of 6

ITEM #	MTRX CODE	DATE	TIME	COLLECTED		ANALYSES TEST	PRESERVATIVES	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
				START	END								
11	FRB @PW #23	WT G	08/21	12:50									
12	FRB @PW #24	WT G	08/21	13:55									
13	FRB @PW #25	WT G	08/21	15:11									
14	FRB @PW #26A	WT G	08/21	15:30									
15	FRB @PW #27	WT G	08/21	15:45									
16	FRB @PW #28	WT G	08/21	16:00									
17	FRB @PW #29	WT G	08/21	16:27									
18	FRB @PW #30	WT G	08/21	16:30									
19	FRB @PW #31	WT G	08/21	16:52									
20	FRB @PW #32-OAS	WT G	08/21	16:52									

<b>ADDITIONAL COMMENTS</b> Blank samples are on one COC, the blanks (WT) are on a separate COC for ease of logging samples PFAS: Isotope Dilution-list of 36 compounds-analyzed by Pace-SC2461102		<b>REQUISITIONED BY / AFFILIATION</b> [Signature] / COB		<b>DATE</b> 8/21/18		<b>TIME</b> 11:30	
<b>RELINQUISHED BY / AFFILIATION</b> [Signature] / COB		<b>DATE</b> 8/21/18		<b>TIME</b> 11:30		<b>ACCEPTED BY / AFFILIATION</b> [Signature] / CSC	
<b>SAMPLER NAME AND SIGNATURE</b> Juan Marinero		<b>DATE</b> 8/21/18		<b>TIME</b> 11:30		<b>DATE</b> 8/21/18	
<b>SIGNATURE OF SAMPLER:</b> [Signature]		<b>DATE SIGNED:</b> 8/21/18		<b>DATE SIGNED:</b> 8/21/18		<b>DATE SIGNED:</b> 8/21/18	



## BLANKS CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



<b>Section A</b> Requested Client Information: Company: City of Delroy Beach Address: 200 SW 8th St. Delroy Beach, FL 33444	<b>Section B</b> Required Project Information: Report To: Juan Martinez Copy To: Delroy Beach, FL 33444	<b>Section C</b> Service Information: Client: Accounts Payable Company Name: See section A Address: Regulatory Agency: FL State / Location: FL Requested Due Date: W010
<b>Section D</b> Purchase Order #: Project Name: PFAS PWSD #: 4500301	Requested Analysis Filtered (Y/N):	Requested Analysis Filtered (Y/N):

ITEM #	SAMPLE ID	COLLECTED		DATE	TIME	RELEASING BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
		START	END									
21	FRB @PW #34-@WS											
22	FRD @PW #38			15:12			4/10/21	11:30				
23	FRB @PW #38			15:12								
24	FRB @PW #40			15:12								
25	FRB @PW #44			15:57								
26	FRB @Field Blank			16:27								

<b>ADDITIONAL COMMENTS</b> Blanks are excised and held pending parent sample results. If no fills in parent, then blanks will not be analyzed, extraction will be changed.	<b>SAMPLER NAME AND SIGNATURE</b> Juan Martinez DATE SIGNED: 04/09/2021	<b>DATE</b> 04/09/2021
SAMPLE RESULTS: If no fills in parent, then blanks will not be analyzed, extraction will be changed. Samples will be direct shipped from City of Delroy Beach to Pace-SC Parent (DW) samples are on one COC, the blanks (WT) are on a separate COC for ease of logging samples PFAS: Isotope Dilution-list of 36 compounds-analyzed by Pace-SC-7.42.11.02		SIGNED BY: Juan Martinez DATE SIGNED: 04/09/2021 SIGNED BY: Juan Martinez DATE SIGNED: 04/09/2021

# PACE ANALYTICAL SERVICES, LLC



**Samples Receipt Checklist (SRC) (ME0018C-15)**  
Issuing Authority: Pace ENV - WCOL

Revised: 9/29/2020  
Page 1 of 1

## Sample Receipt Checklist (SRC)

Client: Pace Cooler Inspected by/date: KSC / 06/14/2021 Lot #: WF14017

Means of receipt: <input type="checkbox"/> Pace <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other:	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1. Were custody seals present on the cooler?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	2. If custody seals were present, were they intact and unbroken?
pH Strip ID: <u>NA</u> Chlorine Strip ID: <u>NA</u> Tested by: <u>NA</u>	
Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: <u>NA</u>	
<u>1.6 / 1.6 °C 0.9 / 0.9 °C 2.4 / 2.4 °C 1.6 / 1.5 °C</u>	
Method: <input type="checkbox"/> Temperature Blank <input checked="" type="checkbox"/> Against Bottles IR Gun ID: <u>5</u> IR Gun Correction Factor: <u>0</u> °C	
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Ice Packs <input type="checkbox"/> Dry Ice <input type="checkbox"/> None	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	4. Is the commercial courier's packing slip attached to this form?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Were proper custody procedures (relinquished/received) followed?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6. Were sample IDs listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7. Were sample IDs listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. Was collection date & time listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9. Was collection date & time listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Did all container label information (ID, date, time) agree with the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. Were tests to be performed listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13. Was adequate sample volume available?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (¼") or 6mm in diameter) in any of the VOA vials?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	19. Were all applicable NH <sub>4</sub> /TKN/cyanide/phenol/625.1/608.3 (< 0.5 mg/L) samples free of residual chlorine?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc. . .) correctly transcribed from the COC into the comment section in LIMS?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	21. Was the quote number listed on the container label? If yes, Quote #

**Sample Preservation** (Must be completed for any sample(s) incorrectly preserved or with headspace.)  
 Sample(s) NA were received incorrectly preserved and were adjusted accordingly in sample receiving with NA mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # NA  
 Time of preservation NA. If more than one preservative is needed, please note in the comments below.

Sample(s) NA were received with bubbles >6 mm in diameter.  
 Samples(s) NA were received with TRC > 0.5 mg/L (if #19 is *no*) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) with Shealy ID: NA

SR barcode labels applied by: KDRW Date: 06/14/2021

Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## Internal Transfer Chain of Custody



Samples Pre-Logged into eCOC.

State Of Origin: FL  Yes  No  
 Cart. Needed:  Yes  No

Workorder: 35640044    Workorder Name: PFAS    Results Requested By: 7/2/2021



Report To: Lisa Harvey  
 Pace Analytical Ormond Beach  
 106 Vantage Point Drive  
 West Columbia, SC 29172  
 Phone (803) 672-5668

Subcontract To: Pace Analytical West Columbia  
 106 Vantage Point Drive  
 West Columbia, SC 29172  
 Phone (803) 791-5700

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	eCOC#	Preserved Containers		DW-Isotope Tritium-PFAS-Isl of 38 crpts	PFA Extract/Field Pa	PFAS Rinser Extract & TIC	Requested Analysis
							1	2				
1	PWPOE	PS	6/9/2021 09:40	35640044001	Drinking	1			X			
2	PW#9	PS	6/9/2021 10:13	35640044002	Drinking	1			X			
3	PW#9	PS	6/9/2021 10:25	35640044003	Drinking	1			X			
4	PW#12	PS	6/9/2021 10:40	35640044004	Drinking	1			X			
5	PW#14	PS	6/9/2021 10:52	35640044005	Drinking	1			X			
6	PW#18	PS	6/9/2021 11:05	35640044006	Drinking	1			X			
7	PW#17	PS	6/9/2021 11:20	35640044007	Drinking	1			X			
8	PW#27	PS	6/9/2021 11:40	35640044008	Drinking	1			X			
9	PW#32	PS	6/9/2021 12:00	35640044009	Drinking	1			X			
10	PW#29 Dup	PS	6/9/2021 12:05	35640044010	Drinking	1			X			
11	PW#23	PS	6/9/2021 12:50	35640044011	Drinking	1			X			
12	PW#24	PS	6/9/2021 13:05	35640044012	Drinking	1			X			
13	PW#25	PS	6/9/2021 13:15	35640044013	Drinking	1			X			
14	PW#20A	PS	6/9/2021 13:30	35640044014	Drinking	1			X			
15	PW#27	PS	6/9/2021 13:40	35640044015	Drinking	1			X			
16	PW#28	PS	6/9/2021 13:55	35640044016	Drinking	1			X			
17	PW#29	PS	6/9/2021 14:25	35640044017	Drinking	1			X			
18	PW#30	PS	6/9/2021 14:40	35640044018	Drinking	1			X			
19	PW#31	PS	6/9/2021 14:50	35640044019	Drinking	1			X			

WF14017

LAB USE ONLY

Internal Transfer Chain of Custody



Samples Pre-Logged into eCOC.

State Of Origin: FL  Yes  No  
 Cert. Needed:  Yes  No

Workorder: 35640044 Workorder Name: PFAS Subcontract To: Results Requested By: 7/2/2021



Lisa Harvey  
 Pace Analytical Ormond Beach  
 8 East Tower Circle  
 Ormond Beach, FL 32174  
 Phone (366) 672-5668

Pace Analytical West Columbia  
 106 Vantage Point Drive  
 West Columbia, SC 29172  
 Phone (803)791-9700

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers	DW-Isotope Dilution-PFAS-list of 38 compd	PFAS Extract/field #	1745 Blank Extract #/field	Requested Analysis
20	FW #16	PS	6/9/2021 15:10	35640044020	Drinking	1	X			
21	FW #16	PS	6/9/2021 15:30	35640044021	Drinking	1	X			
22	FW #40	PS	6/9/2021 15:40	35640044022	Drinking	1	X			
23	FW #44	PS	6/9/2021 15:50	35640044023	Drinking	1	X			
24	Field Blank	PS	6/9/2021 16:25	35640044024	Drinking	1	X			
25	FRB @FW#0E	PS	6/9/2021 09:45	35640044025	Water	2	X	X		
26	FRB @FW #E	PS	6/9/2021 10:15	35640044026	Water	2	X	X		
27	FRB @FW #E	PS	6/9/2021 10:30	35640044027	Water	2	X	X		
28	FRB @FW #12	PS	6/9/2021 10:42	35640044028	Water	2	X	X		
29	FRB @FW #14	PS	6/9/2021 10:52	35640044029	Water	2	X	X		
30	FRB @FW #16	PS	6/9/2021 11:06	35640044030	Water	2	X	X		
31	FRB @FW #17	PS	6/9/2021 11:22	35640044031	Water	2	X	X		
32	FRB @FW #21	PS	6/9/2021 11:42	35640044032	Water	2	X	X		
33	FRB @FW #22	PS	6/9/2021 12:02	35640044033	Water	2	X	X		
34	FRB @FW #22 Dup	PS	6/9/2021 12:07	35640044034	Water	2	X	X		
35	FRB @FW #23	PS	6/9/2021 12:50	35640044035	Water	2	X	X		
36	FRB @FW #24	PS	6/9/2021 13:05	35640044036	Water	2	X	X		
37	FRB @FW #25	PS	6/9/2021 13:17	35640044037	Water	2	X	X		
38	FRB @FW #26A	PS	6/9/2021 13:30	35640044038	Water	2	X	X		
39	FRB @FW #27	PS	6/9/2021 13:43	35640044039	Water	2	X	X		

WF 14017