



MEMORANDUM

To: Tom Rauth, NAVFAC SE
From: AH Engineering Consultants, Inc.
Subject: NALF Goliad, TX , Per- and Polyfluoroalkyl Substances [PFAS] Sampling Support Analytical Results (USEPA Methods 533 and 537.1) – Event 1
Date: 14 March 2024

On 13 February 2024, AH Environmental Consultants engineer Faysal Bekdash, visited NALF Goliad, TX., following logistics coordination with Albert Guajardo, PWD Kingsville, to collect samples from the potable water system that were subsequently analyzed for the presence of PFAS substances (USEPA Method 537.1 and 533).

Finished water samples were collected from the Fire Department Lounge Food area kitchen sink. All PFAS sampling protocols were followed during sample collection and there were no anomalies. Samples were prepared for shipping in accordance with the sample collection protocols for PFAS sample collection and were shipped via UPS overnight to Pace Analytical Services located in Ormond Beach Florida. Samples were received in the laboratory on 14 February 2024 in satisfactory condition.

Analytical results show that none of the 29 PFAS parameters analyzed were detected above the respective Practical Quantification Limits (PQLs). One parameter was detected above the detection limit but below the PQL and thus marked with a J-Flag. PFOS/PFOA was not detected. Lab QA/QC checks were satisfactory (Field Blank, Method Blank, Matrix Spike/Matrix Spike Duplicates).

Parameter	Method	Results (ng/L)	Practical Quantification Limit (PQL) AKA Method Report Limit (MRL (ng/L))	Method Detection Limit (MDL) (ng/L)
11CI-PF3OUdS	533	0.45U	2.0	0.45
4:2 FTS	533	0.58U	2.0	0.58
6:2 FTS	533	3.6U	4.0	3.6
8:2 FTS	533	0.49U	2.0	0.49
9CI-PF3ONS	533	0.51U	2.0	0.51
ADONA	533	0.44U	2.0	0.44
HFPO-DA	533	0.75U	2.0	0.75
NFDHA	533	0.30U	2.0	0.30
PFBA	533	0.63U	2.0	0.63
PFEESA	533	0.36U	2.0	0.36
PFHpS	533	0.41U	2.0	0.41
PFMBA	533	0.27U	2.0	0.27
PFMPA	533	0.34U	2.0	0.34
PFPeA	533	0.35 J	2.0	0.32
PFPeS	533	0.36U	2.0	0.36
NEtFOSAA	537.1	0.97U	2.0	0.97
NMeFOSAA	537.1	1.6U	2.0	1.6
Perfluorobutanesulfonic acid	533	0.44U	2.0	0.44
Perfluorodecanoic acid	533	0.32U	2.0	0.32
Perfluorododecanoic acid	533	0.55U	2.0	0.55
Perfluoroheptanoic acid	533	0.45U	2.0	0.45
Perfluorohexanesulfonic acid	533	0.38U	2.0	0.38
Perfluorohexanoic acid	533	0.32U	2.0	0.32
Perfluorononanoic acid	533	0.34U	2.0	0.34
Perfluorooctanesulfonic acid (PFOS)	533	0.36U	2.0	0.36
Perfluorooctanoic acid (PFOA)	533	0.32U	2.0	0.32
Perfluorotetradecanoic acid	537.1	2.0U	2.0	2.0
Perfluorotridecanoic acid	537.1	1.8U	2.0	1.8
Perfluoroundecanoic acid	533	0.43U	2.0	0.43
DoD Policy Health Advisory (HA) for PFOS/PFOA Total = 70 ng/L				
PFOA/PFOS Total: Not Detected				
Notes:				
J – Estimated concentration above the adjusted method detection limit and below the adjusted method reporting limit				
U – Indicates the compound was analyzed for, but not detected.				
HA - health advisory value				

Attachment 1 provides the subject Pace Analytical Laboratory Report (USEPA Method 533 and 537.1), with the respective chain of custody forms.

Should you have any questions please let us know.

Attachment 1
Analytical Results Report



February 20, 2024

Anthony Gruber
AH Environmental

RE: Project: NALF Goliad, TX
Pace Project No.: 35860480

Dear Anthony Gruber:

Enclosed are the analytical results for sample(s) received by the laboratory on February 14, 2024. 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:

- Pace Analytical Services - Ormond Beach

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

Sincerely,

Bo Garcia
bo.garcia@pacelabs.com
(386)672-5668
Project Manager

Enclosures

cc: Jay Allen, AH Environmental Consultants
Faysal Bekdash, AH Environmental Consultants, Inc.
Nick DeGuida, AH Environmental Consultants



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: NALF Goliad, TX

Pace Project No.: 35860480

Pace Analytical Services Ormond Beach

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST

Alabama Certification #: 41320

California Certification# 3096

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

DoD-ANAB #:ADE-3199

Florida Certification #: E83079

Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maine Certification #: FL01264

Maryland Certification: #346

Massachusetts Certification #: M-FL1264

Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14

New Hampshire Certification #: 2958

New Jersey Certification #: FL022

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710

North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947

Pennsylvania Certification #: 68-00547

Puerto Rico Certification #: FL01264

South Carolina Certification: #96042001

Tennessee Certification #: TN02974

Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C

Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

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SAMPLE SUMMARY

Project: NALF Goliad, TX
Pace Project No.: 35860480

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35860480001	OGTW	Drinking Water	02/13/24 10:12	02/14/24 11:00
35860480002	Field Blank	Drinking Water	02/13/24 10:05	02/14/24 11:00

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SAMPLE ANALYTE COUNT

Project: NALF Goliad, TX

Pace Project No.: 35860480

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35860480001	OGTW	EPA 533	TMM1	41	PASI-O
		EPA 537.1	TMM1	22	PASI-O
35860480002	Field Blank	EPA 533	TMM1	41	PASI-O
		EPA 537.1	TMM1	22	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach

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ANALYTICAL RESULTS

Project: NALF Goliad, TX

Pace Project No.: 35860480

Sample: OGTW Lab ID: 35860480001 Collected: 02/13/24 10:12 Received: 02/14/24 11:00 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
533 PFAS Compounds, Water									
Analytical Method: EPA 533 Preparation Method: EPA 533									
Pace Analytical Services - Ormond Beach									
11CI-PF3OUdS	0.45U	ng/L	2.0	0.45	1	02/15/24 16:57	02/16/24 16:14	763051-92-9	
4:2 FTS	0.58U	ng/L	2.0	0.58	1	02/15/24 16:57	02/16/24 16:14	757124-72-4	
6:2 FTS	3.6U	ng/L	4.0	3.6	1	02/15/24 16:57	02/16/24 16:14	27619-97-2	
8:2 FTS	0.49U	ng/L	2.0	0.49	1	02/15/24 16:57	02/16/24 16:14	39108-34-4	
9CI-PF3ONS	0.51U	ng/L	2.0	0.51	1	02/15/24 16:57	02/16/24 16:14	756426-58-1	
ADONA	0.44U	ng/L	2.0	0.44	1	02/15/24 16:57	02/16/24 16:14	919005-14-4	
HFPO-DA	0.75U	ng/L	2.0	0.75	1	02/15/24 16:57	02/16/24 16:14	13252-13-6	
NFDHA	0.30U	ng/L	2.0	0.30	1	02/15/24 16:57	02/16/24 16:14	151772-58-6	
Perfluorobutanesulfonic acid	0.44U	ng/L	2.0	0.44	1	02/15/24 16:57	02/16/24 16:14	375-73-5	
Perfluorodecanoic acid	0.32U	ng/L	2.0	0.32	1	02/15/24 16:57	02/16/24 16:14	335-76-2	
Perfluorohexanoic acid	0.32U	ng/L	2.0	0.32	1	02/15/24 16:57	02/16/24 16:14	307-24-4	
PFBA	0.63U	ng/L	2.0	0.63	1	02/15/24 16:57	02/16/24 16:14	375-22-4	
PFEESA	0.36U	ng/L	2.0	0.36	1	02/15/24 16:57	02/16/24 16:14	113507-82-7	
PFHpS	0.41U	ng/L	2.0	0.41	1	02/15/24 16:57	02/16/24 16:14	375-92-8	
PFMBA	0.27U	ng/L	2.0	0.27	1	02/15/24 16:57	02/16/24 16:14	863090-89-5	
PFMPA	0.34U	ng/L	2.0	0.34	1	02/15/24 16:57	02/16/24 16:14	377-73-1	
PFPeA	0.35J	ng/L	2.0	0.32	1	02/15/24 16:57	02/16/24 16:14	2706-90-3	
PFPeS	0.36U	ng/L	2.0	0.36	1	02/15/24 16:57	02/16/24 16:14	2706-91-4	
Perfluorododecanoic acid	0.55U	ng/L	2.0	0.55	1	02/15/24 16:57	02/16/24 16:14	307-55-1	
Perfluoroheptanoic acid	0.45U	ng/L	2.0	0.45	1	02/15/24 16:57	02/16/24 16:14	375-85-9	
Perfluorohexanesulfonic acid	0.38U	ng/L	2.0	0.38	1	02/15/24 16:57	02/16/24 16:14	355-46-4	
Perfluorononanoic acid	0.34U	ng/L	2.0	0.34	1	02/15/24 16:57	02/16/24 16:14	375-95-1	
Perfluorooctanesulfonic acid	0.36U	ng/L	2.0	0.36	1	02/15/24 16:57	02/16/24 16:14	1763-23-1	
Perfluorooctanoic acid	0.32U	ng/L	2.0	0.32	1	02/15/24 16:57	02/16/24 16:14	335-67-1	
Perfluoroundecanoic acid	0.43U	ng/L	2.0	0.43	1	02/15/24 16:57	02/16/24 16:14	2058-94-8	
Surrogates									
13C24:2FTS (S)	121	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C26:2FTS (S)	115	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C28:2FTS (S)	112	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C2-PFDoA (S)	105	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C3HFPO-DA(S)	88	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C3-PFBS (S)	120	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C3-PFHxS (S)	112	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C4-PFBA (S)	92	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C4-PFHpA (S)	99	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C5-PFHxA (S)	99	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C5-PFPeA (S)	88	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C6-PFDA (S)	101	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C7-PFUdA (S)	99	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C8-PFOA (S)	97	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C8-PFOS (S)	112	%	50-200		1	02/15/24 16:57	02/16/24 16:14		
13C9-PFNA (S)	93	%	50-200		1	02/15/24 16:57	02/16/24 16:14		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NALF Goliad, TX

Pace Project No.: 35860480

Sample: OGTW Lab ID: 35860480001 Collected: 02/13/24 10:12 Received: 02/14/24 11:00 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
537.1 PFAS Compounds, Water									
Analytical Method: EPA 537.1 Preparation Method: EPA 537.1									
Pace Analytical Services - Ormond Beach									
11CI-PF3OUdS	1.6U	ng/L	2.0	1.6	1	02/14/24 22:23	02/19/24 21:57	763051-92-9	
9CI-PF3ONS	1.2U	ng/L	2.0	1.2	1	02/14/24 22:23	02/19/24 21:57	756426-58-1	
ADONA	0.75U	ng/L	2.0	0.75	1	02/14/24 22:23	02/19/24 21:57	919005-14-4	
HFPO-DA	1.7U	ng/L	2.0	1.7	1	02/14/24 22:23	02/19/24 21:57	13252-13-6	
NEtFOSAA	0.97U	ng/L	2.0	0.97	1	02/14/24 22:23	02/19/24 21:57	2991-50-6	
NMeFOSAA	1.6U	ng/L	2.0	1.6	1	02/14/24 22:23	02/19/24 21:57	2355-31-9	
Perfluorobutanesulfonic acid	0.69U	ng/L	2.0	0.69	1	02/14/24 22:23	02/19/24 21:57	375-73-5	
Perfluorodecanoic acid	1.0U	ng/L	2.0	1.0	1	02/14/24 22:23	02/19/24 21:57	335-76-2	
Perfluorohexanoic acid	1.3U	ng/L	2.0	1.3	1	02/14/24 22:23	02/19/24 21:57	307-24-4	
Perfluorododecanoic acid	1.5U	ng/L	2.0	1.5	1	02/14/24 22:23	02/19/24 21:57	307-55-1	
Perfluoroheptanoic acid	1.0U	ng/L	2.0	1.0	1	02/14/24 22:23	02/19/24 21:57	375-85-9	
Perfluorohexanesulfonic acid	0.76U	ng/L	2.0	0.76	1	02/14/24 22:23	02/19/24 21:57	355-46-4	
Perfluorononanoic acid	2.0U	ng/L	2.0	2.0	1	02/14/24 22:23	02/19/24 21:57	375-95-1	
Perfluorooctanesulfonic acid	1.2U	ng/L	2.0	1.2	1	02/14/24 22:23	02/19/24 21:57	1763-23-1	
Perfluorooctanoic acid	0.91U	ng/L	2.0	0.91	1	02/14/24 22:23	02/19/24 21:57	335-67-1	
Perfluorotetradecanoic acid	2.0U	ng/L	2.0	2.0	1	02/14/24 22:23	02/19/24 21:57	376-06-7	
Perfluorotridecanoic acid	1.8U	ng/L	2.0	1.8	1	02/14/24 22:23	02/19/24 21:57	72629-94-8	
Perfluoroundecanoic acid	2.0U	ng/L	2.0	2.0	1	02/14/24 22:23	02/19/24 21:57	2058-94-8	
Surrogates									
13C2-PFDA (S)	93	%	70-130		1	02/14/24 22:23	02/19/24 21:57		
13C2-PFHxA (S)	96	%	70-130		1	02/14/24 22:23	02/19/24 21:57		
NEtFOSAA-d5 (S)	87	%	70-130		1	02/14/24 22:23	02/19/24 21:57		
HFPO-DAS (S)	100	%	70-130		1	02/14/24 22:23	02/19/24 21:57		

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ANALYTICAL RESULTS

Project: NALF Goliad, TX

Pace Project No.: 35860480

Sample: Field Blank Lab ID: 35860480002 Collected: 02/13/24 10:05 Received: 02/14/24 11:00 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
533 PFAS Compounds, Water									
Analytical Method: EPA 533 Preparation Method: EPA 533									
Pace Analytical Services - Ormond Beach									
11CI-PF3OUdS	0.39U	ng/L	1.7	0.39	1	02/15/24 16:57	02/16/24 16:31	763051-92-9	
4:2 FTS	0.50U	ng/L	1.7	0.50	1	02/15/24 16:57	02/16/24 16:31	757124-72-4	
6:2 FTS	3.1U	ng/L	3.5	3.1	1	02/15/24 16:57	02/16/24 16:31	27619-97-2	
8:2 FTS	0.43U	ng/L	1.7	0.43	1	02/15/24 16:57	02/16/24 16:31	39108-34-4	
9CI-PF3ONS	0.44U	ng/L	1.7	0.44	1	02/15/24 16:57	02/16/24 16:31	756426-58-1	
ADONA	0.38U	ng/L	1.7	0.38	1	02/15/24 16:57	02/16/24 16:31	919005-14-4	
HFPO-DA	0.65U	ng/L	1.7	0.65	1	02/15/24 16:57	02/16/24 16:31	13252-13-6	
NFDHA	0.26U	ng/L	1.7	0.26	1	02/15/24 16:57	02/16/24 16:31	151772-58-6	
Perfluorobutanesulfonic acid	0.38U	ng/L	1.7	0.38	1	02/15/24 16:57	02/16/24 16:31	375-73-5	
Perfluorodecanoic acid	0.28U	ng/L	1.7	0.28	1	02/15/24 16:57	02/16/24 16:31	335-76-2	
Perfluorohexanoic acid	0.28U	ng/L	1.7	0.28	1	02/15/24 16:57	02/16/24 16:31	307-24-4	
PFBA	0.55U	ng/L	1.7	0.55	1	02/15/24 16:57	02/16/24 16:31	375-22-4	
PFEESA	0.31U	ng/L	1.7	0.31	1	02/15/24 16:57	02/16/24 16:31	113507-82-7	
PFHpS	0.36U	ng/L	1.7	0.36	1	02/15/24 16:57	02/16/24 16:31	375-92-8	
PFMBA	0.23U	ng/L	1.7	0.23	1	02/15/24 16:57	02/16/24 16:31	863090-89-5	
PFMPA	0.29U	ng/L	1.7	0.29	1	02/15/24 16:57	02/16/24 16:31	377-73-1	
PFPeA	0.28U	ng/L	1.7	0.28	1	02/15/24 16:57	02/16/24 16:31	2706-90-3	
PFPeS	0.31U	ng/L	1.7	0.31	1	02/15/24 16:57	02/16/24 16:31	2706-91-4	
Perfluorododecanoic acid	0.48U	ng/L	1.7	0.48	1	02/15/24 16:57	02/16/24 16:31	307-55-1	
Perfluoroheptanoic acid	0.39U	ng/L	1.7	0.39	1	02/15/24 16:57	02/16/24 16:31	375-85-9	
Perfluorohexanesulfonic acid	0.33U	ng/L	1.7	0.33	1	02/15/24 16:57	02/16/24 16:31	355-46-4	
Perfluorononanoic acid	0.29U	ng/L	1.7	0.29	1	02/15/24 16:57	02/16/24 16:31	375-95-1	
Perfluorooctanesulfonic acid	0.31U	ng/L	1.7	0.31	1	02/15/24 16:57	02/16/24 16:31	1763-23-1	
Perfluorooctanoic acid	0.28U	ng/L	1.7	0.28	1	02/15/24 16:57	02/16/24 16:31	335-67-1	
Perfluoroundecanoic acid	0.37U	ng/L	1.7	0.37	1	02/15/24 16:57	02/16/24 16:31	2058-94-8	
Surrogates									
13C24:2FTS (S)	111	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C26:2FTS (S)	102	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C28:2FTS (S)	102	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C2-PFDoA (S)	97	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C3HFPO-DA(S)	91	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C3-PFBS (S)	110	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C3-PFHxS (S)	104	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C4-PFBA (S)	95	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C4-PFHpA (S)	96	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C5-PFHxA (S)	101	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C5-PFPeA (S)	91	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C6-PFDA (S)	91	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C7-PFUdA (S)	92	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C8-PFOA (S)	91	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C8-PFOS (S)	104	%	50-200		1	02/15/24 16:57	02/16/24 16:31		
13C9-PFNA (S)	89	%	50-200		1	02/15/24 16:57	02/16/24 16:31		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NALF Goliad, TX

Pace Project No.: 35860480

Sample: Field Blank Lab ID: 35860480002 Collected: 02/13/24 10:05 Received: 02/14/24 11:00 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
537.1 PFAS Compounds, Water									
Analytical Method: EPA 537.1 Preparation Method: EPA 537.1									
Pace Analytical Services - Ormond Beach									
11CI-PF3OUdS	1.4U	ng/L	1.7	1.4	1	02/14/24 22:23	02/19/24 22:13	763051-92-9	P4
9CI-PF3ONS	1.0U	ng/L	1.7	1.0	1	02/14/24 22:23	02/19/24 22:13	756426-58-1	P4
ADONA	0.63U	ng/L	1.7	0.63	1	02/14/24 22:23	02/19/24 22:13	919005-14-4	P4
HFPO-DA	1.4U	ng/L	1.7	1.4	1	02/14/24 22:23	02/19/24 22:13	13252-13-6	P4
NEtFOSAA	0.82U	ng/L	1.7	0.82	1	02/14/24 22:23	02/19/24 22:13	2991-50-6	P4
NMeFOSAA	1.4U	ng/L	1.7	1.4	1	02/14/24 22:23	02/19/24 22:13	2355-31-9	P4
Perfluorobutanesulfonic acid	0.58U	ng/L	1.7	0.58	1	02/14/24 22:23	02/19/24 22:13	375-73-5	P4
Perfluorodecanoic acid	0.85U	ng/L	1.7	0.85	1	02/14/24 22:23	02/19/24 22:13	335-76-2	P4
Perfluorohexanoic acid	1.1U	ng/L	1.7	1.1	1	02/14/24 22:23	02/19/24 22:13	307-24-4	P4
Perfluorododecanoic acid	1.3U	ng/L	1.7	1.3	1	02/14/24 22:23	02/19/24 22:13	307-55-1	P4
Perfluoroheptanoic acid	0.88U	ng/L	1.7	0.88	1	02/14/24 22:23	02/19/24 22:13	375-85-9	P4
Perfluorohexanesulfonic acid	0.64U	ng/L	1.7	0.64	1	02/14/24 22:23	02/19/24 22:13	355-46-4	P4
Perfluorononanoic acid	1.7U	ng/L	1.7	1.7	1	02/14/24 22:23	02/19/24 22:13	375-95-1	P4
Perfluorooctanesulfonic acid	1.1U	ng/L	1.7	1.1	1	02/14/24 22:23	02/19/24 22:13	1763-23-1	P4
Perfluorooctanoic acid	0.77U	ng/L	1.7	0.77	1	02/14/24 22:23	02/19/24 22:13	335-67-1	P4
Perfluorotetradecanoic acid	1.6U	ng/L	1.7	1.6	1	02/14/24 22:23	02/19/24 22:13	376-06-7	P4
Perfluorotridecanoic acid	1.5U	ng/L	1.7	1.5	1	02/14/24 22:23	02/19/24 22:13	72629-94-8	P4
Perfluoroundecanoic acid	1.7U	ng/L	1.7	1.7	1	02/14/24 22:23	02/19/24 22:13	2058-94-8	P4
Surrogates									
13C2-PFDA (S)	96	%	70-130		1	02/14/24 22:23	02/19/24 22:13		
13C2-PFHxA (S)	100	%	70-130		1	02/14/24 22:23	02/19/24 22:13		
NEtFOSAA-d5 (S)	100	%	70-130		1	02/14/24 22:23	02/19/24 22:13		
HFPO-DAS (S)	103	%	70-130		1	02/14/24 22:23	02/19/24 22:13		

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QUALITY CONTROL DATA

Project: NALF Goliad, TX

Pace Project No.: 35860480

QC Batch: 989641

Analysis Method: EPA 533

QC Batch Method: EPA 533

Analysis Description: 533 PFAS Compounds, Water

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35860480001, 35860480002

METHOD BLANK: 5441987

Matrix: Drinking Water

Associated Lab Samples: 35860480001, 35860480002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
11CI-PF3OUdS	ng/L	0.45U	2.0	0.45	02/16/24 15:22	
4:2 FTS	ng/L	0.58U	2.0	0.58	02/16/24 15:22	
6:2 FTS	ng/L	3.6U	4.0	3.6	02/16/24 15:22	
8:2 FTS	ng/L	0.49U	2.0	0.49	02/16/24 15:22	
9CI-PF3ONS	ng/L	0.51U	2.0	0.51	02/16/24 15:22	
ADONA	ng/L	0.44U	2.0	0.44	02/16/24 15:22	
HFPO-DA	ng/L	0.75U	2.0	0.75	02/16/24 15:22	
NFDHA	ng/L	0.30U	2.0	0.30	02/16/24 15:22	
Perfluorobutanesulfonic acid	ng/L	0.44U	2.0	0.44	02/16/24 15:22	
Perfluorodecanoic acid	ng/L	0.32U	2.0	0.32	02/16/24 15:22	
Perfluorododecanoic acid	ng/L	0.55U	2.0	0.55	02/16/24 15:22	
Perfluoroheptanoic acid	ng/L	0.45U	2.0	0.45	02/16/24 15:22	
Perfluorohexanesulfonic acid	ng/L	0.38U	2.0	0.38	02/16/24 15:22	
Perfluorohexanoic acid	ng/L	0.32U	2.0	0.32	02/16/24 15:22	
Perfluorononanoic acid	ng/L	0.34U	2.0	0.34	02/16/24 15:22	
Perfluorooctanesulfonic acid	ng/L	0.36U	2.0	0.36	02/16/24 15:22	
Perfluorooctanoic acid	ng/L	0.32U	2.0	0.32	02/16/24 15:22	
Perfluoroundecanoic acid	ng/L	0.43U	2.0	0.43	02/16/24 15:22	
PFBA	ng/L	0.63U	2.0	0.63	02/16/24 15:22	
PFEESA	ng/L	0.36U	2.0	0.36	02/16/24 15:22	
PFHpS	ng/L	0.41U	2.0	0.41	02/16/24 15:22	
PFMBA	ng/L	0.27U	2.0	0.27	02/16/24 15:22	
PFMPA	ng/L	0.34U	2.0	0.34	02/16/24 15:22	
PFPeA	ng/L	0.32U	2.0	0.32	02/16/24 15:22	
PFPeS	ng/L	0.36U	2.0	0.36	02/16/24 15:22	
13C2-PFDoA (S)	%	119	50-200		02/16/24 15:22	
13C24:2FTS (S)	%	132	50-200		02/16/24 15:22	
13C26:2FTS (S)	%	121	50-200		02/16/24 15:22	
13C28:2FTS (S)	%	125	50-200		02/16/24 15:22	
13C3-PFBS (S)	%	135	50-200		02/16/24 15:22	
13C3-PFHxS (S)	%	126	50-200		02/16/24 15:22	
13C3HFPO-DA(S)	%	110	50-200		02/16/24 15:22	
13C4-PFBA (S)	%	116	50-200		02/16/24 15:22	
13C4-PFHpA (S)	%	119	50-200		02/16/24 15:22	
13C5-PFHxA (S)	%	122	50-200		02/16/24 15:22	
13C5-PFPeA (S)	%	111	50-200		02/16/24 15:22	
13C6-PFDA (S)	%	111	50-200		02/16/24 15:22	
13C7-PFUdA (S)	%	110	50-200		02/16/24 15:22	
13C8-PFOA (S)	%	111	50-200		02/16/24 15:22	
13C8-PFOS (S)	%	124	50-200		02/16/24 15:22	

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QUALITY CONTROL DATA

Project: NALF Goliad, TX

Pace Project No.: 35860480

METHOD BLANK: 5441987

Matrix: Drinking Water

Associated Lab Samples: 35860480001, 35860480002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
13C9-PFNA (S)	%	107	50-200		02/16/24 15:22	

LABORATORY CONTROL SAMPLE: 5441988

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11CI-PF3OUdS	ng/L	38	31.6	83	70-130	
4:2 FTS	ng/L	38	33.1	87	70-130	
6:2 FTS	ng/L	38	29.1	77	70-130	
8:2 FTS	ng/L	38	32.0	84	70-130	
9CI-PF3ONS	ng/L	38	31.4	83	70-130	
ADONA	ng/L	38	29.0	76	70-130	
HFPO-DA	ng/L	40	31.6	79	70-130	
NFDHA	ng/L	40	31.1	78	70-130	
Perfluorobutanesulfonic acid	ng/L	36	27.7	77	70-130	
Perfluorodecanoic acid	ng/L	40	35.6	89	70-130	
Perfluorododecanoic acid	ng/L	40	34.2	85	70-130	
Perfluoroheptanoic acid	ng/L	40	29.2	73	70-130	
Perfluorohexanesulfonic acid	ng/L	36	29.1	81	70-130	
Perfluorohexanoic acid	ng/L	40	35.2	88	70-130	
Perfluorononanoic acid	ng/L	40	44.7	112	70-130	
Perfluorooctanesulfonic acid	ng/L	38	29.9	79	70-130	
Perfluorooctanoic acid	ng/L	40	47.0	117	70-130	
Perfluoroundecanoic acid	ng/L	40	35.6	89	70-130	
PFBA	ng/L	40	35.5	89	70-130	
PFEESA	ng/L	36	29.4	82	70-130	
PFHpS	ng/L	38	32.2	85	70-130	
PFMBA	ng/L	40	35.9	90	70-130	
PFMPA	ng/L	40	37.2	93	70-130	
PFPeA	ng/L	40	36.8	92	70-130	
PFPeS	ng/L	38	30.4	80	70-130	
13C2-PFDoA (S)	%			121	50-200	
13C24:2FTS (S)	%			133	50-200	
13C26:2FTS (S)	%			127	50-200	
13C28:2FTS (S)	%			129	50-200	
13C3-PFBS (S)	%			132	50-200	
13C3-PFHxS (S)	%			126	50-200	
13C3HFPO-DA(S)	%			104	50-200	
13C4-PFBA (S)	%			103	50-200	
13C4-PFHpA (S)	%			112	50-200	
13C5-PFHxA (S)	%			112	50-200	
13C5-PFPeA (S)	%			101	50-200	
13C6-PFDA (S)	%			111	50-200	
13C7-PFUdA (S)	%			112	50-200	
13C8-PFOA (S)	%			107	50-200	

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QUALITY CONTROL DATA

Project: NALF Goliad, TX

Pace Project No.: 35860480

LABORATORY CONTROL SAMPLE: 5441988

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
13C8-PFOS (S)	%			125	50-200	
13C9-PFNA (S)	%			104	50-200	

LABORATORY CONTROL SAMPLE: 5441989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11CI-PF3OUdS	ng/L	1.9	1.7J	88	50-150	
4:2 FTS	ng/L	1.9	1.6J	87	50-150	
6:2 FTS	ng/L	1.9	3.6U	88	50-150	
8:2 FTS	ng/L	1.9	1.8J	96	50-150	
9CI-PF3ONS	ng/L	1.9	1.6J	85	50-150	
ADONA	ng/L	1.9	1.5J	77	50-150	
HFPO-DA	ng/L	2	1.6J	82	50-150	
NFDHA	ng/L	2	1.7J	87	50-150	
Perfluorobutanesulfonic acid	ng/L	1.8	1.6J	87	50-150	
Perfluorodecanoic acid	ng/L	2	1.8J	89	50-150	
Perfluorododecanoic acid	ng/L	2	1.8J	88	50-150	
Perfluoroheptanoic acid	ng/L	2	1.4J	70	50-150	
Perfluorohexanesulfonic acid	ng/L	1.8	1.4J	78	50-150	
Perfluorohexanoic acid	ng/L	2	1.8J	89	50-150	
Perfluorononanoic acid	ng/L	2	2.3	116	50-150	
Perfluorooctanesulfonic acid	ng/L	1.9	1.6J	83	50-150	
Perfluorooctanoic acid	ng/L	2	2.4	119	50-150	
Perfluoroundecanoic acid	ng/L	2	1.8J	92	50-150	
PFBA	ng/L	2	1.9J	94	50-150	
PFEESA	ng/L	1.8	1.4J	80	50-150	
PFHpS	ng/L	1.9	1.7J	91	50-150	
PFMBA	ng/L	2	1.9J	93	50-150	
PFMPA	ng/L	2	1.9J	96	50-150	
PFPeA	ng/L	2	1.9J	94	50-150	
PFPeS	ng/L	1.9	1.5J	81	50-150	
13C2-PFDoA (S)	%			104	50-200	
13C24:2FTS (S)	%			122	50-200	
13C26:2FTS (S)	%			114	50-200	
13C28:2FTS (S)	%			115	50-200	
13C3-PFBS (S)	%			121	50-200	
13C3-PFHxS (S)	%			116	50-200	
13C3HFPO-DA(S)	%			101	50-200	
13C4-PFBA (S)	%			106	50-200	
13C4-PFHpA (S)	%			107	50-200	
13C5-PFHxA (S)	%			109	50-200	
13C5-PFPeA (S)	%			101	50-200	
13C6-PFDA (S)	%			101	50-200	
13C7-PFUdA (S)	%			100	50-200	
13C8-PFOA (S)	%			102	50-200	

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QUALITY CONTROL DATA

Project: NALF Goliad, TX

Pace Project No.: 35860480

LABORATORY CONTROL SAMPLE: 5441989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
13C8-PFOS (S)	%			112	50-200	
13C9-PFNA (S)	%			96	50-200	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 5442334 5442335

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		35860695001 Result	Spike Conc.	Spike Conc.	Result							Result
11CI-PF3OUdS	ng/L	ND	1.7	1.7	1.5J	1.5J	87	92	70-130		30	
4:2 FTS	ng/L	ND	1.7	1.7	1.9	1.6J	110	91	70-130		30	
6:2 FTS	ng/L	ND	1.7	1.7	3.1U	3.1U	74	87	70-130		30	
8:2 FTS	ng/L	ND	1.7	1.7	1.5J	1.4J	88	83	70-130		30	
9CI-PF3ONS	ng/L	ND	1.7	1.7	1.4J	1.5J	86	89	70-130		30	
ADONA	ng/L	ND	1.7	1.7	1.3J	1.4J	81	82	70-130		30	
HFPO-DA	ng/L	ND	1.7	1.7	1.3J	1.6J	72	91	70-130		30	
NFDHA	ng/L	ND	1.7	1.7	1.6J	1.6J	84	86	70-130		30	
Perfluorobutanesulfonic acid	ng/L	ND	1.6	1.6	1.4J	1.4J	88	88	70-130		30	
Perfluorodecanoic acid	ng/L	ND	1.7	1.7	1.6J	1.6J	92	94	70-130		30	
Perfluorododecanoic acid	ng/L	ND	1.7	1.7	1.6J	1.6J	90	90	70-130		30	
Perfluoroheptanoic acid	ng/L	ND	1.7	1.7	1.3J	1.3J	72	73	70-130		30	
Perfluorohexanesulfonic acid	ng/L	ND	1.6	1.6	1.4J	1.4J	85	87	70-130		30	
Perfluorohexanoic acid	ng/L	ND	1.7	1.7	1.6J	1.6J	89	88	70-130		30	
Perfluorononanoic acid	ng/L	ND	1.7	1.7	2.2	2.2	118	116	70-130	2	30	
Perfluorooctanesulfonic acid	ng/L	ND	1.7	1.7	1.5J	1.4J	91	84	70-130		30	
Perfluorooctanoic acid	ng/L	ND	1.7	1.7	2.2	2.2	124	123	70-130	1	30	
Perfluoroundecanoic acid	ng/L	ND	1.7	1.7	1.7J	1.6J	94	90	70-130		30	
PFBA	ng/L	ND	1.7	1.7	1.8	1.7J	98	92	70-130		30	
PFEESA	ng/L	ND	1.6	1.6	1.4J	1.3J	86	85	70-130		30	
PFHpS	ng/L	ND	1.7	1.7	1.5J	1.5J	93	93	70-130		30	
PFMBA	ng/L	ND	1.7	1.7	1.6J	1.7J	94	97	70-130		30	
PFMPA	ng/L	ND	1.7	1.7	1.7	1.8	100	102	70-130	2	30	
PFPeA	ng/L	ND	1.7	1.7	1.6J	1.8	89	96	70-130		30	
PFPeS	ng/L	ND	1.7	1.7	1.4J	1.5J	84	89	70-130		30	
13C2-PFDoA (S)	%						101	92	50-200			
13C24:2FTS (S)	%						121	115	50-200			
13C26:2FTS (S)	%						113	108	50-200			
13C28:2FTS (S)	%						112	111	50-200			
13C3-PFBS (S)	%						125	120	50-200			
13C3-PFHxS (S)	%						117	111	50-200			
13C3HFPO-DA(S)	%						94	95	50-200			
13C4-PFBA (S)	%						100	95	50-200			
13C4-PFHpA (S)	%						100	96	50-200			
13C5-PFHxA (S)	%						103	100	50-200			
13C5-PFPeA (S)	%						95	92	50-200			

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QUALITY CONTROL DATA

Project: NALF Goliad, TX

Pace Project No.: 35860480

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 5442334 5442335												
Parameter	Units	35860695001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
13C6-PFDA (S)	%						96	88	50-200			
13C7-PFUdA (S)	%						96	86	50-200			
13C8-PFOA (S)	%						94	90	50-200			
13C8-PFOS (S)	%						113	107	50-200			
13C9-PFNA (S)	%						90	87	50-200			

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QUALITY CONTROL DATA

Project: NALF Goliad, TX

Pace Project No.: 35860480

QC Batch: 989262

Analysis Method: EPA 537.1

QC Batch Method: EPA 537.1

Analysis Description: 537.1 PFOA Compounds, Water

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35860480001, 35860480002

METHOD BLANK: 5440016

Matrix: Water

Associated Lab Samples: 35860480001, 35860480002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
11CI-PF3OUdS	ng/L	1.6U	2.0	1.6	02/19/24 19:21	
9CI-PF3ONS	ng/L	1.2U	2.0	1.2	02/19/24 19:21	
ADONA	ng/L	0.74U	2.0	0.74	02/19/24 19:21	
HFPO-DA	ng/L	1.7U	2.0	1.7	02/19/24 19:21	
NEtFOSAA	ng/L	0.95U	2.0	0.95	02/19/24 19:21	
NMeFOSAA	ng/L	1.6U	2.0	1.6	02/19/24 19:21	
Perfluorobutanesulfonic acid	ng/L	0.68U	2.0	0.68	02/19/24 19:21	
Perfluorodecanoic acid	ng/L	0.99U	2.0	0.99	02/19/24 19:21	
Perfluorododecanoic acid	ng/L	1.5U	2.0	1.5	02/19/24 19:21	
Perfluoroheptanoic acid	ng/L	1.0U	2.0	1.0	02/19/24 19:21	
Perfluorohexanesulfonic acid	ng/L	0.75U	2.0	0.75	02/19/24 19:21	
Perfluorohexanoic acid	ng/L	1.3U	2.0	1.3	02/19/24 19:21	
Perfluorononanoic acid	ng/L	2.0U	2.0	2.0	02/19/24 19:21	
Perfluorooctanesulfonic acid	ng/L	1.2U	2.0	1.2	02/19/24 19:21	
Perfluorooctanoic acid	ng/L	0.89U	2.0	0.89	02/19/24 19:21	
Perfluorotetradecanoic acid	ng/L	1.9U	2.0	1.9	02/19/24 19:21	
Perfluorotridecanoic acid	ng/L	1.8U	2.0	1.8	02/19/24 19:21	
Perfluoroundecanoic acid	ng/L	2.0U	2.0	2.0	02/19/24 19:21	
13C2-PFDA (S)	%	89	70-130		02/19/24 19:21	
13C2-PFHxA (S)	%	91	70-130		02/19/24 19:21	
HFPO-DAS (S)	%	92	70-130		02/19/24 19:21	
NEtFOSAA-d5 (S)	%	88	70-130		02/19/24 19:21	

LABORATORY CONTROL SAMPLE: 5440017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11CI-PF3OUdS	ng/L	151	142	94	70-130	
9CI-PF3ONS	ng/L	150	145	97	70-130	
ADONA	ng/L	151	149	99	70-130	
HFPO-DA	ng/L	160	169	106	70-130	
NEtFOSAA	ng/L	160	153	96	70-130	
NMeFOSAA	ng/L	160	152	95	70-130	
Perfluorobutanesulfonic acid	ng/L	142	145	102	70-130	
Perfluorodecanoic acid	ng/L	160	155	97	70-130	
Perfluorododecanoic acid	ng/L	160	149	93	70-130	
Perfluoroheptanoic acid	ng/L	160	162	102	70-130	
Perfluorohexanesulfonic acid	ng/L	146	147	101	70-130	
Perfluorohexanoic acid	ng/L	160	161	101	70-130	
Perfluorononanoic acid	ng/L	160	159	99	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NALF Goliad, TX

Pace Project No.: 35860480

LABORATORY CONTROL SAMPLE: 5440017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Perfluorooctanesulfonic acid	ng/L	148	148	100	70-130	
Perfluorooctanoic acid	ng/L	160	160	100	70-130	
Perfluorotetradecanoic acid	ng/L	160	146	91	70-130	
Perfluorotridecanoic acid	ng/L	160	149	93	70-130	
Perfluoroundecanoic acid	ng/L	160	153	96	70-130	
13C2-PFDA (S)	%			93	70-130	
13C2-PFHxA (S)	%			97	70-130	
HFPO-DAS (S)	%			104	70-130	
NETFOSAA-d5 (S)	%			89	70-130	

LABORATORY CONTROL SAMPLE: 5440018

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11CI-PF3OUdS	ng/L	1.9	1.7J	92	50-150	
9CI-PF3ONS	ng/L	1.9	1.7J	92	50-150	
ADONA	ng/L	1.9	1.9J	100	50-150	
HFPO-DA	ng/L	2	2.2	109	50-150	
NETFOSAA	ng/L	2	2.1	107	50-150	
NMeFOSAA	ng/L	2	1.9J	96	50-150	
Perfluorobutanesulfonic acid	ng/L	1.8	1.8J	101	50-150	
Perfluorodecanoic acid	ng/L	2	2.0J	98	50-150	
Perfluorododecanoic acid	ng/L	2	1.9J	94	50-150	
Perfluoroheptanoic acid	ng/L	2	1.9J	97	50-150	
Perfluorohexanesulfonic acid	ng/L	1.8	1.8J	101	50-150	
Perfluorohexanoic acid	ng/L	2	2.0J	100	50-150	
Perfluorononanoic acid	ng/L	2	2.0U	98	50-150	
Perfluorooctanesulfonic acid	ng/L	1.9	1.9J	103	50-150	
Perfluorooctanoic acid	ng/L	2	2.0J	100	50-150	
Perfluorotetradecanoic acid	ng/L	2	1.9U	90	50-150	
Perfluorotridecanoic acid	ng/L	2	1.9J	94	50-150	
Perfluoroundecanoic acid	ng/L	2	2.0U	94	50-150	
13C2-PFDA (S)	%			102	70-130	
13C2-PFHxA (S)	%			104	70-130	
HFPO-DAS (S)	%			105	70-130	
NETFOSAA-d5 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 5440019

Parameter	Units	35860179005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
11CI-PF3OUdS	ng/L	0.0014U ug/L	132	123	93	70-130	
9CI-PF3ONS	ng/L	0.0010U ug/L	130	121	92	70-130	
ADONA	ng/L	0.00064U ug/L	132	124	94	70-130	
HFPO-DA	ng/L	0.0014U ug/L	140	138	99	70-130	
NETFOSAA	ng/L	0.00082U ug/L	140	130	93	70-130 IR	

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QUALITY CONTROL DATA

Project: NALF Goliad, TX

Pace Project No.: 35860480

MATRIX SPIKE SAMPLE: 5440019		35860179005	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
NMeFOSAA	ng/L	0.0014U ug/L	140	124	89	70-130	IR
Perfluorobutanesulfonic acid	ng/L	0.0025 ug/L	123	121	96	70-130	
Perfluorodecanoic acid	ng/L	0.00086U ug/L	140	128	92	70-130	
Perfluorododecanoic acid	ng/L	0.0013U ug/L	140	126	90	70-130	
Perfluoroheptanoic acid	ng/L	0.0011J ug/L	140	137	97	70-130	
Perfluorohexanesulfonic acid	ng/L	0.0035 ug/L	127	124	94	70-130	
Perfluorohexanoic acid	ng/L	0.0013J ug/L	140	133	94	70-130	
Perfluorononanoic acid	ng/L	0.0017U ug/L	140	131	93	70-130	
Perfluorooctanesulfonic acid	ng/L	0.0086 ug/L	129	131	95	70-130	
Perfluorooctanoic acid	ng/L	0.0015J ug/L	140	134	95	70-130	
Perfluorotetradecanoic acid	ng/L	0.0017U ug/L	140	125	90	70-130	
Perfluorotridecanoic acid	ng/L	0.0015U ug/L	140	126	90	70-130	
Perfluoroundecanoic acid	ng/L	0.0017U ug/L	140	134	96	70-130	
13C2-PFDA (S)	%				90	70-130	
13C2-PFHxA (S)	%				91	70-130	
HFPO-DAS (S)	%				97	70-130	
NEtFOSAA-d5 (S)	%				90	70-130	

SAMPLE DUPLICATE: 5440020

Parameter	Units	35860179006	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
11CI-PF3OUdS	ng/L	0.0014U ug/L	1.4U		30	
9CI-PF3ONS	ng/L	0.0010U ug/L	1.0U		30	
ADONA	ng/L	0.00064U ug/L	0.64U		30	
HFPO-DA	ng/L	0.0014U ug/L	1.4U		30	
NEtFOSAA	ng/L	0.00082U ug/L	0.82U		30	IR
NMeFOSAA	ng/L	0.0014U ug/L	1.4U		30	IR
Perfluorobutanesulfonic acid	ng/L	0.016 ug/L	14.9	5	30	
Perfluorodecanoic acid	ng/L	0.011 ug/L	10.9	1	30	
Perfluorododecanoic acid	ng/L	0.0013U ug/L	1.3U		30	
Perfluoroheptanoic acid	ng/L	0.039 ug/L	36.6	7	30	
Perfluorohexanesulfonic acid	ng/L	0.054 ug/L	54.1	0	30	
Perfluorohexanoic acid	ng/L	0.022 ug/L	22.1	0	30	
Perfluorononanoic acid	ng/L	0.038 ug/L	37.6	1	30	
Perfluorooctanesulfonic acid	ng/L	0.14 ug/L	142	1	30	
Perfluorooctanoic acid	ng/L	0.043 ug/L	40.4	6	30	
Perfluorotetradecanoic acid	ng/L	0.0017U ug/L	1.6U		30	
Perfluorotridecanoic acid	ng/L	0.0015U ug/L	1.5U		30	
Perfluoroundecanoic acid	ng/L	0.0017U ug/L	1.7U		30	
13C2-PFDA (S)	%	157	157			S0
13C2-PFHxA (S)	%	68	67			S0
HFPO-DAS (S)	%	118	113			
NEtFOSAA-d5 (S)	%	98	100			

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QUALIFIERS

Project: NALF Goliad, TX

Pace Project No.: 35860480

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

IR The internal standard recovery associated with this result exceeds the upper control limit. The reported result should be considered an estimated value.

P4 Sample field preservation does not meet EPA or method recommendations for this analysis.

S0 Surrogate recovery outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NALF Goliad, TX

Pace Project No.: 35860480

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35860480001	OGTW	EPA 533	989641	EPA 533	989814
35860480002	Field Blank	EPA 533	989641	EPA 533	989814
35860480001	OGTW	EPA 537.1	989262	EPA 537.1	989500
35860480002	Field Blank	EPA 537.1	989262	EPA 537.1	989500

REPORT OF LABORATORY ANALYSIS

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Pace® Location Requested (City/State):
Pace Analytical Ormond Beach
8 East Tower Circle, Ormond Beach, FL 32174

CHAIN-OF-CUSTODY Analytical Request Document

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

WO# : 35860480



35860480

Company Name: AH Environmental Consultants, Inc.
Street Address: 11837 Rock Landing Dr.
Newport News VA 23606
Customer Project #: outlying Field Goliad
Project Name: NALF Goliad, TX
Site Collection Info/Facility ID (as applicable): Pilots lounge & kitchen

Contact/Report To: Anthony Gruber
Phone #:
E-Mail: agruber@ahenv.com
Cc E-Mail:
Invoice To: Laura Huss
Invoice E-Mail: accounting@ahenv.com
Purchase Order # (if applicable):
Quote #:

Specify Container Size **
Identify Container Preservative Type***
Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other
*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Time Zone Collected: [] AK [] PT [] MT [] CT [] ET
Data Deliverables:
[] Level II [] Level III [] Level IV
[] EQUIS
[] Other

County / State origin of sample(s): Florida
Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [] Yes [X] No
Rush (Pre-approval required):
[] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other
Date Results Requested:
Field Filtered (if applicable): [] Yes [] No
Analysis:

Proj. Mgr:
Bo Garcia
AcctNum / Client ID:
Table #:
Profile / Template:
7971
Prelog / Bottle Ord. ID:
EZ 3066179
Sample Comment

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

Customer Sample ID	Matrix *	Comp / Grab	Composite Start		Collected or Composite End		# Cont.	Res. Chlorine		533 FIELD BLANK	533 PFAS (extra containers)	533 PFAS Compounds, Water	537.1 FIELD BLANK	537.1 PFAS (extra containers)	537.1 PFAS Compounds, Water
			Date	Time	Date	Time		Results	Units						
OGTW1		✓								X					
OGTW2		✓								X					
Field Blank	DW									X			X		
OGTW3		✓								X					
OGTW4		✓													
OGTW4		✓													X
OGTW5		✓													
OGTW6		✓													

Lab Use Only
Preservation non-conformance identified for sample.

Additional Instructions from Pace®:

Collected By: (Printed Name) **Faysal Bekdash**
Signature: *[Signature]*

Customer Remarks / Special Conditions / Possible Hazards:
used on extra container because the cap fell off during int'g
Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C) Corrected Temp. (°C) On Ice: **2.1**

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

NP Pace 2-14-24 1100

Page: 1 of 1



Sample Condition Upon Receipt Form (SCUR)

WO#: 35860480

Date and Initials of person: _____

Examining contents: _____

Label: TST

Deliver: _____

pH: _____

Initials: NPI

Project #
 Project Manager:
 Client:

PM: VEG Due Date: 02/28/24
 CLIENT: AHENVI

Thermometer Used: T-414 Date: 2-14-24 Time: 1103

State of Origin: _____ For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp. °C 2.1 (Visual) 0.0 (Correction Factor) 2.1 (Actual)

Cooler #2 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

Cooler #3 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

Cooler #4 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

Cooler #5 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

Cooler #6 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

Recheck for OOT °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

Samples on ice, cooling process has begun.

Samples on ice, cooling process has begun.

Samples on ice, cooling process has begun.

Samples on ice, cooling process has begun.

Samples on ice, cooling process has begun.

Samples on ice, cooling process has begun.

Time: _____ Initials: _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other: _____

Shipping Method: Standard Overnight First Overnight Priority Overnight Ground International Priority Other: Next Day Air

Billing: Recipient Sender Third Party Credit Card Unknown

Tracking # 1Z2E466F0194183761

Custody Seal Present: Yes No Seal properly placed and intact: Yes No

Ice: Wet Blue Dry None Melted

Packing Material: Bubble Wrap Bubble Bags None Other: _____

Samples shorted to lab: Yes No (If yes, complete the following)

Shorted Date: _____

Shorted Time: _____

Bottle Quantity / Type: _____

Chain of Custody:	Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Filled Out: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Sampler Name: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
	Relinquished To Pace: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Sampling Date(s): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Sampling Time(s): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Samples Arrived within Hold Time.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments: _____
Rush Turnaround Requested on COC.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Comments: _____
Sufficient Volume.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments: _____
Correct Containers Used.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments: _____
Containers Intact.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments: _____
Sample Labels Match COC (Sample ID, Date/Time of Collection).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments: _____
All containers needing acid / base preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Headpace in Volatile Vials? (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A

Preservation Information
 Preservative: _____ Date: _____
 Lot / Trace: _____ Time: _____
 Amount added (mL): _____ Initials: _____

Comments / Resolutions (use back for additional comments): COC filled out incorrectly. It looks like its only suppose to be 2 samples OGTW and the Field Blanks. we received 3 533 samples (OGTW 1, OGTW 2, and OGTW 3) all collected 2/13/24 10:12 and 3 537 PFAS (OGTW 4, OGTW 5, and OGTW 6) all collected 2/13/24 10:16. 2 533 containers and 2 537 containers for Sample Field Blank. collected 2/13/24 10:05 for 533s and 2/13/24 10:14 for 537s. One of the two 537 Field Blank container does not have a preservative label on the back. A container with a preservative label for the 537 Field Blank arrived empty as well