



MEMORANDUM

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

On 14 February 2024, AH Environmental Consultants engineer Faysal Bekdash, visited NALF Orange Grove, 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 lunch room 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 15 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). 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	0.42U	1.8	0.42
4:2 FTS	533	0.54U	1.8	0.54
6:2 FTS	533	3.3U	3.7	3.3
8:2 FTS	533	0.45U	1.8	0.45
9CI-PF3ONS	533	0.47U	1.8	0.47
ADONA	533	0.41U	1.8	0.41
HFPO-DA	533	0.69U	1.8	0.69
NFDHA	533	0.28U	1.8	0.28
PFBA	533	0.58U	1.8	0.58
PFEESA	533	0.33U	1.8	0.33
PFHpS	533	0.38U	1.8	0.38
PFMBA	533	0.25U	1.8	0.25
PFMPA	533	0.31U	1.8	0.31
PFPeA	533	0.30U	1.8	0.30
PFPeS	533	0.33U	1.8	0.33
NEtFOSAA	537.1	0.90U	1.9	0.90
NMeFOSAA	537.1	1.5U	1.9	1.5
Perfluorobutanesulfonic acid	533	0.41U	1.8	0.41
Perfluorodecanoic acid	533	0.30U	1.8	0.30
Perfluorododecanoic acid	533	0.51U	1.8	0.51
Perfluoroheptanoic acid	533	0.42U	1.8	0.42
Perfluorohexanesulfonic acid	533	0.35U	1.8	0.35
Perfluorohexanoic acid	533	0.30U	1.8	0.30
Perfluorononanoic acid	533	0.31U	1.8	0.31
Perfluorooctanesulfonic acid (PFOS)	533	0.33U	1.8	0.33
Perfluorooctanoic acid (PFOA)	533	0.30U	1.8	0.30
Perfluorotetradecanoic acid	537.1	1.8U	1.9	1.8
Perfluorotridecanoic acid	537.1	1.7U	1.9	1.7
Perfluoroundecanoic acid	533	0.40U	1.8	0.40
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 Orange Grove, TX
Pace Project No.: 35860836

Dear Anthony Gruber:

Enclosed are the analytical results for sample(s) received by the laboratory on February 15, 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 Orange Grove, TX

Pace Project No.: 35860836

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 Orange Grove, TX
Pace Project No.: 35860836

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35860836001	NALFOG	Drinking Water	02/14/24 09:45	02/15/24 10:25
35860836002	Field Blank	Drinking Water	02/14/24 09:38	02/15/24 10:25

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SAMPLE ANALYTE COUNT

Project: NALF Orange Grove, TX
Pace Project No.: 35860836

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35860836001	NALFOG	EPA 533	TSW	41	PASI-O
		EPA 537.1	SWR	22	PASI-O
35860836002	Field Blank	EPA 533	TSW	41	PASI-O
		EPA 537.1	SWR	22	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach

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ANALYTICAL RESULTS

Project: NALF Orange Grove, TX

Pace Project No.: 35860836

Sample: NALFOG Lab ID: 35860836001 Collected: 02/14/24 09:45 Received: 02/15/24 10:25 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	0.42U	ng/L	1.8	0.42	1	02/16/24 11:43	02/19/24 11:40	763051-92-9	
4:2 FTS	0.54U	ng/L	1.8	0.54	1	02/16/24 11:43	02/19/24 11:40	757124-72-4	
6:2 FTS	3.3U	ng/L	3.7	3.3	1	02/16/24 11:43	02/19/24 11:40	27619-97-2	
8:2 FTS	0.45U	ng/L	1.8	0.45	1	02/16/24 11:43	02/19/24 11:40	39108-34-4	
9CI-PF3ONS	0.47U	ng/L	1.8	0.47	1	02/16/24 11:43	02/19/24 11:40	756426-58-1	
ADONA	0.41U	ng/L	1.8	0.41	1	02/16/24 11:43	02/19/24 11:40	919005-14-4	
HFPO-DA	0.69U	ng/L	1.8	0.69	1	02/16/24 11:43	02/19/24 11:40	13252-13-6	
NFDHA	0.28U	ng/L	1.8	0.28	1	02/16/24 11:43	02/19/24 11:40	151772-58-6	
Perfluorobutanesulfonic acid	0.41U	ng/L	1.8	0.41	1	02/16/24 11:43	02/19/24 11:40	375-73-5	
Perfluorodecanoic acid	0.30U	ng/L	1.8	0.30	1	02/16/24 11:43	02/19/24 11:40	335-76-2	
Perfluorohexanoic acid	0.30U	ng/L	1.8	0.30	1	02/16/24 11:43	02/19/24 11:40	307-24-4	
PFBA	0.58U	ng/L	1.8	0.58	1	02/16/24 11:43	02/19/24 11:40	375-22-4	
PFEESA	0.33U	ng/L	1.8	0.33	1	02/16/24 11:43	02/19/24 11:40	113507-82-7	
PFHpS	0.38U	ng/L	1.8	0.38	1	02/16/24 11:43	02/19/24 11:40	375-92-8	
PFMBA	0.25U	ng/L	1.8	0.25	1	02/16/24 11:43	02/19/24 11:40	863090-89-5	
PFMPA	0.31U	ng/L	1.8	0.31	1	02/16/24 11:43	02/19/24 11:40	377-73-1	
PFPeA	0.30U	ng/L	1.8	0.30	1	02/16/24 11:43	02/19/24 11:40	2706-90-3	
PFPeS	0.33U	ng/L	1.8	0.33	1	02/16/24 11:43	02/19/24 11:40	2706-91-4	
Perfluorododecanoic acid	0.51U	ng/L	1.8	0.51	1	02/16/24 11:43	02/19/24 11:40	307-55-1	
Perfluoroheptanoic acid	0.42U	ng/L	1.8	0.42	1	02/16/24 11:43	02/19/24 11:40	375-85-9	
Perfluorohexanesulfonic acid	0.35U	ng/L	1.8	0.35	1	02/16/24 11:43	02/19/24 11:40	355-46-4	
Perfluorononanoic acid	0.31U	ng/L	1.8	0.31	1	02/16/24 11:43	02/19/24 11:40	375-95-1	
Perfluorooctanesulfonic acid	0.33U	ng/L	1.8	0.33	1	02/16/24 11:43	02/19/24 11:40	1763-23-1	
Perfluorooctanoic acid	0.30U	ng/L	1.8	0.30	1	02/16/24 11:43	02/19/24 11:40	335-67-1	
Perfluoroundecanoic acid	0.40U	ng/L	1.8	0.40	1	02/16/24 11:43	02/19/24 11:40	2058-94-8	
Surrogates									
13C24:2FTS (S)	112	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C26:2FTS (S)	142	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C28:2FTS (S)	119	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C2-PFDoA (S)	90	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C3HFPO-DA(S)	85	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C3-PFBS (S)	111	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C3-PFHxS (S)	106	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C4-PFBA (S)	100	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C4-PFHpA (S)	98	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C5-PFHxA (S)	102	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C5-PFPeA (S)	103	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C6-PFDA (S)	90	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C7-PFUdA (S)	89	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C8-PFOA (S)	97	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C8-PFOS (S)	106	%	50-200		1	02/16/24 11:43	02/19/24 11:40		
13C9-PFNA (S)	96	%	50-200		1	02/16/24 11:43	02/19/24 11:40		

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ANALYTICAL RESULTS

Project: NALF Orange Grove, TX

Pace Project No.: 35860836

Sample: NALFOG Lab ID: 35860836001 Collected: 02/14/24 09:45 Received: 02/15/24 10:25 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	1.5U	ng/L	1.9	1.5	1	02/16/24 12:09	02/19/24 02:28	763051-92-9	IS
9CI-PF3ONS	1.1U	ng/L	1.9	1.1	1	02/16/24 12:09	02/19/24 02:28	756426-58-1	IS
ADONA	0.70U	ng/L	1.9	0.70	1	02/16/24 12:09	02/19/24 02:28	919005-14-4	IS
HFPO-DA	1.6U	ng/L	1.9	1.6	1	02/16/24 12:09	02/19/24 02:28	13252-13-6	IS
NEtFOSAA	0.90U	ng/L	1.9	0.90	1	02/16/24 12:09	02/19/24 02:28	2991-50-6	IS
NMeFOSAA	1.5U	ng/L	1.9	1.5	1	02/16/24 12:09	02/19/24 02:28	2355-31-9	IS
Perfluorobutanesulfonic acid	0.64U	ng/L	1.9	0.64	1	02/16/24 12:09	02/19/24 02:28	375-73-5	IS
Perfluorodecanoic acid	0.93U	ng/L	1.9	0.93	1	02/16/24 12:09	02/19/24 02:28	335-76-2	IS
Perfluorohexanoic acid	1.2U	ng/L	1.9	1.2	1	02/16/24 12:09	02/19/24 02:28	307-24-4	IS
Perfluorododecanoic acid	1.4U	ng/L	1.9	1.4	1	02/16/24 12:09	02/19/24 02:28	307-55-1	IS
Perfluoroheptanoic acid	0.97U	ng/L	1.9	0.97	1	02/16/24 12:09	02/19/24 02:28	375-85-9	IS
Perfluorohexanesulfonic acid	0.71U	ng/L	1.9	0.71	1	02/16/24 12:09	02/19/24 02:28	355-46-4	IS
Perfluorononanoic acid	1.9U	ng/L	1.9	1.9	1	02/16/24 12:09	02/19/24 02:28	375-95-1	IS
Perfluorooctanesulfonic acid	1.2U	ng/L	1.9	1.2	1	02/16/24 12:09	02/19/24 02:28	1763-23-1	IS,R1
Perfluorooctanoic acid	0.84U	ng/L	1.9	0.84	1	02/16/24 12:09	02/19/24 02:28	335-67-1	IS
Perfluorotetradecanoic acid	1.8U	ng/L	1.9	1.8	1	02/16/24 12:09	02/19/24 02:28	376-06-7	IS
Perfluorotridecanoic acid	1.7U	ng/L	1.9	1.7	1	02/16/24 12:09	02/19/24 02:28	72629-94-8	IS
Perfluoroundecanoic acid	1.9U	ng/L	1.9	1.9	1	02/16/24 12:09	02/19/24 02:28	2058-94-8	IS
Surrogates									
13C2-PFDA (S)	106	%	70-130		1	02/16/24 12:09	02/19/24 02:28		
13C2-PFHxA (S)	90	%	70-130		1	02/16/24 12:09	02/19/24 02:28		
NEtFOSAA-d5 (S)	82	%	70-130		1	02/16/24 12:09	02/19/24 02:28		
HFPO-DAS (S)	85	%	70-130		1	02/16/24 12:09	02/19/24 02:28		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NALF Orange Grove, TX

Pace Project No.: 35860836

Sample: Field Blank Lab ID: 35860836002 Collected: 02/14/24 09:38 Received: 02/15/24 10:25 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	02/16/24 11:43	02/19/24 11:57	763051-92-9	
4:2 FTS	0.50U	ng/L	1.7	0.50	1	02/16/24 11:43	02/19/24 11:57	757124-72-4	
6:2 FTS	3.1U	ng/L	3.4	3.1	1	02/16/24 11:43	02/19/24 11:57	27619-97-2	
8:2 FTS	0.42U	ng/L	1.7	0.42	1	02/16/24 11:43	02/19/24 11:57	39108-34-4	
9CI-PF3ONS	0.44U	ng/L	1.7	0.44	1	02/16/24 11:43	02/19/24 11:57	756426-58-1	
ADONA	0.38U	ng/L	1.7	0.38	1	02/16/24 11:43	02/19/24 11:57	919005-14-4	
HFPO-DA	0.64U	ng/L	1.7	0.64	1	02/16/24 11:43	02/19/24 11:57	13252-13-6	
NFDHA	0.26U	ng/L	1.7	0.26	1	02/16/24 11:43	02/19/24 11:57	151772-58-6	
Perfluorobutanesulfonic acid	0.38U	ng/L	1.7	0.38	1	02/16/24 11:43	02/19/24 11:57	375-73-5	
Perfluorodecanoic acid	0.28U	ng/L	1.7	0.28	1	02/16/24 11:43	02/19/24 11:57	335-76-2	
Perfluorohexanoic acid	0.28U	ng/L	1.7	0.28	1	02/16/24 11:43	02/19/24 11:57	307-24-4	
PFBA	0.54U	ng/L	1.7	0.54	1	02/16/24 11:43	02/19/24 11:57	375-22-4	
PFEESA	0.31U	ng/L	1.7	0.31	1	02/16/24 11:43	02/19/24 11:57	113507-82-7	
PFHpS	0.35U	ng/L	1.7	0.35	1	02/16/24 11:43	02/19/24 11:57	375-92-8	
PFMBA	0.23U	ng/L	1.7	0.23	1	02/16/24 11:43	02/19/24 11:57	863090-89-5	
PFMPA	0.29U	ng/L	1.7	0.29	1	02/16/24 11:43	02/19/24 11:57	377-73-1	
PFPeA	0.28U	ng/L	1.7	0.28	1	02/16/24 11:43	02/19/24 11:57	2706-90-3	
PFPeS	0.31U	ng/L	1.7	0.31	1	02/16/24 11:43	02/19/24 11:57	2706-91-4	
Perfluorododecanoic acid	0.47U	ng/L	1.7	0.47	1	02/16/24 11:43	02/19/24 11:57	307-55-1	
Perfluoroheptanoic acid	0.39U	ng/L	1.7	0.39	1	02/16/24 11:43	02/19/24 11:57	375-85-9	
Perfluorohexanesulfonic acid	0.33U	ng/L	1.7	0.33	1	02/16/24 11:43	02/19/24 11:57	355-46-4	
Perfluorononanoic acid	0.29U	ng/L	1.7	0.29	1	02/16/24 11:43	02/19/24 11:57	375-95-1	
Perfluorooctanesulfonic acid	0.31U	ng/L	1.7	0.31	1	02/16/24 11:43	02/19/24 11:57	1763-23-1	
Perfluorooctanoic acid	0.28U	ng/L	1.7	0.28	1	02/16/24 11:43	02/19/24 11:57	335-67-1	
Perfluoroundecanoic acid	0.37U	ng/L	1.7	0.37	1	02/16/24 11:43	02/19/24 11:57	2058-94-8	
Surrogates									
13C24:2FTS (S)	108	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C26:2FTS (S)	134	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C28:2FTS (S)	115	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C2-PFDoA (S)	88	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C3HFPO-DA(S)	83	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C3-PFBS (S)	105	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C3-PFHxS (S)	106	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C4-PFBA (S)	95	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C4-PFHpA (S)	95	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C5-PFHxA (S)	99	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C5-PFPeA (S)	101	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C6-PFDA (S)	89	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C7-PFUdA (S)	88	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C8-PFOA (S)	96	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C8-PFOS (S)	102	%	50-200		1	02/16/24 11:43	02/19/24 11:57		
13C9-PFNA (S)	94	%	50-200		1	02/16/24 11:43	02/19/24 11:57		

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ANALYTICAL RESULTS

Project: NALF Orange Grove, TX

Pace Project No.: 35860836

Sample: Field Blank Lab ID: 35860836002 Collected: 02/14/24 09:38 Received: 02/15/24 10:25 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	02/16/24 12:09	02/19/24 03:16	763051-92-9	
9CI-PF3ONS	1.0U	ng/L	1.7	1.0	1	02/16/24 12:09	02/19/24 03:16	756426-58-1	
ADONA	0.64U	ng/L	1.7	0.64	1	02/16/24 12:09	02/19/24 03:16	919005-14-4	
HFPO-DA	1.4U	ng/L	1.7	1.4	1	02/16/24 12:09	02/19/24 03:16	13252-13-6	
NEtFOSAA	0.82U	ng/L	1.7	0.82	1	02/16/24 12:09	02/19/24 03:16	2991-50-6	
NMeFOSAA	1.4U	ng/L	1.7	1.4	1	02/16/24 12:09	02/19/24 03:16	2355-31-9	
Perfluorobutanesulfonic acid	0.59U	ng/L	1.7	0.59	1	02/16/24 12:09	02/19/24 03:16	375-73-5	
Perfluorodecanoic acid	0.85U	ng/L	1.7	0.85	1	02/16/24 12:09	02/19/24 03:16	335-76-2	
Perfluorohexanoic acid	1.1U	ng/L	1.7	1.1	1	02/16/24 12:09	02/19/24 03:16	307-24-4	
Perfluorododecanoic acid	1.3U	ng/L	1.7	1.3	1	02/16/24 12:09	02/19/24 03:16	307-55-1	
Perfluoroheptanoic acid	0.89U	ng/L	1.7	0.89	1	02/16/24 12:09	02/19/24 03:16	375-85-9	
Perfluorohexanesulfonic acid	0.65U	ng/L	1.7	0.65	1	02/16/24 12:09	02/19/24 03:16	355-46-4	
Perfluorononanoic acid	1.7U	ng/L	1.7	1.7	1	02/16/24 12:09	02/19/24 03:16	375-95-1	
Perfluorooctanesulfonic acid	1.1U	ng/L	1.7	1.1	1	02/16/24 12:09	02/19/24 03:16	1763-23-1	
Perfluorooctanoic acid	0.77U	ng/L	1.7	0.77	1	02/16/24 12:09	02/19/24 03:16	335-67-1	
Perfluorotetradecanoic acid	1.7U	ng/L	1.7	1.7	1	02/16/24 12:09	02/19/24 03:16	376-06-7	
Perfluorotridecanoic acid	1.5U	ng/L	1.7	1.5	1	02/16/24 12:09	02/19/24 03:16	72629-94-8	
Perfluoroundecanoic acid	1.7U	ng/L	1.7	1.7	1	02/16/24 12:09	02/19/24 03:16	2058-94-8	
Surrogates									
13C2-PFDA (S)	102	%	70-130		1	02/16/24 12:09	02/19/24 03:16		
13C2-PFHxA (S)	86	%	70-130		1	02/16/24 12:09	02/19/24 03:16		
NEtFOSAA-d5 (S)	79	%	70-130		1	02/16/24 12:09	02/19/24 03:16		
HFPO-DAS (S)	80	%	70-130		1	02/16/24 12:09	02/19/24 03:16		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NALF Orange Grove, TX

Pace Project No.: 35860836

QC Batch: 989767

Analysis Method: EPA 533

QC Batch Method: EPA 533

Analysis Description: 533 PFAS Compounds, Water

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35860836001, 35860836002

METHOD BLANK: 5442770

Matrix: Drinking Water

Associated Lab Samples: 35860836001, 35860836002

Table with 7 columns: Parameter, Units, Blank Result, Reporting Limit, MDL, Analyzed, Qualifiers. Rows include various PFAS compounds like 11CI-PF3OUdS, 4:2 FTS, 6:2 FTS, etc., and percentage-based results for 13C2-PFDoA (S) through 13C8-PFOS (S).

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QUALITY CONTROL DATA

Project: NALF Orange Grove, TX

Pace Project No.: 35860836

METHOD BLANK: 5442770

Matrix: Drinking Water

Associated Lab Samples: 35860836001, 35860836002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
13C9-PFNA (S)	%	95	50-200		02/19/24 10:32	

LABORATORY CONTROL SAMPLE: 5442771

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11CI-PF3OUdS	ng/L	7.6	6.9	91	70-130	
4:2 FTS	ng/L	7.6	7.0	92	70-130	
6:2 FTS	ng/L	7.6	6.0	78	70-130	
8:2 FTS	ng/L	7.6	7.2	95	70-130	
9CI-PF3ONS	ng/L	7.6	7.1	94	70-130	
ADONA	ng/L	7.6	6.6	86	70-130	
HFPO-DA	ng/L	8	7.9	98	70-130	
NFDHA	ng/L	8	7.1	89	70-130	
Perfluorobutanesulfonic acid	ng/L	7.2	7.0	97	70-130	
Perfluorodecanoic acid	ng/L	8	7.7	97	70-130	
Perfluorododecanoic acid	ng/L	8	7.7	96	70-130	
Perfluoroheptanoic acid	ng/L	8	7.8	98	70-130	
Perfluorohexanesulfonic acid	ng/L	7.2	6.5	90	70-130	
Perfluorohexanoic acid	ng/L	8	7.7	96	70-130	
Perfluorononanoic acid	ng/L	8	9.4	117	70-130	
Perfluorooctanesulfonic acid	ng/L	7.6	7.1	93	70-130	
Perfluorooctanoic acid	ng/L	8	10.0	125	70-130	
Perfluoroundecanoic acid	ng/L	8	7.4	93	70-130	
PFBA	ng/L	8	7.6	95	70-130	
PFEESA	ng/L	7.2	6.8	95	70-130	
PFHpS	ng/L	7.6	7.2	94	70-130	
PFMBA	ng/L	8	7.8	98	70-130	
PFMPA	ng/L	8	7.4	92	70-130	
PFPeA	ng/L	8	8.2	102	70-130	
PFPeS	ng/L	7.6	7.2	95	70-130	
13C2-PFDoA (S)	%			89	50-200	
13C24:2FTS (S)	%			114	50-200	
13C26:2FTS (S)	%			145	50-200	
13C28:2FTS (S)	%			119	50-200	
13C3-PFBS (S)	%			110	50-200	
13C3-PFHxS (S)	%			107	50-200	
13C3HFPO-DA(S)	%			86	50-200	
13C4-PFBA (S)	%			95	50-200	
13C4-PFHpA (S)	%			96	50-200	
13C5-PFHxA (S)	%			98	50-200	
13C5-PFPeA (S)	%			100	50-200	
13C6-PFDA (S)	%			89	50-200	
13C7-PFUdA (S)	%			90	50-200	
13C8-PFOA (S)	%			96	50-200	

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QUALITY CONTROL DATA

Project: NALF Orange Grove, TX

Pace Project No.: 35860836

LABORATORY CONTROL SAMPLE: 5442771

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
13C8-PFOS (S)	%			108	50-200	
13C9-PFNA (S)	%			96	50-200	

LABORATORY CONTROL SAMPLE: 5442772

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11CI-PF3OUdS	ng/L	1.9	1.7J	92	50-150	
4:2 FTS	ng/L	1.9	2.0J	105	50-150	
6:2 FTS	ng/L	1.9	3.6U	90	50-150	
8:2 FTS	ng/L	1.9	1.6J	83	50-150	
9CI-PF3ONS	ng/L	1.9	1.7J	89	50-150	
ADONA	ng/L	1.9	1.6J	85	50-150	
HFPO-DA	ng/L	2	2.0	102	50-150	
NFDHA	ng/L	2	1.9J	94	50-150	
Perfluorobutanesulfonic acid	ng/L	1.8	1.5J	86	50-150	
Perfluorodecanoic acid	ng/L	2	1.9J	93	50-150	
Perfluorododecanoic acid	ng/L	2	1.8J	90	50-150	
Perfluoroheptanoic acid	ng/L	2	1.9J	94	50-150	
Perfluorohexanesulfonic acid	ng/L	1.8	1.7J	97	50-150	
Perfluorohexanoic acid	ng/L	2	1.8J	92	50-150	
Perfluorononanoic acid	ng/L	2	2.2	110	50-150	
Perfluorooctanesulfonic acid	ng/L	1.9	2.0	108	50-150	
Perfluorooctanoic acid	ng/L	2	2.3	115	50-150	
Perfluoroundecanoic acid	ng/L	2	1.8J	89	50-150	
PFBA	ng/L	2	1.9J	94	50-150	
PFEESA	ng/L	1.8	1.6J	88	50-150	
PFHpS	ng/L	1.9	1.9J	101	50-150	
PFMBA	ng/L	2	1.8J	88	50-150	
PFMPA	ng/L	2	1.8J	89	50-150	
PFPeA	ng/L	2	1.8J	90	50-150	
PFPeS	ng/L	1.9	1.8J	97	50-150	
13C2-PFDoA (S)	%			93	50-200	
13C24:2FTS (S)	%			118	50-200	
13C26:2FTS (S)	%			141	50-200	
13C28:2FTS (S)	%			121	50-200	
13C3-PFBS (S)	%			113	50-200	
13C3-PFHxS (S)	%			108	50-200	
13C3HFPO-DA(S)	%			91	50-200	
13C4-PFBA (S)	%			102	50-200	
13C4-PFHpA (S)	%			102	50-200	
13C5-PFHxA (S)	%			106	50-200	
13C5-PFPeA (S)	%			106	50-200	
13C6-PFDA (S)	%			93	50-200	
13C7-PFUdA (S)	%			93	50-200	
13C8-PFOA (S)	%			102	50-200	

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QUALITY CONTROL DATA

Project: NALF Orange Grove, TX
Pace Project No.: 35860836

LABORATORY CONTROL SAMPLE: 5442772

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
13C8-PFOS (S)	%			107	50-200	
13C9-PFNA (S)	%			99	50-200	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 5442775 5442776

Parameter	Units	35860686011		5442775		5442776		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS % Rec	MSD % Rec				
11CI-PF3OUdS	ng/L	0.00039U ug/L	6.5	6.5	6.0	6.1	91	93	70-130	2	30
4:2 FTS	ng/L	0.00050U ug/L	6.5	6.5	6.5	6.4	98	97	70-130	2	30
6:2 FTS	ng/L	0.0031U ug/L	6.5	6.5	5.2	5.6	76	83	70-130	9	30
8:2 FTS	ng/L	0.00042U ug/L	6.5	6.5	6.1	6.0	92	92	70-130	1	30
9CI-PF3ONS	ng/L	0.00044U ug/L	6.5	6.5	5.8	6.0	90	93	70-130	3	30
ADONA	ng/L	0.00038U ug/L	6.5	6.5	5.6	5.6	86	86	70-130	1	30
HFPO-DA	ng/L	0.00064U ug/L	6.9	6.8	6.8	6.9	99	100	70-130	1	30
NFDHA	ng/L	0.00026U ug/L	6.9	6.8	6.3	6.1	90	88	70-130	3	30
Perfluorobutanesulfonic acid	ng/L	0.00059J ug/L	6.2	6.1	6.2	6.3	90	93	70-130	2	30
Perfluorodecanoic acid	ng/L	0.00027U ug/L	6.9	6.8	6.7	6.4	94	91	70-130	4	30
Perfluorododecanoic acid	ng/L	0.00047U ug/L	6.9	6.8	6.4	6.5	92	94	70-130	2	30
Perfluoroheptanoic acid	ng/L	0.00057J ug/L	6.9	6.8	7.4	7.4	99	101	70-130	1	30
Perfluorohexanesulfonic acid	ng/L	0.00033U ug/L	6.2	6.1	6.5	6.3	101	99	70-130	3	30
Perfluorohexanoic acid	ng/L	0.00072J ug/L	6.9	6.8	7.0	7.2	92	95	70-130	2	30
Perfluorononanoic acid	ng/L	0.00047J ug/L	6.9	6.8	8.2	8.3	112	114	70-130	1	30
Perfluorooctanesulfonic acid	ng/L	0.00098J ug/L	6.5	6.5	7.2	7.0	96	93	70-130	3	30
Perfluorooctanoic acid	ng/L	0.0017 ug/L	6.9	6.8	10.2	9.6	123	116	70-130	5	30
Perfluoroundecanoic acid	ng/L	0.00037U ug/L	6.9	6.8	6.3	6.5	89	92	70-130	3	30
PFBA	ng/L	0.0012J ug/L	6.9	6.8	8.1	7.7	101	94	70-130	6	30
PFEESA	ng/L	0.00031U ug/L	6.2	6.1	5.9	5.9	96	97	70-130	1	30
PFHpS	ng/L	0.00035U ug/L	6.5	6.5	6.7	5.9	103	90	70-130	13	30
PFMBA	ng/L	0.00023U ug/L	6.9	6.8	6.7	7.1	98	104	70-130	6	30

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QUALITY CONTROL DATA

Project: NALF Orange Grove, TX

Pace Project No.: 35860836

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 5442775 5442776											
Parameter	Units	35860686011	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD	
PFMPA	ng/L	0.00029U ug/L	6.9	6.8	5.8	6.1	84	90	70-130	6	30
PFPeA	ng/L	0.00069J ug/L	6.9	6.8	7.5	7.9	99	106	70-130	5	30
PFPeS	ng/L	0.00031U ug/L	6.5	6.5	5.9	6.4	90	97	70-130	7	30
13C2-PFDoA (S)	%						80	81	50-200		
13C24:2FTS (S)	%						157	165	50-200		
13C26:2FTS (S)	%						175	151	50-200		
13C28:2FTS (S)	%						111	112	50-200		
13C3-PFBS (S)	%						100	100	50-200		
13C3-PFHxS (S)	%						104	102	50-200		
13C3HFPO-DA(S)	%						78	77	50-200		
13C4-PFBA (S)	%						99	100	50-200		
13C4-PFHpA (S)	%						93	93	50-200		
13C5-PFHxA (S)	%						94	93	50-200		
13C5-PFPeA (S)	%						88	87	50-200		
13C6-PFDA (S)	%						78	83	50-200		
13C7-PFUdA (S)	%						80	80	50-200		
13C8-PFOA (S)	%						90	93	50-200		
13C8-PFOS (S)	%						101	100	50-200		
13C9-PFNA (S)	%						84	89	50-200		

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QUALITY CONTROL DATA

Project: NALF Orange Grove, TX

Pace Project No.: 35860836

QC Batch: 989766

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: 35860836001, 35860836002

METHOD BLANK: 5442765

Matrix: Water

Associated Lab Samples: 35860836001, 35860836002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
11CI-PF3OUdS	ng/L	1.6U	2.0	1.6	02/18/24 22:16	
9CI-PF3ONS	ng/L	1.2U	2.0	1.2	02/18/24 22:16	
ADONA	ng/L	0.74U	2.0	0.74	02/18/24 22:16	
HFPO-DA	ng/L	1.7U	2.0	1.7	02/18/24 22:16	
NEtFOSAA	ng/L	0.95U	2.0	0.95	02/18/24 22:16	
NMeFOSAA	ng/L	1.6U	2.0	1.6	02/18/24 22:16	
Perfluorobutanesulfonic acid	ng/L	0.68U	2.0	0.68	02/18/24 22:16	
Perfluorodecanoic acid	ng/L	0.99U	2.0	0.99	02/18/24 22:16	
Perfluorododecanoic acid	ng/L	1.5U	2.0	1.5	02/18/24 22:16	
Perfluoroheptanoic acid	ng/L	1.0U	2.0	1.0	02/18/24 22:16	
Perfluorohexanesulfonic acid	ng/L	0.75U	2.0	0.75	02/18/24 22:16	
Perfluorohexanoic acid	ng/L	1.3U	2.0	1.3	02/18/24 22:16	
Perfluorononanoic acid	ng/L	2.0U	2.0	2.0	02/18/24 22:16	
Perfluorooctanesulfonic acid	ng/L	1.2U	2.0	1.2	02/18/24 22:16	
Perfluorooctanoic acid	ng/L	0.89U	2.0	0.89	02/18/24 22:16	
Perfluorotetradecanoic acid	ng/L	1.9U	2.0	1.9	02/18/24 22:16	
Perfluorotridecanoic acid	ng/L	1.8U	2.0	1.8	02/18/24 22:16	
Perfluoroundecanoic acid	ng/L	2.0U	2.0	2.0	02/18/24 22:16	
13C2-PFDA (S)	%	112	70-130		02/18/24 22:16	
13C2-PFHxA (S)	%	95	70-130		02/18/24 22:16	
HFPO-DAS (S)	%	95	70-130		02/18/24 22:16	
NEtFOSAA-d5 (S)	%	88	70-130		02/18/24 22:16	

LABORATORY CONTROL SAMPLE: 5442766

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11CI-PF3OUdS	ng/L	151	143	94	70-130	
9CI-PF3ONS	ng/L	150	151	101	70-130	
ADONA	ng/L	151	150	99	70-130	
HFPO-DA	ng/L	160	158	99	70-130	
NEtFOSAA	ng/L	160	146	91	70-130	
NMeFOSAA	ng/L	160	160	100	70-130	
Perfluorobutanesulfonic acid	ng/L	142	141	100	70-130	
Perfluorodecanoic acid	ng/L	160	176	110	70-130	
Perfluorododecanoic acid	ng/L	160	155	97	70-130	
Perfluoroheptanoic acid	ng/L	160	157	98	70-130	
Perfluorohexanesulfonic acid	ng/L	146	144	99	70-130	
Perfluorohexanoic acid	ng/L	160	156	97	70-130	
Perfluorononanoic acid	ng/L	160	174	108	70-130	

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QUALITY CONTROL DATA

Project: NALF Orange Grove, TX

Pace Project No.: 35860836

LABORATORY CONTROL SAMPLE: 5442766

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Perfluorooctanesulfonic acid	ng/L	148	151	102	70-130	
Perfluorooctanoic acid	ng/L	160	163	102	70-130	
Perfluorotetradecanoic acid	ng/L	160	142	89	70-130	
Perfluorotridecanoic acid	ng/L	160	150	94	70-130	
Perfluoroundecanoic acid	ng/L	160	164	103	70-130	
13C2-PFDA (S)	%			110	70-130	
13C2-PFHxA (S)	%			95	70-130	
HFPO-DAS (S)	%			92	70-130	
NEtFOSAA-d5 (S)	%			87	70-130	

LABORATORY CONTROL SAMPLE: 5442767

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11CI-PF3OUdS	ng/L	1.9	1.7J	87	50-150	
9CI-PF3ONS	ng/L	1.9	1.9J	100	50-150	
ADONA	ng/L	1.9	1.9J	99	50-150	
HFPO-DA	ng/L	2	1.9J	93	50-150	
NEtFOSAA	ng/L	2	1.8J	92	50-150	
NMeFOSAA	ng/L	2	2.1	103	50-150	
Perfluorobutanesulfonic acid	ng/L	1.8	1.8J	103	50-150	
Perfluorodecanoic acid	ng/L	2	2.2	111	50-150	
Perfluorododecanoic acid	ng/L	2	2.0J	98	50-150	
Perfluoroheptanoic acid	ng/L	2	1.9J	97	50-150	
Perfluorohexanesulfonic acid	ng/L	1.8	1.8J	98	50-150	
Perfluorohexanoic acid	ng/L	2	2.0	102	50-150	
Perfluorononanoic acid	ng/L	2	2.1	106	50-150	
Perfluorooctanesulfonic acid	ng/L	1.9	1.8J	96	50-150	
Perfluorooctanoic acid	ng/L	2	2.0	102	50-150	
Perfluorotetradecanoic acid	ng/L	2	1.9U	82	50-150	
Perfluorotridecanoic acid	ng/L	2	1.8J	92	50-150	
Perfluoroundecanoic acid	ng/L	2	2.0U	98	50-150	
13C2-PFDA (S)	%			111	70-130	
13C2-PFHxA (S)	%			95	70-130	
HFPO-DAS (S)	%			93	70-130	
NEtFOSAA-d5 (S)	%			88	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 5442768 5442769

Parameter	Units	MS 35860836001		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.								
11CI-PF3OUdS	ng/L	1.5U	7.5	7.1	6.6	6.3	88	88	70-130	6	30	IS	
9CI-PF3ONS	ng/L	1.1U	7.5	7	7.0	6.6	94	94	70-130	6	30	IS	
ADONA	ng/L	0.70U	7.5	7.1	7.2	6.7	96	95	70-130	7	30	IS	
HFPO-DA	ng/L	1.6U	8	7.5	7.3	6.8	91	90	70-130	7	30	IS	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NALF Orange Grove, TX

Pace Project No.: 35860836

Parameter	Units	5442768		5442769		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		35860836001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
NEtFOSAA	ng/L	0.90U	8	7.5	7.1	5.5	89	73	70-130	25	30	IS
NMeFOSAA	ng/L	1.5U	8	7.5	7.5	6.3	94	84	70-130	18	30	IS
Perfluorobutanesulfonic acid	ng/L	0.64U	7.1	6.6	6.7	7.2	96	108	70-130	6	30	IS
Perfluorodecanoic acid	ng/L	0.93U	8	7.5	8.2	7.1	102	94	70-130	14	30	IS
Perfluorododecanoic acid	ng/L	1.4U	8	7.5	7.4	6.4	93	85	70-130	15	30	IS
Perfluoroheptanoic acid	ng/L	0.97U	8	7.5	7.4	6.1	92	82	70-130	18	30	IS
Perfluorohexanesulfonic acid	ng/L	0.71U	7.3	6.8	6.8	5.2	93	75	70-130	27	30	IS
Perfluorohexanoic acid	ng/L	1.2U	8	7.5	7.4	6.9	92	90	70-130	8	30	IS
Perfluorononanoic acid	ng/L	1.9U	8	7.5	7.9	7.2	98	94	70-130	10	30	IS
Perfluorooctanesulfonic acid	ng/L	1.2U	7.4	6.9	7.0	5.0	94	71	70-130	34	30	IS,R1
Perfluorooctanoic acid	ng/L	0.84U	8	7.5	7.4	6.9	92	91	70-130	7	30	IS
Perfluorotetradecanoic acid	ng/L	1.8U	8	7.5	6.4	5.9	80	78	70-130	8	30	IS
Perfluorotridecanoic acid	ng/L	1.7U	8	7.5	7.0	6.4	88	86	70-130	8	30	IS
Perfluoroundecanoic acid	ng/L	1.9U	8	7.5	7.7	6.9	96	92	70-130	10	30	IS
13C2-PFDA (S)	%						103	97	70-130			
13C2-PFHxA (S)	%						92	88	70-130			
HFPO-DAS (S)	%						90	81	70-130			
NEtFOSAA-d5 (S)	%						90	88	70-130			

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QUALIFIERS

Project: NALF Orange Grove, TX

Pace Project No.: 35860836

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

IS The internal standard response is below criteria. Results may be biased high.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NALF Orange Grove, TX

Pace Project No.: 35860836

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35860836001	NALFOG	EPA 533	989767	EPA 533	990170
35860836002	Field Blank	EPA 533	989767	EPA 533	990170
35860836001	NALFOG	EPA 537.1	989766	EPA 537.1	989957
35860836002	Field Blank	EPA 537.1	989766	EPA 537.1	989957

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

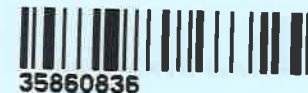
CHAIN-OF-CUSTODY Analytical Request Document

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

LAB USE ONLY- Affix Workorder/Login Label Here



WO# : 35860836



35860836

Company Name: AH Environmental Consultants, Inc.
Street Address: 11837 Rock Landing Dr - Newport News VA 23606
Customer Project #:
Project Name: NALF Orange Grove, TX
Site Collection Info/Facility ID (as applicable):

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 #:

Time Zone Collected: [] AK [] PT [] MT [] CT [] ET
County / State origin of sample(s): Florida
Data Deliverables: [] Level II [] Level III [] Level IV [] EQUIS [] Other
Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [] Yes [] No
Rush (Pre-approval required): [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other
Date Results Requested:
Field Filtered (if applicable): [] Yes [] No
Analysis:

* 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	
			Date	Time	Date	Time		Results	Units
NALF061									
NALF062									
Field Blank	DW						X	X	X
NALF063									X
NALF064									X
NALF065									X
NALF066									X

Specify Container Size **

Identify Container Preservative Type***

Analysis Requested

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
		X			
		X			
X	X		X		
		X			
					X
					X
					X

Container Size (1) 10mL, (2) 20mL, (3) 30mL, (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

Proj. Mgr: **Bo Garcia**
AcctNum / Client ID:
Table #:
Profile / Template: **7971**
Prelog / Bottle Ord. ID: **EZ 3066184**
Sample Comment

Additional Instructions from Pace®:

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

Customer Remarks / Special Conditions / Possible Hazards:

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

Relinquished by/Company: (Signature) Date/Time:
Relinquished by/Company: (Signature) Date/Time:
Relinquished by/Company: (Signature) Date/Time:
Relinquished by/Company: (Signature) Date/Time:

Received by/Company: (Signature) Date/Time:
Received by/Company: (Signature) Date/Time:
Received by/Company: (Signature) Date/Time:
Received by/Company: (Signature) Date/Time:

Delivered by: [] In-Person [] Courier
[] FedEx [] UPS [] Other
Page: **1** of **1**



WO#: 35860836
 PM: VEG Due Date: 02/29/24
 CLIENT: AHENVI

Project #
 Project Manager:
 Client:

Date and Initials of person:
 Examining contents: EASI
 Label: _____
 Deliver: _____
 pH: _____
 Initials: NPI

Thermometer Used: T-414 Date: 2-15-24 Time: 1036

State of Origin: _____ For WV projects, all containers verified to ≤6 °C
 Cooler #1 Temp. °C: 3.3 (Visual) 0.0 (Correction Factor) 3.3 (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 # 1Z 2E4 66E 01 907 1379

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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Sampler Name: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
	Relinquished To Pace: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Sampling Date(s): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Sampling Time(s): <input type="checkbox"/> Yes <input checked="" 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 type="checkbox"/> No <input checked="" 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments:
Containers intact	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments:
Sample Labels Match COC (Sample ID, Date/Time of Collection)	<input type="checkbox"/> Yes <input checked="" 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
Exceptions: Vials, Microbiology, O&G, PFAS	
Headspace 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): NO relinquished, preservatives, # of containers or collection dates or times on COC. - 1533 container arrived empty for FRB with full DE container.

The client wrote each container as its own separate sample on the COC - supposed to be one parent (3 533 containers + 3 537.1 containers) and one FRB sample (1 533 container + 2 537.1 containers) all collected parent called 2/14/24 @ 0945 and FRB collected 2/14/24 @ 0938.