



April 08, 2025

Timmy Lynn
City of Cullman Water and Waste (UCMR5)
1717 Eva Road
Cullman, AL 35055

RE: Project: UCMR5_SE1_Mar2025
Pace Project No.: 35943281

Dear Timmy Lynn:

Enclosed are the analytical results for sample(s) received by the laboratory on March 15, 2025. 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,

A handwritten signature in black ink that reads "Rebecca Selph".

Rebecca Selph
rebecca.selph@pacelabs.com
(386)672-5668
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: UCMR5_SE1_Mar2025

Pace Project No.: 35943281

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

Nevada Certification: FL NELAC Reciprocity

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

Utah FL NELAC Reciprocity

Utah

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: UCMR5_SE1_Mar2025
Pace Project No.: 35943281

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35943281001	07978 Cullman Utilities Intert	Drinking Water	03/14/25 08:30	03/15/25 12:00
35943281002	FRB-07978 Cullman Utilities In	Drinking Water	03/14/25 08:22	03/15/25 12:00

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SAMPLE ANALYTE COUNT

Project: UCMR5_SE1_Mar2025

Pace Project No.: 35943281

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35943281001	07978	Cullman Utilities Intert			
		EPA 200.7	ASB	1	PASI-O
		EPA 533	TSW	41	PASI-O
		EPA 537.1	TMM1	8	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach

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ANALYTICAL RESULTS

Project: UCMR5_SE1_Mar2025

Pace Project No.: 35943281

Sample: 07978 Cullman Utilities Lab ID: 35943281001 Collected: 03/14/25 08:30 Received: 03/15/25 12:00 Matrix: Drinking Water
Intert

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, UCMR									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL									
Pace Analytical Services - Ormond Beach									
Lithium	7.5 U	ug/L	22.5	7.5	2.5	03/19/25 04:17	04/05/25 11:45	7439-93-2	N2
533 PFAS Compounds, UCMR									
Analytical Method: EPA 533 Preparation Method: EPA 533									
Initial Volume/Weight: 242.08 mL Final Volume/Weight: 1 mL									
Pace Analytical Services - Ormond Beach									
11CI-PF3OUdS	0.0017 U	ug/L	0.0052	0.0017	1	03/18/25 22:31	03/19/25 14:09	763051-92-9	
4:2 FTS	0.0010 U	ug/L	0.0031	0.0010	1	03/18/25 22:31	03/19/25 14:09	757124-72-4	
6:2 FTS	0.0017 U	ug/L	0.0052	0.0017	1	03/18/25 22:31	03/19/25 14:09	27619-97-2	
8:2 FTS	0.0017 U	ug/L	0.0052	0.0017	1	03/18/25 22:31	03/19/25 14:09	39108-34-4	
9CI-PF3ONS	0.0007 U	ug/L	0.0021	0.0007	1	03/18/25 22:31	03/19/25 14:09	756426-58-1	
ADONA	0.0010 U	ug/L	0.0031	0.0010	1	03/18/25 22:31	03/19/25 14:09	919005-14-4	
HFPO-DA	0.0017 U	ug/L	0.0052	0.0017	1	03/18/25 22:31	03/19/25 14:09	13252-13-6	
NFDHA	0.0069 U	ug/L	0.021	0.0069	1	03/18/25 22:31	03/19/25 14:09	151772-58-6	
PFBS	0.0011 I	ug/L	0.0031	0.0010	1	03/18/25 22:31	03/19/25 14:09	375-73-5	
PFDA	0.0010 U	ug/L	0.0031	0.0010	1	03/18/25 22:31	03/19/25 14:09	335-76-2	
PFHxA	0.0010 U	ug/L	0.0031	0.0010	1	03/18/25 22:31	03/19/25 14:09	307-24-4	
PFBA	0.0017 I	ug/L	0.0052	0.0017	1	03/18/25 22:31	03/19/25 14:09	375-22-4	
PFEESA	0.0010 U	ug/L	0.0031	0.0010	1	03/18/25 22:31	03/19/25 14:09	113507-82-7	
PFHpS	0.0010 U	ug/L	0.0031	0.0010	1	03/18/25 22:31	03/19/25 14:09	375-92-8	
PFMBA	0.0010 U	ug/L	0.0031	0.0010	1	03/18/25 22:31	03/19/25 14:09	863090-89-5	
PFMPA	0.0014 U	ug/L	0.0041	0.0014	1	03/18/25 22:31	03/19/25 14:09	377-73-1	
PFPeA	0.0010 U	ug/L	0.0031	0.0010	1	03/18/25 22:31	03/19/25 14:09	2706-90-3	
PFPeS	0.0014 U	ug/L	0.0041	0.0014	1	03/18/25 22:31	03/19/25 14:09	2706-91-4	
PFDoA	0.0010 U	ug/L	0.0031	0.0010	1	03/18/25 22:31	03/19/25 14:09	307-55-1	
PFHpA	0.0010 U	ug/L	0.0031	0.0010	1	03/18/25 22:31	03/19/25 14:09	375-85-9	
PFHxS	0.0010 U	ug/L	0.0031	0.0010	1	03/18/25 22:31	03/19/25 14:09	355-46-4	
PFNA	0.0014 U	ug/L	0.0041	0.0014	1	03/18/25 22:31	03/19/25 14:09	375-95-1	
PFOS	0.0014 U	ug/L	0.0041	0.0014	1	03/18/25 22:31	03/19/25 14:09	1763-23-1	
PFOA	0.0014 U	ug/L	0.0041	0.0014	1	03/18/25 22:31	03/19/25 14:09	335-67-1	
PFUnA	0.0007 U	ug/L	0.0021	0.0007	1	03/18/25 22:31	03/19/25 14:09	2058-94-8	
Surrogates									
13C24:2FTS (S)	185	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
13C26:2FTS (S)	118	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
13C28:2FTS (S)	105	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
13C2-PFDoA (S)	83	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
13C3HFPO-DA(S)	92	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
13C3-PFBS (S)	94	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
13C3-PFHxS (S)	96	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
13C4-PFBA (S)	102	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
13C4-PFHpA (S)	93	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
13C5-PFHxA (S)	101	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
13C5-PFPeA (S)	105	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
13C6-PFDA (S)	85	%	50-200		1	03/18/25 22:31	03/19/25 14:09		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UCMR5_SE1_Mar2025

Pace Project No.: 35943281

Sample: **07978** Cullman Utilities Lab ID: **35943281001** Collected: 03/14/25 08:30 Received: 03/15/25 12:00 Matrix: Drinking Water
Intert

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
533 PFAS Compounds, UCMR									
Analytical Method: EPA 533 Preparation Method: EPA 533									
Initial Volume/Weight: 242.08 mL Final Volume/Weight: 1 mL									
Pace Analytical Services - Ormond Beach									
Surrogates									
13C7-PFUDA (S)	84	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
13C8-PFOA (S)	90	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
13C8-PFOS (S)	97	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
13C9-PFNA (S)	91	%	50-200		1	03/18/25 22:31	03/19/25 14:09		
537.1 PFAS Compounds, UCMR									
Analytical Method: EPA 537.1 Preparation Method: EPA 537.1									
Initial Volume/Weight: 248.39 mL Final Volume/Weight: 1 mL									
Pace Analytical Services - Ormond Beach									
NEtFOSAA	0.0017 U	ug/L	0.0060	0.0017	1	03/18/25 16:30	03/19/25 22:02	2991-50-6	
NMeFOSAA	0.0020 U	ug/L	0.0060	0.0020	1	03/18/25 16:30	03/19/25 22:02	2355-31-9	
PFTeDA	0.0027 U	ug/L	0.0081	0.0027	1	03/18/25 16:30	03/19/25 22:02	376-06-7	
PFTrDA	0.0024 U	ug/L	0.0070	0.0024	1	03/18/25 16:30	03/19/25 22:02	72629-94-8	
Surrogates									
13C2-PFDA (S)	103	%	70-130		1	03/18/25 16:30	03/19/25 22:02		
13C2-PFHxA (S)	94	%	70-130		1	03/18/25 16:30	03/19/25 22:02		
NEtFOSAA-d5 (S)	91	%	70-130		1	03/18/25 16:30	03/19/25 22:02		
HFPO-DAS (S)	95	%	70-130		1	03/18/25 16:30	03/19/25 22:02		

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QUALITY CONTROL DATA

Project: UCMR5_SE1_Mar2025

Pace Project No.: 35943281

QC Batch:	1085138	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 MET Drinking Water
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35943281001

METHOD BLANK: 5954666 Matrix: Drinking Water

Associated Lab Samples: 35943281001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Lithium	ug/L	7.5 U	22.5	7.5	04/05/25 10:37	N2

LABORATORY CONTROL SAMPLE: 5954667

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	9	7.5 U	66	50-150	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 5954668 5954669

Parameter	Units	35942433001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	ug/L	7.5 U	9	9	12.2 I	12.0 I	100	98	0-200		30	N2

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QUALITY CONTROL DATA

Project: UCMR5_SE1_Mar2025

Pace Project No.: 35943281

QC Batch: 1085102

Analysis Method: EPA 533

QC Batch Method: EPA 533

Analysis Description: 533 PFAS Compounds, UCMR

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35943281001

METHOD BLANK: 5954472

Matrix: Drinking Water

Associated Lab Samples: 35943281001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
11CI-PF3OUdS	ug/L	0.0017 U	0.0050	0.0017	03/19/25 10:56	
4:2 FTS	ug/L	0.0010 U	0.0030	0.0010	03/19/25 10:56	
6:2 FTS	ug/L	0.0017 U	0.0050	0.0017	03/19/25 10:56	
8:2 FTS	ug/L	0.0017 U	0.0050	0.0017	03/19/25 10:56	
9CI-PF3ONS	ug/L	0.0007 U	0.0020	0.0007	03/19/25 10:56	
ADONA	ug/L	0.0010 U	0.0030	0.0010	03/19/25 10:56	
HFPO-DA	ug/L	0.0017 U	0.0050	0.0017	03/19/25 10:56	
NFDHA	ug/L	0.0067 U	0.020	0.0067	03/19/25 10:56	
PFBA	ug/L	0.0017 U	0.0050	0.0017	03/19/25 10:56	
PFBS	ug/L	0.0010 U	0.0030	0.0010	03/19/25 10:56	
PFDA	ug/L	0.0010 U	0.0030	0.0010	03/19/25 10:56	
PFDaA	ug/L	0.0010 U	0.0030	0.0010	03/19/25 10:56	
PFEESA	ug/L	0.0010 U	0.0030	0.0010	03/19/25 10:56	
PFHpA	ug/L	0.0010 U	0.0030	0.0010	03/19/25 10:56	
PFHpS	ug/L	0.0010 U	0.0030	0.0010	03/19/25 10:56	
PFHxA	ug/L	0.0010 U	0.0030	0.0010	03/19/25 10:56	
PFHxS	ug/L	0.0010 U	0.0030	0.0010	03/19/25 10:56	
PFMBA	ug/L	0.0010 U	0.0030	0.0010	03/19/25 10:56	
PFMPA	ug/L	0.0013 U	0.0040	0.0013	03/19/25 10:56	
PFNA	ug/L	0.0013 U	0.0040	0.0013	03/19/25 10:56	
PFOA	ug/L	0.0013 U	0.0040	0.0013	03/19/25 10:56	
PFOS	ug/L	0.0013 U	0.0040	0.0013	03/19/25 10:56	
PFPeA	ug/L	0.0010 U	0.0030	0.0010	03/19/25 10:56	
PFPeS	ug/L	0.0013 U	0.0040	0.0013	03/19/25 10:56	
PFUnA	ug/L	0.0007 U	0.0020	0.0007	03/19/25 10:56	
13C2-PFDaA (S)	%	96	50-200		03/19/25 10:56	
13C24:2FTS (S)	%	111	50-200		03/19/25 10:56	
13C26:2FTS (S)	%	105	50-200		03/19/25 10:56	
13C28:2FTS (S)	%	103	50-200		03/19/25 10:56	
13C3-PFBS (S)	%	97	50-200		03/19/25 10:56	
13C3-PFHxS (S)	%	97	50-200		03/19/25 10:56	
13C3HFPO-DA(S)	%	91	50-200		03/19/25 10:56	
13C4-PFBA (S)	%	99	50-200		03/19/25 10:56	
13C4-PFHpA (S)	%	95	50-200		03/19/25 10:56	
13C5-PFHxA (S)	%	100	50-200		03/19/25 10:56	
13C5-PFPeA (S)	%	102	50-200		03/19/25 10:56	
13C6-PFDA (S)	%	94	50-200		03/19/25 10:56	
13C7-PFUDa (S)	%	96	50-200		03/19/25 10:56	
13C8-PFOA (S)	%	95	50-200		03/19/25 10:56	
13C8-PFOS (S)	%	98	50-200		03/19/25 10:56	

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QUALITY CONTROL DATA

Project: UCMR5_SE1_Mar2025
Pace Project No.: 35943281

METHOD BLANK: 5954472 Matrix: Drinking Water
Associated Lab Samples: 35943281001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
13C9-PFNA (S)	%	99	50-200		03/19/25 10:56	

LABORATORY CONTROL SAMPLE: 5954473

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11CI-PF3OUdS	ug/L	0.0019	0.0017 U	80	50-150	
4:2 FTS	ug/L	0.0019	0.0017 I	87	50-150	
6:2 FTS	ug/L	0.0019	0.0017 U	86	50-150	
8:2 FTS	ug/L	0.0019	0.0018 I	94	50-150	
9CI-PF3ONS	ug/L	0.0019	0.0016 I	85	50-150	
ADONA	ug/L	0.0019	0.0016 I	82	50-150	
HFPO-DA	ug/L	0.002	0.0017 U	83	50-150	
NFDHA	ug/L	0.02	0.016 I	81	50-150	
PFBA	ug/L	0.002	0.0017 I	86	50-150	
PFBS	ug/L	0.0018	0.0016 I	89	50-150	
PFDA	ug/L	0.002	0.0016 I	82	50-150	
PFDaA	ug/L	0.002	0.0017 I	84	50-150	
PFEESA	ug/L	0.0018	0.0016 I	91	50-150	
PFHpA	ug/L	0.002	0.0017 I	87	50-150	
PFHpS	ug/L	0.0019	0.0017 I	89	50-150	
PFHxA	ug/L	0.002	0.0018 I	89	50-150	
PFHxS	ug/L	0.0018	0.0017 I	93	50-150	
PFMBA	ug/L	0.002	0.0017 I	87	50-150	
PFMPA	ug/L	0.002	0.0017 I	84	50-150	
PFNA	ug/L	0.002	0.0017 I	85	50-150	
PFOA	ug/L	0.002	0.0017 I	87	50-150	
PFOS	ug/L	0.0019	0.0018 I	93	50-150	
PFPeA	ug/L	0.002	0.0018 I	91	50-150	
PFPeS	ug/L	0.0019	0.0017 I	91	50-150	
PFUnA	ug/L	0.002	0.0017 I	83	50-150	
13C2-PFDaA (S)	%			98	50-200	
13C24:2FTS (S)	%			105	50-200	
13C26:2FTS (S)	%			104	50-200	
13C28:2FTS (S)	%			104	50-200	
13C3-PFBS (S)	%			106	50-200	
13C3-PFHxS (S)	%			107	50-200	
13C3HFPO-DA(S)	%			97	50-200	
13C4-PFBA (S)	%			103	50-200	
13C4-PFHpA (S)	%			101	50-200	
13C5-PFHxA (S)	%			106	50-200	
13C5-PFPeA (S)	%			105	50-200	
13C6-PFDA (S)	%			102	50-200	
13C7-PFUdA (S)	%			100	50-200	
13C8-PFOA (S)	%			103	50-200	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: UCMR5_SE1_Mar2025

Pace Project No.: 35943281

LABORATORY CONTROL SAMPLE: 5954473

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
13C8-PFOS (S)	%			106	50-200	
13C9-PFNA (S)	%			106	50-200	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 5954474 5954475

Parameter	Units	35943589001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
11CI-PF3OUdS	ug/L	0.0015 U	0.017	0.017	0.016	0.015	95	90	70-130	6	30	
4:2 FTS	ug/L	0.0009 U	0.017	0.017	0.017	0.017	100	99	70-130	2	30	
6:2 FTS	ug/L	0.0015 U	0.017	0.017	0.016	0.016	93	91	70-130	3	30	
8:2 FTS	ug/L	0.0015 U	0.017	0.017	0.017	0.016	99	91	70-130	9	30	
9CI-PF3ONS	ug/L	0.0006 U	0.017	0.017	0.017	0.016	98	92	70-130	7	30	
ADONA	ug/L	0.0009 U	0.017	0.017	0.016	0.015	96	89	70-130	9	30	
HFPO-DA	ug/L	0.0015 U	0.018	0.018	0.018	0.018	101	101	70-130	1	30	
NFDHA	ug/L	0.0058 U	0.18	0.18	0.18	0.18	101	102	70-130	0	30	
PFBA	ug/L	0.0017 I	0.018	0.018	0.019	0.018	94	89	70-130	6	30	
PFBS	ug/L	0.0009 U	0.016	0.016	0.017	0.016	102	97	70-130	5	30	
PFDA	ug/L	0.0009 U	0.018	0.018	0.018	0.017	100	95	70-130	6	30	
PFDaA	ug/L	0.0009 U	0.018	0.018	0.018	0.017	99	94	70-130	6	30	
PFEESA	ug/L	0.0009 U	0.016	0.016	0.017	0.016	103	99	70-130	5	30	
PFHpA	ug/L	0.0009 U	0.018	0.018	0.019	0.018	103	97	70-130	7	30	
PFHpS	ug/L	0.0009 U	0.017	0.017	0.017	0.016	98	95	70-130	4	30	
PFHxA	ug/L	0.0009 I	0.018	0.018	0.019	0.018	102	96	70-130	7	30	
PFHxS	ug/L	0.0009 U	0.016	0.016	0.017	0.016	103	98	70-130	6	30	
PFMBA	ug/L	0.0009 U	0.018	0.018	0.018	0.018	102	98	70-130	5	30	
PFMPA	ug/L	0.0012 U	0.018	0.018	0.018	0.017	102	96	70-130	7	30	
PFNA	ug/L	0.0012 U	0.018	0.018	0.018	0.017	99	93	70-130	7	30	
PFOA	ug/L	0.0012 I	0.018	0.018	0.020	0.019	101	97	70-130	5	30	
PFOS	ug/L	0.0012 U	0.017	0.017	0.018	0.017	99	94	70-130	6	30	
PFPeA	ug/L	0.0009 I	0.018	0.018	0.020	0.019	108	101	70-130	7	30	
PFPeS	ug/L	0.0012 U	0.017	0.017	0.017	0.016	98	93	70-130	6	30	
PFUnA	ug/L	0.0006 U	0.018	0.018	0.018	0.016	98	92	70-130	8	30	
13C2-PFDaA (S)	%						84	83	50-200			
13C24:2FTS (S)	%						151	151	50-200			
13C26:2FTS (S)	%						108	109	50-200			
13C28:2FTS (S)	%						100	101	50-200			
13C3-PFBS (S)	%						94	96	50-200			
13C3-PFHxS (S)	%						97	98	50-200			
13C3HFPO-DA(S)	%						94	93	50-200			
13C4-PFBA (S)	%						101	103	50-200			
13C4-PFHpA (S)	%						97	93	50-200			
13C5-PFHxA (S)	%						102	102	50-200			
13C5-PFPeA (S)	%						107	108	50-200			
13C6-PFDA (S)	%						87	84	50-200			
13C7-PFUdA (S)	%						85	83	50-200			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UCMR5_SE1_Mar2025
Pace Project No.: 35943281

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:												
			5954474	5954475								
		35943589001	MS	MSD			MS	MSD	% Rec		Max	
Parameter	Units	Result	Spike	Spike	MS	MSD	% Rec	% Rec	Limits	RPD	RPD	Qual
			Conc.	Conc.	Result	Result						
13C8-PFOA (S)	%						94	88	50-200			
13C8-PFOS (S)	%						98	99	50-200			
13C9-PFNA (S)	%						98	92	50-200			

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REPORT OF LABORATORY ANALYSIS



QUALITY CONTROL DATA

Project: UCMR5_SE1_Mar2025
Pace Project No.: 35943281

QC Batch:	1085028	Analysis Method:	EPA 537.1
QC Batch Method:	EPA 537.1	Analysis Description:	537.1 PFOA Compounds, UCMR
		Laboratory:	Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35943281001

METHOD BLANK: 5953998 Matrix: Water
Associated Lab Samples: 35943281001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
NEtFOSAA	ug/L	0.0017 U	0.0060	0.0017	03/19/25 15:40	
NMeFOSAA	ug/L	0.0020 U	0.0060	0.0020	03/19/25 15:40	
PFTeDA	ug/L	0.0027 U	0.0080	0.0027	03/19/25 15:40	
PFTrDA	ug/L	0.0024 U	0.0070	0.0024	03/19/25 15:40	
13C2-PFDA (S)	%	104	70-130		03/19/25 15:40	
13C2-PFHxA (S)	%	100	70-130		03/19/25 15:40	
HFPO-DAS (S)	%	103	70-130		03/19/25 15:40	
NEtFOSAA-d5 (S)	%	96	70-130		03/19/25 15:40	

LABORATORY CONTROL SAMPLE: 5953999

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
NEtFOSAA	ug/L	0.005	0.0045 I	90	50-150	
NMeFOSAA	ug/L	0.006	0.0052 I	86	50-150	
PFTeDA	ug/L	0.008	0.0070 I	88	50-150	
PFTrDA	ug/L	0.007	0.0061 I	87	50-150	
13C2-PFDA (S)	%			111	70-130	
13C2-PFHxA (S)	%			107	70-130	
HFPO-DAS (S)	%			106	70-130	
NEtFOSAA-d5 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 5954000 5954001

Parameter	Units	35942448001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
NEtFOSAA	ug/L	0.0019 U	0.0054	0.0055	0.0043 I	0.0044 I	79	81	70-130		30	
NMeFOSAA	ug/L	0.0022 U	0.0065	0.0066	0.0053 I	0.0055 I	82	84	70-130		30	
PFTeDA	ug/L	0.0030 U	0.0087	0.0087	0.0075 I	0.0074 I	86	85	70-130		30	
PFTrDA	ug/L	0.0026 U	0.0076	0.0076	0.0062 I	0.0065 I	82	85	70-130		30	
13C2-PFDA (S)	%						106	110	70-130			
13C2-PFHxA (S)	%						105	106	70-130			
HFPO-DAS (S)	%						104	107	70-130			
NEtFOSAA-d5 (S)	%						97	102	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: UCMR5_SE1_Mar2025

Pace Project No.: 35943281

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

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

I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

U Compound was analyzed for but not detected.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: UCMR5_SE1_Mar2025
Pace Project No.: 35943281

Lab ID	Sample ID		QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35943281001	07978	Cullman Utilities Intert	EPA 200.7	1085138	EPA 200.7	1085231
35943281001	07978	Cullman Utilities Intert	EPA 533	1085102	EPA 533	1085191
35943281001	07978	Cullman Utilities Intert	EPA 537.1	1085028	EPA 537.1	1085157

REPORT OF LABORATORY ANALYSIS

CHAIN-OF-CUSTODY Analytical Request Document

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

Company Name:	City of Cullman Water & Waste-UCMRS	Contact/Report To:	Timmy Lynn
Street Address:	1437 Weltri Road Cullman, AL 35055	Phone #:	256-338-3251
		E-Mail:	tylenn@cullmanal.gov
		Cc E-Mail:	
Customer Project #:		Invoice To:	Timmy Lynn
Project Name:	UCMRS_SE1_Mar2025	Invoice E-Mail:	tylenn@cullmanal.gov
		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [] AK [] PT [] MT [X] CT [] ET										County / State origin of sample(s): Alabama									
Data Deliverables:																			
[] Level II [] Level III [] Level IV										Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [] Yes [] No									
[] EQUIS										Rush (Pre-approval required): [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other _____									
[] Other										Date Results Requested: 25 BD TAT Field Filtered (if applicable): [] Yes [] No Analysis: ALC001786									

Customer Sample ID	Matrix *	Comp / Grab	Composite Start		Collected or Composite End		# Cont.	Res. Chlorine	
			Date	Time	Date	Time		Results	Units
07978Cullman Utilities Intertie	DW	6	3-14-25	0830	3-14-25	0837	9	1.7	mg/l
FRB-07978Cullman Utilities Intertie	DW	6	3-14-25	0822	3-14-25	0824	4	1.7	mg/l

[illegible][illegible]

Additional Instructions from Page 5: CMRS is for testing finished drinking water ONLY. Please fill containers up to the bottom thread of the container cap. Prior to shipping, please refrigerate the samples for 4-6 hours immediately after sampling. Ship samples on Monday thru Wednesday only, overnight shipping label included.	Collected By: (Printed Name) Joshua Criddle Signature: <i>Joshua Criddle</i>	Received by/Company: (Signature) <i>Joshua Criddle</i>
	Date/Time: 3-14-25 13:00	Received by/Company: (Signature)

Received by/Company: [Signature]	Date/Time:	Received by/Company: [Signature]
Received by/Company: [Signature]	Date/Time:	Received by/Company: [Signature]

submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at <https://www.pace-labs.com/resource-library>

[illegible]

Proj. Mgr.:	DJ Kapadia
AcctNum / Client ID:	
Table #:	
Profile / Template:	18086

[illegible][illegible][illegible]

Customer Remarks / Special Conditions / Possible Hazards:					
# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
~	Date/Time: 3/15/15	1200		7.3	
	Tracking Number:				
	Date/Time:				
	Delivered by:			In: Person	Courier

	Date/Time:		[] FedEX [] UPS [] Other
	Date/Time:		Page: 1 of 1

[/resource/pace-terms-and-conditions/](#)

Pace Container Order #3221034

mica.dalesandro@pacelabs.com

Addresses		Ship To :	Return To:
Order By :		Company City of Cullman Water & Waste-UCMR5	Company Ormond Beach, FL (Pace Analytical)
Company City of Cullman Water & Waste-		Contact Timmy Lynn	Contact DJ Kapadia
Contact Timmy Lynn		Email tlynn@cullmanal.gov	Email dj.kapadia@pacelabs.com
Email tlynn@cullmanal.gov		Address 1437 Welti Road	Address 8 East Tower Circle
Address 1437 Welti Road		Address 2	Address 2
Address 2		City Cullman	City Ormond Beach
City Cullman		State AL Zip 35055	State FL Zip 32174
State AL Zip 35055		Phone 256-338-3251	Phone (386)672-5668
Phone 256-338-3251			

Info			
Project Name UCMR5_SE1_Mar2025	Due Date 02/10/2025	Profile 18086	Quote
Project Manager Kapadia, DJ	Return Date	Carrier FedEx Ground	Location AL

Return Shipping Labels Return Label Type OVERNIGHT ☐ No Shipper ☒ With Shipper	Bottle Labels ☐ Blank ☐ Pre-Printed No Sample IDs ☒ Pre-Printed With Sample IDs	Bottles ☐ Boxed Cases ☐ Individually Wrapped ☒ Grouped By Sample ID/Matrix
Trip Blanks ☐ Include Trip Blanks	Misc ☒ Sampling Instructions ☒ Custody Seal ☐ Temp. Blanks ☒ Coolers ☐ Syringes ☐ Extra Bubble Wrap ☐ Short Hold/Rush Stickers ☐ DI Water ☐ USDA Regulated Soils ☐ Dry Weight	
COC Options ☐ Number of Blanks ☒ Pre-Printed 1		

# of Samp Matrix	Analysis	Qty / Samp	Container	Total	# of QC	Lot #	Notes
1	DW 533 PFAS Compounds, UCMR	4	250 mL plastic with ammonium acetate	4		M500703BB	
1	DW 537.1 FRB	2	250mL Plastic 1w/ Trizma & 1w/DI Water	2		M435202BB/M434404BB	
1	DW 533 FRB	2	250mL Plastic 1w/Amm Acetate & 1w/DI Water	2		M500703BB/M434404BB	
1	DW 200.7 MET ICP, UCMR	1	250mL plastic HNO3	1		010625-2EIZ	
1	DW 537.1 PFAS Compounds, UCMR	4	250mL plastic Trizma	4		M435202BB	

Hazard Shipping Placard In Place : N/A

*Sample receiving hours are typically 8am-5pm, but may differ by location. Please check with your Pace Project Manager.

*Pace Analytical reserves the right to return hazardous, toxic, or radioactive samples to you.

*Pace Analytical reserves the right to charge for unused bottles, as well as cost associated with sample storage/disposal.

*Payment term are net 30 days.

*Please include the proposal number on the chain of custody to ensure proper billing.

Sample Notes :

LAB USE:

Ship Date : 02/07/2025

Prepared By: KWT

Verified By:

CLIENT USE (Optional):

Date Rec'd:

Received By:

WO#: 35943281

PM: DNK

Due Date: 04/21/25

CLIENT: CULLMANWW

Project #

Project Manager:

Client:

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace

Tracking # 9398 2253 8242

☐ Other:Custody Seal: ☒ Yes ☐ NoSeal intact: ☒ Yes ☐ NoIce: ☒ Yes ☐ NoPacking Material: ☐ Bubble Wrap☐ Bubble Bags☒ None☐ Other

	Yes	No	Comments
Chain of Custody Present	☒	☐	
Chain of Custody Completed	☒	☐	
Relinquished & Sampler Signature	☒	☐	
Samples Arrived within Hold Time	☐	☐	
Sufficient Volume	☒	☐	
Correct Containers Used	☒	☐	
Containers Intact	☒	☐	
Sample Labels match COC	☐	☒	collection date / time on containers is rubbed off
Samples received ≤48 hr from collection?	☒	☐	
If no, were samples kept ≤6°C after 48 hrs of collection?	☐	☐	
Person contacted for verification			

Temperature Verification

IR Gun ID: T-425

Initials: EASI

Date: 3/15/25

Time: 1715

CF (°C): -0.1

	Observed (°C)	Corrected (°C)	Comments
EPA 533	1.1	1.0	
EPA 537.1	2.4	2.3	

Preservation Verification

pH strip: HC441709

pH meter: SB-3

Free Cl Strip/DPD: A4143

Cl Meter: SB-1

200.7 Lab Preserved: Nitric Acid:

Date/Time:

Initials:

Sample/Container ID	pH				Free Chlorine**		Comments
	533* (pH 6.0-8.0)	537.1 (pH 6.0-8.0)	200.7 (pH <2)	200.7 Lab Preserved	533	537.1	
07978 Cullman... 1/4	6.6	7.4	42		ND	ND	
" 2/4	6.6	7.4			ND	ND	
" 3/4	6.7	7.4			ND	ND	
" 4/4	6.7	7.5			ND	ND	
FRB-07978 Cullman...	6.9	7.4			ND	ND	

*533 pH may be adjusted at the bench prior to extraction.

** ND = <0.1 mg/L

Labeled by: EASI

Reviewed by: ZRB

Delivered by: —