Brunswick County Public Utilities

PO Box 249
Bolivia, NC 28422-0249

Northwest Water Plant

Samples Received: 2/23/2023

Analytical Report
0223-805

PFAS by Isotope Dilution
PFAS

Report Issue Date: 3/16/2023

I certify that to the best of my knowledge all analytical data presented in this report have been checked for completeness, accuracy, errors and legibility in addition to having been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s). This analytical report was prepared in Portable Document Format (.PDF) and contains ___25____ pages. This report shall not be reproduced except in full without approval of the laboratory. This will provide assurance that parts of the report are not taken out of context.

Signature:

Laura Boivin, QA Associate II

Amendments:

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Summary of Results

Enthalpy Analytical

Job No.: 0223-805-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: Northwest Water Plant

Summary

	Compound	CAS	022323-SO1 ng/L	022323-EO1 ng/L
Acids	PFBA	375-22-4	3.70	2.50
	PFPeA	2706-90-3	5.13	5.92
	PFHxA	307-24-4	5.24	5.71
	PFHpA	375-85-9	2.40	2.52
	PFOA	335-67-1	5.12	4.98
	PFNA	375-95-1	0.568 J	0.578
	PFDA	335-76-2	0.147 L	0.232 J
	PFUnDA	2058-94-8	ND U	0.0152 L
	PFDoDA	307-55-1	ND U	ND U
	PFTrDA	72629-94-8	ND U	ND U
	PFTeDA	376-06-7	ND U	ND U
Sulfonates	PFBS	375-73-5	3.60	3.98
	PFPeS	2706-91-4	0.392 J	0.484 J
	PFHxS	355-46-4	3.02	3.03
	PFHpS	375-92-8	0.258 L	0.146 L
	PFOS	1763-23-1	9.66	11.3
	PFNS	68259-12-1	ND U	ND U
	PFDS	335-77-3	ND U	ND U
	4:2 FTS	757124-72-4	ND U	ND U
	6:2 FTS	27619-97-2	ND U	ND U
	8:2 FTS	39108-34-4	ND U	ND U
Other	PFOSA	754-91-6	ND U	ND U
	N-MeFOSAA	2355-31-9	ND U	ND U
	N-EtFOSAA	2991-50-6	ND U	ND U
	HFPO-DA	13252-13-6	1.29	1.48
	PFMOAA	674-13-5	9.04	10.5
	PFMOPrA	377-73-1	ND U	ND U
	PFO2HxA	39492-88-1	1.97	ND U
	PFO3OA	39492-89-2	ND U	ND U
	PFO4DA	39492-90-5	ND U	ND U
	Nafion Byproduct 1	29311-67-9	ND U	ND U
	ADONA	919005-14-4	ND U	ND U
	9Cl-PF3ONS	756426-58-1	ND U	ND U
	11Cl-PF3OUdS	763051-92-9	ND U	ND U
	10:2 FTS	120226-60-0	ND U	ND U
	EVE Acid	69087-46-3	ND U	ND U
	FBSA	30334-69-1	0.341 J	0.329 J
	Hydro-EVE Acid	773804-62-9	ND U	ND U
	Hydrolyzed PSDA	2416366-19-1	2.34	2.27
	Nafion Byproduct 2	749836-20-2	0.124 L	0.117 L
	N-EtFOSA	4151-50-2	NR	ND U
	N-EtFOSE	1691-99-2	ND U	ND U
	NFDHA	151772-58-6	ND U	ND U
	N-MeFOSA	31506-32-8	ND U	ND U
	N-MeFOSE	24448-09-7	ND U	ND U
	NVHOS	1132933-86-8	1.07	1.17
	PEPA	267239-61-2	0.609	0.863
	PFECA-G	801212-59-9	ND U	ND U
	PFEESA	113507-82-7	ND U	ND U
	PFHxDA	67905-19-5	ND U	0.0616 L
	PFMOBA	863090-89-5	ND U	ND U
	PFO5DA	39492-91-6	ND U	ND U
	PMPA	13140-29-9	2.72	2.73
	R-EVE	2416366-22-6	3.01	2.60
	R-PSDA	2416366-18-0	2.90	2.53
	R-PSDCA	241636-21-5	ND U	ND U

Detailed Results

Enthalpy Analytical

Job No.: 0223-805-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: Northwest Water Plant

Enthalpy ID	0223-805-001-1	Prep Batch	EU14787	Sample Vol (mL)	280.23
Sample Name	022323-SO1	Prep Date	2023-02-27 14:00	Extract Vol (mL)	0.4
Matrix	AQ	Analysis Date	2023-03-01 08:23	Split Factor	N/A
Sampling Date	2023-02-23 07:30	Analyst	bmay	Method Code	WM-026
Received Date	2023-02-23 09:58	Instrument	Aragorn	Sample Type	Sample

	Compound	CAS	Extract Concentration ng/L	Sample Concentration ng/L	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	2594.68	3.70	3.70	0.227	0.571			
	PFPeA	2706-90-3	3594.01	5.13	5.13	0.163	0.571			
	PFHxA	307-24-4	3667.70	5.24	5.24	0.191	0.571			
	PFHpA	375-85-9	1680.65	2.40	2.40	0.200	0.571			
	PFOA	335-67-1	3589.61	5.12	5.12	0.131	0.571			
	PFNA	375-95-1	398.07	0.568	0.568	0.129	0.571			J
	PFDA	335-76-2	102.65	0.147	0.147	0.163	0.571			L
	PFUnDA	2058-94-8	ND	ND	ND	0.129	0.571			U
	PFDoDA	307-55-1	ND	ND	ND	0.232	0.571			U
Sulfonates	PFBS	375-73-5	2522.67	3.60	3.60	0.303	0.571			
	PFPeS	2706-91-4	274.65	0.392	0.392	0.117	0.538			J
	PFHxS	355-46-4	2113.88	3.02	3.02	0.441	0.523			
	PFHpS	375-92-8	180.92	0.258	0.258	0.277	0.544			L
	PFOS	1763-23-1	6766.66	9.66	9.66	0.302	0.529			
	PFNS	68259-12-1	ND	ND	ND	0.177	0.550			U
	PFDS	335-77-3	ND	ND	ND	0.300	0.550			U
	4:2 FTS	757124-72-4	ND	ND	ND	0.0740	0.535			U
	6:2 FTS	27619-97-2	ND	ND	ND	0.269	0.544			U
	8:2 FTS	39108-34-4	ND	ND	ND	0.128	0.547			U
Other	PFOSA	754-91-6	ND	ND	ND	0.0801	0.571			U
	N-MeFOSAA	2355-31-9	ND	ND	ND	0.160	0.571			U
	N-EtFOSAA	2991-50-6	ND	ND	ND	0.232	0.571			U
	HFPO-DA	13252-13-6	906.94	1.29	1.29	0.0605	0.571			U
	PFMOAA	674-13-5	6334.30	9.04	9.04	0.289	0.571			
	PFMOPrA	377-73-1	ND	ND	ND	0.203	0.571			U
	PFO2HxA	39492-88-1	1382.37	1.97	1.97	0.184	0.571			
	PFO3OA	39492-89-2	ND	ND	ND	0.262	0.571			U
	PFO4DA	39492-90-5	ND	ND	ND	0.451	2.85			U
	Nafion Byproduct 1	29311-67-9	ND	ND	ND	0.305	0.571			U
	ADONA	919005-14-4	ND	ND	ND	0.155	0.541			U
	9Cl-PF3ONS	756426-58-1	ND	ND	ND	0.366	0.532			U
	11Cl-PF3OUdS	763051-92-9	ND	ND	ND	0.269	0.538			U
	10:2 FTS	120226-60-0	ND	ND	ND	0.437	0.571			U
	EVE Acid	69087-46-3	ND	ND	ND	0.182	1.28			U
	FBSA	30334-69-1	239.24	0.341	0.341	0.271	0.571			J
	Hydro-EVE Acid	773804-62-9	ND	ND	ND	0.187	0.571			U
	Hydrolyzed PSDA	2416366-19-1	1638.37	2.34	2.34	0.380	0.571			
	Nafion Byproduct 2	749836-20-2	86.65	0.124	0.124	0.473	0.571			L
	NFDHA	151772-58-6	ND	ND	ND	0.120	0.571			U
	NVHOS	1132933-86-8	749.43	1.07	1.07	0.0880	0.571			
	PEPA	267239-61-2	426.61	0.609	0.609	0.107	0.571			
	PFECA-G	801212-59-9	ND	ND	ND	0.0762	0.571			U
	PFEESA	113507-82-7	ND	ND	ND	0.172	0.571			U
	PFMOBA	863090-89-5	ND	ND	ND	0.958	1.28			U
	PFO5DA	39492-91-6	ND	ND	ND	0.457	2.85			U
	PMPA	13140-29-9	1903.71	2.72	2.72	0.135	0.571			
	R-EVE	2416366-22-6	2110.56	3.01	3.01	0.947	1.28			
	R-PSDA	2416366-18-0	2029.04	2.90	2.90	2.52	2.52			
	R-PSDCA	241636-21-5	ND	ND	ND	0.241	0.571			U
ES	MPFBA		5268.24	7.52				20-150%	105.4%	
	M5PFPeA		6778.98	9.68				20-150%	135.6%	
	M3PFBS		7437.41	10.6				20-150%	148.7%	
	M2-4:2 FTS		8558.35	12.2				20-150%	171.2%	Q
	M5PFHxA		5588.27	7.98				20-150%	111.8%	
	M3HFPO-DA		5221.62	7.45				20-150%	104.4%	
	M4PFHpA		5462.20	7.80				20-150%	109.2%	
	M3PFHxS		5073.75	7.24				20-150%	101.5%	
	M2-6:2 FTS		4514.95	6.44				20-150%	90.3%	
	M8PFOA		4758.19	6.79				20-150%	95.2%	
	M9PFNA		3908.92	5.58				20-150%	78.2%	
	M8PFOS		3805.04	5.43				20-150%	76.1%	
	M2-8:2 FTS		2837.06	4.05				20-150%	56.7%	
	M8FOSA-I		1037.22	1.48				20-150%	20.7%	
	M6PFDA		4703.23	6.71				20-150%	94.1%	
	d3-N-MeFOSAA		3480.68	4.97				20-150%	69.6%	
	d5-N-EtFOSAA		2157.41	3.08				20-150%	43.1%	
	M7PFUdA		1925.28	2.75				20-150%	38.5%	
	MPFDoA		639.89	0.913				20-150%	12.8%	Q

Enthalpy Analytical

Job No.: 0223-805-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: Northwest Water Plant

Enthalpy ID	0223-805-001-2	Prep Batch	EU14825	Sample Vol (mL)	274.63
Sample Name	022323-SO1	Prep Date	2023-03-07 10:00	Extract Vol (mL)	0.4
Matrix	AQ	Analysis Date	2023-03-08 13:41	Split Factor	N/A
Sampling Date	2023-02-23 07:30	Analyst	wicleve	Method Code	WM-026
Received Date	2023-02-23 09:58	Instrument	Aragorn	Sample Type	Sample

	Compound	CAS	Extract Concentration ng/L	Sample Concentration ng/L	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFTrDA	72629-94-8	ND	ND	ND	0.193	0.583			U
	PFTeDA	376-06-7	ND	ND	ND	0.222	0.583			U
Other	N-EtFOSA	4151-50-2	NR	NR	NR	0.360	0.583			NR
	N-EtFOSE	1691-99-2	ND	ND	ND	0.892	2.62			U
	N-MeFOSA	31506-32-8	ND	ND	ND	0.240	0.583			U
	N-MeFOSE	24448-09-7	ND	ND	ND	0.553	2.62			U
	PFHxDA	67905-19-5	ND	ND	ND	0.310	0.583			U
ES	M2PFTeDA		149.04	0.217				20-150%	3.0%	Q
	d3-N-MeFOSA		5.30	0.00772				10-200%	0.1%	Q
	d5-N-EtFOSA		NR	NR				10-200%	NR	
	d7-N-MeFOSE		502.20	0.731				10-200%	5.0%	Q
	d9-N-EtFOSE		353.09	0.514				10-200%	3.5%	Q

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Enthalpy Analytical

Job No.: 0223-805-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: Northwest Water Plant

Enthalpy ID	0223-805-002-1	Prep Batch	EU14787	Sample Vol (mL)	281.33
Sample Name	022323-EO1	Prep Date	2023-02-27 14:00	Extract Vol (mL)	0.4
Matrix	AQ	Analysis Date	2023-03-01 08:45	Split Factor	N/A
Sampling Date	2023-02-23 07:30	Analyst	bmay	Method Code	WM-026
Received Date	2023-02-23 09:58	Instrument	Aragorn	Sample Type	Sample

	Compound	CAS	Extract Concentration ng/L	Sample Concentration ng/L	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	1758.88	2.50	2.50	0.226	0.569			
	PFPeA	2706-90-3	4162.85	5.92	5.92	0.163	0.569			
	PFHxA	307-24-4	4015.90	5.71	5.71	0.190	0.569			
	PFHpA	375-85-9	1774.07	2.52	2.52	0.199	0.569			
	PFOA	335-67-1	3500.06	4.98	4.98	0.130	0.569			
	PFNA	375-95-1	406.33	0.578	0.578	0.128	0.569			
	PFDA	335-76-2	163.03	0.232	0.232	0.163	0.569			J
	PFUnDA	2058-94-8	10.67	0.0152	0.0152	0.128	0.569			L
	PFDoDA	307-55-1	ND	ND	ND	0.231	0.569			U
	PFTrDA	72629-94-8	ND	ND	ND	0.188	0.569			U
	PFTeDA	376-06-7	ND	ND	ND	0.217	0.569			U
Sulfonates	PFBS	375-73-5	2799.29	3.98	3.98	0.302	0.569			
	PFPeS	2706-91-4	340.37	0.484	0.484	0.117	0.536			J
	PFHxS	355-46-4	2128.28	3.03	3.03	0.439	0.521			
	PFHpS	375-92-8	102.53	0.146	0.146	0.275	0.542			L
	PFOS	1763-23-1	7933.05	11.3	11.3	0.300	0.527			
	PFNS	68259-12-1	ND	ND	ND	0.176	0.548			U
	PFDS	335-77-3	ND	ND	ND	0.299	0.548			U
	4:2 FTS	757124-72-4	ND	ND	ND	0.0738	0.533			U
	6:2 FTS	27619-97-2	ND	ND	ND	0.268	0.542			U
	8:2 FTS	39108-34-4	ND	ND	ND	0.127	0.545			U
Other	PFOSA	754-91-6	ND	ND	ND	0.0798	0.569			U
	N-MeFOSAA	2355-31-9	ND	ND	ND	0.160	0.569			U
	N-EtFOSAA	2991-50-6	ND	ND	ND	0.231	0.569			U
	HFPO-DA	13252-13-6	1042.55	1.48	1.48	0.0602	0.569			
	PFMOAA	674-13-5	7389.81	10.5	10.5	0.288	0.569			
	PFMOPrA	377-73-1	ND	ND	ND	0.203	0.569			U
	PFO2HxA	39492-88-1	ND	ND	ND	0.183	0.569			U
	PFO3OA	39492-89-2	ND	ND	ND	0.261	0.569			U
	PFO4DA	39492-90-5	ND	ND	ND	0.450	2.84			U
	Nafion Byproduct 1	29311-67-9	ND	ND	ND	0.304	0.569			U
	ADONA	919005-14-4	ND	ND	ND	0.154	0.539			U
	9Cl-PF3ONS	756426-58-1	ND	ND	ND	0.364	0.530			U
	11Cl-PF3OUdS	763051-92-9	ND	ND	ND	0.268	0.536			U
	10:2 FTS	120226-60-0	ND	ND	ND	0.435	0.569			U
	EVE Acid	69087-46-3	ND	ND	ND	0.181	1.28			U
	FBSA	30334-69-1	231.29	0.329	0.329	0.270	0.569			J
	Hydro-EVE Acid	773804-62-9	ND	ND	ND	0.187	0.569			U
	Hydrolyzed PSDA	2416366-19-1	1597.68	2.27	2.27	0.379	0.569			
	Nafion Byproduct 2	749836-20-2	82.34	0.117	0.117	0.471	0.569			L
	N-EtFOSE	1691-99-2	ND	ND	ND	0.871	2.56			U
	NFDHA	151772-58-6	ND	ND	ND	0.120	0.569			U
	N-MeFOSE	24448-09-7	ND	ND	ND	0.540	2.56			U
	NVHOS	1132933-86-8	823.25	1.17	1.17	0.0876	0.569			
	PEPA	267239-61-2	607.29	0.863	0.863	0.107	0.569			
	PFECA-G	801212-59-9	ND	ND	ND	0.0759	0.569			U
	PFEESA	113507-82-7	ND	ND	ND	0.171	0.569			U
	PFMOBA	863090-89-5	ND	ND	ND	0.954	1.28			U
	PFO5DA	39492-91-6	ND	ND	ND	0.455	2.84			U
	PMPA	13140-29-9	1918.34	2.73	2.73	0.134	0.569			
	R-EVE	2416366-22-6	1830.95	2.60	2.60	0.944	1.28			
	R-PSDA	2416366-18-0	1776.66	2.53	2.53	2.51	2.51			
	R-PSDCA	241636-21-5	ND	ND	ND	0.240	0.569			U
ES	MPFBA		5532.61	7.87				20-150%	110.7%	
	M5PFPeA		7378.44	10.5				20-150%	147.6%	
	M3PFBS		9579.91	13.6				20-150%	191.6%	Q
	M2-4:2 FTS		8249.10	11.7				20-150%	165.0%	Q
	M5PFHxA		4514.93	6.42				20-150%	90.3%	
	M3HFPO-DA		4497.72	6.39				20-150%	90.0%	
	M4PFHpA		5233.86	7.44				20-150%	104.7%	
	M3PFHxS		4488.39	6.38				20-150%	89.8%	
	M2-6:2 FTS		5933.08	8.44				20-150%	118.7%	
	M8PFOA		5086.67	7.23				20-150%	101.7%	
	M9PFNA		4934.50	7.02				20-150%	98.7%	
	M8PFOS		4331.90	6.16				20-150%	86.6%	
	M2-8:2 FTS		5301.57	7.54				20-150%	106.0%	
	M8FOSA-I		4011.83	5.70				20-150%	80.2%	
	M6PFDA		5575.53	7.93				20-150%	111.5%	
	d3-N-MeFOSAA		7502.14	10.7				20-150%	150.0%	Q
	d5-N-EtFOSAA		7862.81	11.2				20-150%	157.3%	Q
	M7PFUdA		4711.45	6.70				20-150%	94.2%	
	MPFDoA		4524.39	6.43				20-150%	90.5%	
	M2PFTeDA		2824.06	4.02				20-150%	56.5%	
	d7-N-MeFOSE		5635.82	8.01				10-200%	56.4%	
	d9-N-EtFOSE		4650.22	6.61				10-200%	46.5%	

Enthalpy Analytical

Job No.: 0223-805-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: Northwest Water Plant

Enthalpy ID	0223-805-002-2	Prep Batch	EU14825	Sample Vol (mL)	273.81
Sample Name	022323-EO1	Prep Date	2023-03-07 10:00	Extract Vol (mL)	0.4
Matrix	AQ	Analysis Date	2023-03-08 14:04	Split Factor	N/A
Sampling Date	2023-02-23 07:30	Analyst	wicleve	Method Code	WM-026
Received Date	2023-02-23 09:58	Instrument	Aragorn	Sample Type	Sample

	Compound	CAS	Extract Concentration ng/L	Sample Concentration ng/L	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Other	N-EtFOSA	4151-50-2	ND	ND	ND	0.362	0.584			U
	N-MeFOSA	31506-32-8	ND	ND	ND	0.241	0.584			U
	PFHxDA	67905-19-5	42.16	0.0616	0.0616	0.310	0.584			L
ES	M2PFTeDA		2513.89	3.67				20-150%	50.3%	
	d3-N-MeFOSA		1469.54	2.15				10-200%	14.7%	
	d5-N-EtFOSA		1751.76	2.56				10-200%	17.5%	

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QC Data

ENTHALPY ANALYTICAL

Enthalpy Analytical

Job No.: 0223-805-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: Northwest Water Plant

Enthalpy ID	MB-14787-PFAS	Prep Batch	EU14787	Sample Vol (mL)	250
Sample Name	MB-14787-PFAS	Prep Date	2023-02-27 14:00	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2023-03-01 04:36	Split Factor	N/A
Sampling Date		Analyst	bmay	Method Code	WM-026
Received Date		Instrument	Aragorn	Sample Type	Blank

	Compound	CAS	Extract Concentration ng/L	Sample Concentration ng/L	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	ND	ND	ND	0.254	0.640			U
	PFPeA	2706-90-3	ND	ND	ND	0.183	0.640			U
	PFHxA	307-24-4	ND	ND	ND	0.214	0.640			U
	PFHpA	375-85-9	ND	ND	ND	0.224	0.640			U
	PFOA	335-67-1	ND	ND	ND	0.146	0.640			U
	PFNA	375-95-1	ND	ND	ND	0.145	0.640			U
	PFDA	335-76-2	ND	ND	ND	0.183	0.640			U
	PFUnDA	2058-94-8	ND	ND	ND	0.145	0.640			U
	PFDoDA	307-55-1	ND	ND	ND	0.260	0.640			U
	PFTrDA	72629-94-8	ND	ND	ND	0.212	0.640			U
	PFTeDA	376-06-7	ND	ND	ND	0.244	0.640			U
Sulfonates	PFBS	375-73-5	ND	ND	ND	0.340	0.640			U
	PFPeS	2706-91-4	ND	ND	ND	0.131	0.603			U
	PFHxS	355-46-4	ND	ND	ND	0.494	0.586			U
	PFHpS	375-92-8	ND	ND	ND	0.310	0.610			U
	PFOS	1763-23-1	ND	ND	ND	0.338	0.593			U
	PFNS	68259-12-1	ND	ND	ND	0.199	0.616			U
	PFDS	335-77-3	ND	ND	ND	0.336	0.616			U
	4:2 FTS	757124-72-4	ND	ND	ND	0.0830	0.600			U
	6:2 FTS	27619-97-2	ND	ND	ND	0.302	0.610			U
	8:2 FTS	39108-34-4	ND	ND	ND	0.143	0.613			U
Other	PFOSA	754-91-6	ND	ND	ND	0.0898	0.640			U
	N-MeFOSAA	2355-31-9	28.13	0.0450	0.0450	0.180	0.640			U
	N-EtFOSAA	2991-50-6	ND	ND	ND	0.260	0.640			U
	HFPO-DA	13252-13-6	ND	ND	ND	0.0678	0.640			U
	PFMOAA	674-13-5	ND	ND	ND	0.324	0.640			U
	PFMOPrA	377-73-1	ND	ND	ND	0.228	0.640			U
	PFO2HxA	39492-88-1	ND	ND	ND	0.206	0.640			U
	PFO3OA	39492-89-2	ND	ND	ND	0.294	0.640			U
	PFO4DA	39492-90-5	ND	ND	ND	0.506	3.20			U
	Nafion Byproduct 1	29311-67-9	ND	ND	ND	0.342	0.640			U
	ADONA	919005-14-4	ND	ND	ND	0.173	0.606			U
	9Cl-PF3ONS	756426-58-1	ND	ND	ND	0.410	0.596			U
	11Cl-PF3OUdS	763051-92-9	ND	ND	ND	0.302	0.603			U
	10:2 FTS	120226-60-0	ND	ND	ND	0.490	0.640			U
	EVE Acid	69087-46-3	ND	ND	ND	0.204	1.44			U
	FBSA	30334-69-1	ND	ND	ND	0.304	0.640			U
	Hydro-EVE Acid	773804-62-9	ND	ND	ND	0.210	0.640			U
	Hydrolyzed PSDA	2416366-19-1	ND	ND	ND	0.426	0.640			U
	Nafion Byproduct 2	749836-20-2	ND	ND	ND	0.530	0.640			U
	N-EtFOSE	1691-99-2	ND	ND	ND	0.980	2.88			U
	NFDHA	151772-58-6	ND	ND	ND	0.135	0.640			U
	N-MeFOSE	24448-09-7	ND	ND	ND	0.608	2.88			U
	NVHOS	1132933-86-8	ND	ND	ND	0.0986	0.640			U
	PEPA	267239-61-2	ND	ND	ND	0.120	0.640			U
	PFECA-G	801212-59-9	ND	ND	ND	0.0854	0.640			U
	PFEESA	113507-82-7	ND	ND	ND	0.192	0.640			U
	PFMOBA	863090-89-5	ND	ND	ND	1.07	1.44			U
	PFO5DA	39492-91-6	ND	ND	ND	0.512	3.20			U
	PMPA	13140-29-9	ND	ND	ND	0.151	0.640			U
	R-EVE	2416366-22-6	ND	ND	ND	1.06	1.44			U
	R-PSDA	2416366-18-0	ND	ND	ND	2.82	2.82			U
	R-PSDCA	241636-21-5	ND	ND	ND	0.270	0.640			U
ES	MPFBA		4342.22	6.95				20-150%	86.8%	
	M5PFPeA		4868.16	7.79				20-150%	97.4%	
	M3PFBS		5152.38	8.24				20-150%	103.0%	
	M2-4:2 FTS		6069.67	9.71				20-150%	121.4%	
	M5PFHxA		4566.78	7.31				20-150%	91.3%	
	M3HFPO-DA		4332.38	6.93				20-150%	86.6%	
	M4PFHpA		4620.86	7.39				20-150%	92.4%	
	M3PFHxS		3774.20	6.04				20-150%	75.5%	
	M2-6:2 FTS		3310.80	5.30				20-150%	66.2%	
	M8PFOA		4570.26	7.31				20-150%	91.4%	
	M9PFNA		4072.45	6.52				20-150%	81.4%	
	M8PFOS		3651.78	5.84				20-150%	73.0%	
	M2-8:2 FTS		3067.71	4.91				20-150%	61.4%	
	M8FOSA-I		1306.98	2.09				20-150%	26.1%	
	M6PFDA		4523.51	7.24				20-150%	90.5%	
	d3-N-MeFOSAA		3508.26	5.61				20-150%	70.2%	
	d5-N-EtFOSAA		2417.40	3.87				20-150%	48.3%	
	M7PFUdA		3047.21	4.88				20-150%	60.9%	
	MPFDoA		2063.07	3.30				20-150%	41.3%	
	M2PFTeDA		47.17	0.0755				20-150%	0.9%	Q
	d7-N-MeFOSE		383.72	0.614				10-200%	3.8%	Q
	d9-N-EtFOSE		206.26	0.330				10-200%	2.1%	Q

Enthalpy Analytical

Job No.: 0223-805-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: Northwest Water Plant

Enthalpy ID	MB-14825-PFAS	Prep Batch	EU14825	Sample Vol (mL)	250
Sample Name	MB-14825-PFAS	Prep Date	2023-03-07 22:00	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2023-03-08 12:33	Split Factor	N/A
Sampling Date		Analyst	wicleve	Method Code	WM-026
Received Date		Instrument	Aragorn	Sample Type	Blank

	Compound	CAS	Extract Concentration ng/L	Sample Concentration ng/L	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFTrDA	72629-94-8	ND	ND	ND	0.212	0.640			U
	PFTeDA	376-06-7	ND	ND	ND	0.244	0.640			U
Other	N-EtFOSA	4151-50-2	ND	ND	ND	0.396	0.640			U
	N-EtFOSE	1691-99-2	ND	ND	ND	0.980	2.88			U
	N-MeFOSA	31506-32-8	ND	ND	ND	0.264	0.640			U
	N-MeFOSE	24448-09-7	ND	ND	ND	0.608	2.88			U
	PFHxDA	67905-19-5	ND	ND	ND	0.340	0.640			U
ES	M2PFTeDA		3141.23	5.03				20-150%	62.8%	
	d3-N-MeFOSA		4994.86	7.99				10-200%	49.9%	
	d5-N-EtFOSA		5668.71	9.07				10-200%	56.7%	
	d7-N-MeFOSE		12229.33	19.6				10-200%	122.3%	
	d9-N-EtFOSE		15057.20	24.1				10-200%	150.6%	

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Enthalpy Analytical

Job No.: 0223-805-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: Northwest Water Plant

Enthalpy ID	OPR-14787-PFAS	Prep Batch	EU14787	Sample Vol (mL)	250
Sample Name	OPR-14787-PFAS	Prep Date	2023-02-27 14:00	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2023-03-01 04:58	Split Factor	N/A
Sampling Date		Analyst	bmay	Method Code	WM-026
Received Date		Instrument	Aragorn	Sample Type	Control

	Compound	CAS	Extract Concentration ng/L	Sample Concentration ng/L	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	11104.98	17.8	17.8	0.254	0.640	73-129%	88.8%	
	PFPeA	2706-90-3	10756.58	17.2	17.2	0.183	0.640	72-129%	86.1%	
	PFHxA	307-24-4	11407.46	18.3	18.3	0.214	0.640	72-129%	91.3%	
	PFHpA	375-85-9	10087.63	16.1	16.1	0.224	0.640	72-130%	80.7%	
	PFOA	335-67-1	10505.98	16.8	16.8	0.146	0.640	71-133%	84.0%	
	PFNA	375-95-1	10888.67	17.4	17.4	0.145	0.640	69-130%	87.1%	
	PFDA	335-76-2	9400.47	15.0	15.0	0.183	0.640	71-129%	75.2%	
	PFUnDA	2058-94-8	10297.44	16.5	16.5	0.145	0.640	69-133%	82.4%	
	PFDoDA	307-55-1	9846.08	15.8	15.8	0.260	0.640	72-134%	78.8%	
	PFTrDA	72629-94-8	245719.89	393	393	0.212	0.640	65-144%	1965.8%	Q
	PFTeDA	376-06-7	21346.92	34.2	34.2	0.244	0.640	71-132%	170.8%	Q
Sulfonates	PFBS	375-73-5	8918.39	14.3	14.3	0.340	0.640	72-134%	80.4%	
	PFPeS	2706-91-4	9868.99	15.8	15.8	0.131	0.603	71-127%	83.9%	
	PFHxS	355-46-4	10395.20	16.6	16.6	0.494	0.586	68-131%	91.0%	
	PFHpS	375-92-8	13098.07	21.0	21.0	0.310	0.610	69-134%	110.0%	
	PFOS	1763-23-1	11633.62	18.6	18.6	0.338	0.593	65-140%	100.3%	
	PFNS	68259-12-1	9028.12	14.4	14.4	0.199	0.616	69-127%	75.1%	
	PFDS	335-77-3	6665.49	10.7	10.7	0.336	0.616	53-142%	55.3%	
	4:2 FTS	757124-72-4	9338.71	14.9	14.9	0.0830	0.600	63-143%	79.7%	
	6:2 FTS	27619-97-2	11143.27	17.8	17.8	0.302	0.610	64-140%	93.7%	
	8:2 FTS	39108-34-4	9277.29	14.8	14.8	0.143	0.613	67-138%	77.3%	
Other	PFOSA	754-91-6	8404.46	13.4	13.4	0.0898	0.640	67-137%	67.2%	
	N-MeFOSAA	2355-31-9	11900.35	19.0	19.0	0.180	0.640	65-136%	95.2%	
	N-EtFOSAA	2991-50-6	13527.54	21.6	21.6	0.260	0.640	61-135%	108.2%	
	HFPO-DA	13252-13-6	9680.06	15.5	15.5	0.0678	0.640	70-130%	77.4%	
ES	MPFBA		4487.50	7.18				20-150%	89.7%	
	M5PFPeA		5009.57	8.02				20-150%	100.2%	
	M3PFBS		4806.69	7.69				20-150%	96.1%	
	M2-4:2 FTS		6360.06	10.2				20-150%	127.2%	
	M5PFHxA		4627.24	7.40				20-150%	92.5%	
	M3HFPO-DA		4571.85	7.31				20-150%	91.4%	
	M4PFHpA		4523.32	7.24				20-150%	90.5%	
	M3PFHxS		3867.75	6.19				20-150%	77.4%	
	M2-6:2 FTS		3706.47	5.93				20-150%	74.1%	
	M8PFOA		4362.67	6.98				20-150%	87.3%	
	M9PFNA		3809.04	6.09				20-150%	76.2%	
	M8PFOS		3623.14	5.80				20-150%	72.5%	
	M2-8:2 FTS		3189.92	5.10				20-150%	63.8%	
	M8FOSA-I		1840.64	2.95				20-150%	36.8%	
	M6PFDA		4035.91	6.46				20-150%	80.7%	
	d3-N-MeFOSAA		2491.40	3.99				20-150%	49.8%	
	d5-N-EtFOSAA		1230.23	1.97				20-150%	24.6%	
	M7PFUdA		2805.80	4.49				20-150%	56.1%	
	MPFDoA		1681.12	2.69				20-150%	33.6%	
	M2PFTeDA		15.74	0.0252				20-150%	0.3%	Q

Enthalpy Analytical

Job No.: 0223-805-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: Northwest Water Plant

Enthalpy ID	OPR-14825-PFAS	Prep Batch	EU14825	Sample Vol (mL)	250
Sample Name	OPR-14825-PFAS	Prep Date	2023-03-07 22:00	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2023-03-08 12:56	Split Factor	N/A
Sampling Date		Analyst	wicleve	Method Code	WM-026
Received Date		Instrument	Aragorn	Sample Type	Control

	Compound	CAS	Extract Concentration ng/L	Sample Concentration ng/L	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFTrDA	72629-94-8	18629.16	29.8	29.8	0.212	0.640	65-144%	149.0%	Q
	PFTeDA	376-06-7	17241.28	27.6	27.6	0.244	0.640	71-132%	137.9%	Q
ES	M2PFTeDA		1859.29	2.97				20-150%	37.2%	

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Narrative Summary

Enthalpy Analytical Narrative Summary

Company	Brunswick County Public Utilities - NC
Job No.	0223-805-1 PFAS by Isotope Dilution (non-potable water)
Client ID.	N/A Site: Northwest Water Plant

1. Custody

Summer Banning received the samples on February 23, 2023 at 1.9 °C after being relinquished by Brunswick County Public Utilities - NC. The samples were received in good condition.

Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, LLC.

Table 1 - Sample Inventory

EU Lab Sample ID	Client Sample ID	Matrix
0223-805-001-1	022323-SO1	AQ
0223-805-001-2		
0223-805-002-1	022323-EO1	AQ
0223-805-002-2		

2. Methods and Analytes

A list of analytes of interest and corresponding methods of analysis is shown in Table 3. Abbreviations are defined in the listed Appendices.

Table 3 - Methods and Analytes

EU Method	Analytes	Cleanup Method
EU-047	PFAS Brunswick List	ENVI-Carb

3. Analysis

The samples were analyzed using Waters Acquity UPLC equipped with Xevo TQ MS (LC/MS/MS "Aragorn").

For aqueous samples, the sample volume was measured gravimetrically by the laboratory, and spiked with Extraction Standard (ES). The sample was then mixed well and centrifuged, if needed. The samples were then extracted via SPE, and the extracts were cleaned up using ENVI-Carb.

Each final sample extract was transferred to an autosampler vial, spiked with Injection Standard (IS), and brought to a final volume of 400µL prior to analysis.

4. Calibration

In the initial calibration, the reported analytes exhibited R^2 of ≥ 0.99. The reported analytes in the calibration standards, continuing calibration (concal) and Initial Calibration Verification (ICV) met the 30% accuracy criterion for native analytes.

The Technical Director extended the method criteria for certain non-legacy analytes that do not have their own internal standard and exhibit observed variability during calibration.

Enthalpy Analytical Narrative Summary

Company	Brunswick County Public Utilities - NC
Job No.	0223-805-1 PFAS by Isotope Dilution (non-potable water)
Client ID.	N/A Site: Northwest Water Plant

5. QC Notes

Except where noted below, the QC sample analyses passed all method criteria.

QC samples that did not meet method acceptance criteria were:

OPR-14787-PFAS PFTeDA, OPR-14787-PFAS PFTrDA, OPR-14825-PFAS PFTeDA, OPR-14825-PFAS PFTrDA

Sample 022323-SO1 was re-extracted in batch 14825 to meet method criteria for PFAS: PFTrDA, PFTeDA, N-EtFOSE, N-MeFOSA, N-MeFOSE, and PFHxDA.

Sample 022323-EO1 was re-extracted in batch 14825 to meet method criteria for PFAS: N-EtFOSA, N-MeFOSA, and PFHxDA.

Note: PFAS PFTrDA and PFTeDA fell outside method control limits in the OPR for each batch. These analytes were not detected in their respective batch analyses and are reported without adverse impact.

MB-14787-PFAS d7-N-MeFOSE, MB-14787-PFAS d9-N-EtFOSE, MB-14787-PFAS M2PFTeDA, OPR-14787-PFAS M2PFTeDA

Labeled standards in the QC samples that fell outside the control limits for ES recovery are denoted by the "Q" qualifier. The target analytes are quantified based on their ratio to their labeled standard analogs. As a result, low or high labeled standard recovery does not cause any change to ratios or contribute any additional error in the measurement of the target analyte(s). The data is reported without adverse impact.

The samples were extracted within the 28-day from collection holding time and analyzed within the 28-day from extraction to analysis holding time required by the method.

6. Reporting Notes

This report provides all results including detections below LOD following client instruction.

ES d5-N-EtFOSA was not detected in the Initial extraction batch analysis of sample 022323-SO1. The re-extracted batch analysis for this sample provided similar results. ES d5-N-EtFOSA and it's analyte N-EtFOSA are not reportable and designated as 'NR' in the data results. Insufficient sample remained to re-extract.

Some labeled extraction standards in the sample analyses fell outside the control limits for ES recovery, as denoted by the "Q" qualifier. The target analytes are quantified based on their ratio to their labeled standard analogs. As a result, low or high labeled standard recovery do not cause any change to ratios or contribute any additional error in the measurement of the target analytes. The data have been accepted and reported with no further actions.

Manual integrations were performed on analytes in the ICAL, controls, and samples to correct baseline-to-baseline integration as well as integrate all isomers for compounds that have both linear and branched isomers.

Enthalpy Analytical Narrative Summary

Company	Brunswick County Public Utilities - NC
Job No.	0223-805-1 PFAS by Isotope Dilution (non-potable water)
Client ID.	N/A Site: Northwest Water Plant

The results presented in this report are representative of the samples as provided to the laboratory.

These analyses met the requirements of the TNI Standard. Any deviations from the requirements of the reference method or TNI Standard have been stated above.

Enthalpy Analytical, LLC in Wilmington NC is accredited by the Louisiana Department of Environmental Quality to the 2009 TNI Standard under certificate number 05075.

General Reporting Notes – Data Qualifiers

The following are general reporting notes that are applicable to all Enthalpy Analytical, LLC - Wilmington, NC data reports, unless specifically noted otherwise.

General Data Qualifiers

- B – The analyte was found in the method blank, at a concentration that was at least 10% of the amount in the sample.
- Cxx – Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group ('xx') are shown with the number of the lowest IUPAC co-eluter**.**
- E – The reported concentration exceeds the calibration range (upper point of the calibration curve). For HRMS data, this condition does not imply additional measurement uncertainty. For LC-MS/MS data, these values should be considered as having measurement uncertainty higher than values within the calibration range.
- EDL – Estimated Detection Level: The EDL is unique to isotope dilution methods and reflects the conditions of analysis at the time of analysis, including the equipment used. Where the MDL is a static value, the EDL is a dynamic value.
- EMPC – Estimated Maximum Possible Concentration: EMPC is specific to Dioxin/Furan tests to indicate the determined ion-abundance ratio was outside the allowed theoretical range (usually due to being near the detection limit, although it can very rarely be caused by a co-eluting interference). The EMPC concentration is adjusted to reflect the value at the theoretical ion-abundance ratio.
- IR – The ion ratio between the primary and secondary ions was observed to be outside the method criteria. The analyte concentration may be inaccurate due to interference.
- J – The analyte has a concentration below the minimum calibration level (LOQ value) but greater than the LOD. These values should be considered as having measurement uncertainty higher than values within the calibration range
- L - Indicates that an analyte has a concentration below the Minimum Detection Limit (MDL). The reported concentration is not recommended for regulatory use as the analyte signal may have a signal-to-noise ratio less than the criteria deemed necessary to be considered a detected analyte.
- LOD – Limit of Detection: For reports conforming to the DOD ELAP QSM, this is the QSM-defined LOD. For reports conforming to TNI requirements (but not DOD ELAP QSM requirements), this value is the minimum detection limit (MDL). The LOD is adjusted for sample weight or volume.
- LOQ – Limit of Quantitation: For reports conforming to the DOD ELAP QSM, this is the QSM-defined LOQ. For reports conforming to TNI requirements (but not DOD ELAP QSM requirements), this value is the reporting limit (RL). The LOQ is adjusted for sample weight or volume.

- <LOD() – Analyte was not found at a concentration high enough to be reported as detected. It is reported as less than the LOD, and the LOD is given in the parentheses.
- <LOQ() – Analyte was not found at a concentration high enough to be reported as above the QSM-defined LOQ or TNI defined Reporting Limit. It is reported as less than the LOQ, and the LOQ is given in the parentheses.
- ND – Indicates a non-detect.
- NR – Indicates a value that is not reportable due to issues observed in sample preparation or analysis.
- PR – The associated congener(s) is(are) poorly resolved.
- QI – Indicates the presence of a quantitative interference.
- RL – Reporting Limit. Lowest reportable value. The level is higher than the MDL.
- SI – Denotes "Single Ion Mode" and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
- U – The analyte was not detected.
- V / Q – The labeled standard recovery is not within method control limits.
- X – Indicates the result is from re-injection/repeat/second-column analysis.

Lab Identifiers/ Data Attributes

- AR – Indicates use of the archived portion of the sample extract.
- CU – Indicates a sample that required additional clean-up prior to HRMS injection/processing.
- D – Dilution Data. Result was obtained from the analysis of a dilution. The number that follows the "D" indicates the dilution factor.
- DE – Indicates a dilution performed with the addition of ES (Extraction Standard) solution.
- DUP – Designation for a duplicate sample.
- MS – Designation for a matrix spike.
- MSD – Designation for a matrix spike duplicate.
- R – Indicates a re-extraction of the sample.
- RJ – Indicates a reinjection of the sample extract.

- S – Indicates a sample split. The number that follows the "S" indicates the split factor.
- SAT – Indicates an analyte saturated the detector.

	PFAS Compound Acronym List		
	Acronym	**CAS #**	**Compound Name**
	Target Analytes		
	*** Analyte is not accredited for SOP EU047**		***# Method 537.1 Accredited ^ Method 533 Accredited***
^	PFBA	375-22-4	Perfluorobutanoic Acid
^	PFPeA	2706-90-3	Perfluoropentanoic Acid
#, ^	PFHxA	307-24-4	Perfluorohexanoic Acid
#, ^	PFHpA	375-85-9	Perfluoroheptanoic Acid
#, ^	PFOA	335-67-1	Perfluorooctanoic Acid
#, ^	PFNA	375-95-1	Perfluorononanoic Acid
#, ^	PFDA	335-76-2	Perfluorodecanoic acid
#, ^	PFUnA (PFUnDA)	2058-94-8	Perfluoroundecanoic acid
#, ^	PFDoA (PFDoDA)	307-55-1	Perfluorododecanoic acid
#	PFTrDA (PFTriA)	72629-94-8	Perfluorotridecanoic acid
#	PFTeDA (PFTA)	376-06-7	Perfluorotetradecanoic acid
#, ^	PFBS	375-73-5	Perfluorobutane sulfonic acid
^	PFPeS	2706-91-4	Perfluoropentane sulfonic acid
#, ^	PFHxS	355-46-4	Perfluorohexane sulfonic acid
^	PFHpS	375-92-8	Perfluoroheptane sulfonic acid
#, ^	PFOS	1763-23-1	Perfluorooctane sulfonic acid
	PFNS	68259-12-1	Perfluorononane sulfonic acid
	PFDS	335-77-3	Perfluorodecane sulfonic acid
^	4:2 FTS	757124-72-4	4:2 fluorotelomer sulfonic acid
^	6:2 FTS	27619-97-2	6:2 fluorotelomer sulfonic acid
^	8:2 FTS	39108-34-4	8:2 fluorotelomer sulfonic acid
	PFOSA (FOSA)	754-91-6	Perfluorooctane sulfonamide
#	N-MeFOSAA	2355-31-9	N-methyl perfluorooctane sulfonamido acetic acid
#	N-EtFOSAA	2991-50-6	N-ethyl perfluorooctane sulfonamido acetic acid
#, ^	HFPO-DA	13252-13-6	2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid (Gen-X)
*, #, ^	11Cl-PF3OUdS	763051-92-9	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
*, #, ^	9Cl-PF3ONS	756426-58-1	9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid
*, #, ^	ADONA	919005-14-4	4,8-dioxa-3H-perfluorononanoic acid
*,^	PFEESA	113507-82-7	Perfluoro(2-ethoxyethane)sulphonic acid
*, ^	PFMOBA (PFMBA)	863090-89-5	Perfluoro-4-methoxybutanic acid
*, ^	NFDHA	151772-58-6	Nonafluoro-3,6-dioxaheptanoic acid
*, ^	PFMOPrA (PFMPA)	377-73-1	Perfluoro-3-methoxypropanoic acid
*	PFMOAA	674-13-5	Perfluoro-2-methoxyacetic acid
*	PFO2HxA	39492-88-1	Perfluoro (3,5-dioxahexanoic) acid
*	PFO3OA	39492-89-2	Perfluoro (3,5,7-trioxaoctanoic) acid
*	PFO4DA	39492-90-5	Perfluoro (3,5,7,9-tetraoxadecanoic) acid
*	PFO5DA	39492-91-6	Perfluoro(3,5,7,9,11-pentaoxadodecanoic) acid
*	Nafion Byproduct 1	29311-67-9	Nafion Byproduct 1
*	Nafion Byproduct 2	749836-20-2	Nafion Byproduct 2
*	PEPA	267239-61-2	Perfluoro-2-ethoxypropanoic acid
*	PMPA	13140-29-9	Perfluoro-2-methoxypropanoic acid
*	10:2 FTS	120226-60-0	Fluorotelomer sulfonate 10:2
*	N-EtFOSA	4151-50-2	N-ethylperfluoro-1-octanesulfonamide
*	N-EtFOSE	1691-99-2	2-(N-methylperfluoro-1-octanesulfonamido)-ethanol
*	N-MeFOSA	31506-32-8	N-methylperfluoro-1-octanesulfonamide
*	N-MeFOSE	24448-09-7	2-(N-methylperfluoro-1-octanesulfonamido)-ethanol
*	PFECA-G	801212-59-9	4-(Heptafluoroisopropoxy)hexafluorobutanoic acid
*	PFHxDA	67905-19-5	Perfluorohexadecanoic acid
*	R-PSDA (Nafion Byproduct 4)	2416366-18-0	Perfluoro-4-(2-sulfoethoxy)pentanoic acid

	PFAS Compound Acronym List		
	Acronym	**CAS #**	**Compound Name**
	Target Analytes		
	*** Analyte is not accredited for SOP EU047**	***# Method 537.1 Accredited ^ Method 533 Accredited***	
*	Hydrolyzed PSDA (Nafion Byproduct 5)	2416366-19-1	2-fluoro-2-[1,1,2,3,3,3-hexafluoro-2-(1,1,2,2-tetrafluoro-2-sulfoethoxy)propoxy]-acetic acid
*	R-PSDCA (Nafion Byproduct 6)	2416366-21-5	1,1,2,2-tetrafluoro-2-[1,2,2,3,3-pentafluoro-1-(trifluoromethyl)propoxy] ethanesulfonic acid
*	EVE Acid	69087-46-3	2,2,3,3-tetrafluoro-3-({1,1,1,2,3,3-hexafluoro-3-[(1,2,2-trifluoroethenyl)oxy]propan-2-yl}oxy)propionic acid
*	FBSA	30334-69-1	Perfluorobutylsulfonamide
*	Hydro-EVE Acid	773804-62-9	2,2,3,3-Tetrafluoro-3-{[1,1,1,2,3,3-hexafluoro-3-(1,2,2,2-tetrafluoroethoxy)propan-2-yl]oxy}propanoic acid
*	R-EVE Acid	2416366-22-6	4-(2-carboxy-1,1,2,2-tetrafluoroethoxy)-2,2,3,3,4,5,5,5-octafluoro-pentanoic acid
*	NVHOS	1132933-86-8	Perfluoroethoxysulfonic acid
*	PFDoS	79780-39-5	Perfluorododecane sulfonic acid
*	PFODA	16517-11-6	Perfluorooctadecanoic acid
*	3:3 FTCA	356-02-5	2H,2H,3H,3H-Perfluorohexanoic acid
*	5:3 FTCA	914637-49-3	2H,2H,3H,3H-Perfluorooctanoic acid
*	7:3 FTCA	812-70-4	2H,2H,3H,3H-Perfluorodecanoic acid
*	N-AP-FHxSA	50598-28-2	N-(3-(Dimethylamino)propyl)tridecafluoro-1-hexanesulfonamide
*	N-CMAmP-6:2 FOSA	34455-29-3	N-(Carboxymethyl)-N,N-dimethyl-3-(((3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)sulfonyl)amino)1-propanaminium

Sample Custody

0223-805

Chain of Custody Record

ENTHALPY analytical

Enthalpy Ultratrace Job#: _____ COC Page__1__of__1__

Special Handling:
X Standard Turn Around Time
☐ Rush Turn Around Time -- Date Needed_____
• All Fast TATs Subject to Approval by Enthalpy Analytical, Inc.
• All Samples Disposed of After 6 months Unless Otherwise Instructed.

Enthalpy Analytical-Wilmington, NC has added enhancements to standard methods to improve accuracy, precision and permit an assessment of laboratory performance in the context of your specific data needs. For more information email Cindy.James@enthalpy.com.

Client Name: BRUNSWICK COUNTY UTILITIES
Project Manager: GLENN WALKER
Report To: SAME
Project Number:
Site Name: NORTHWEST WATER PLANT
Location: LELAND N.C.
PO#:
Telephone#:
Email:

This Chain of Custody is applicable to Non-Air samples. Standard TAT differ per analysis and are provided by request.

Client Special Instructions:

Matrix: GW-Groundwater, WW-Wastewater, NW-Non-Potable Water, DW-Drinking Water, S-Soil, SL-Sludge, BT-Biological Tissue, O-Other

Type: G=Grab C=Composite Q=Quality Control

Sample ID	Date	Time	Sample Volume	Type	Matrix	Sample Containers: # of Bottles	# of Jars	# of Bags	# Other	Analyses: Method 1613	Method 8290	Method 1668A/B/C PCB	PFAS by LC/MS/MS	PAHs by HRGC/HRMS	Sample on Hold	Method 23	ALL PFAS	Notes:
022323-SO1	2/23/2023	0730AM	250 ml	G	NW	2											X	
022323-EO1	2/23/2023	0730AM	250 ml	G	DW	2											X	

courier, cooler, on ice, no seals, good condition
EB 2/23/23

Relinquished By:	Date:	Received By:	Date:	Time:	Sample Temperature Upon Receipt:
BILLY BENTON	2/23/2023		2/23/23	9:58	☑ Iced ☐ Ambient °C 1.9 TH
					☐ Iced ☐ Ambient °C_____
					☐ Iced ☐ Ambient °C_____

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