Brunswick County Public Utilities - NC

PO Box 249
Bolivia, NC 28422-0249

LELAND, N.C.

Client Project# NORTHWEST WATER PLANT
Samples Received: 7/3/2024

Analytical Report
0724-742

PFAS by Isotope Dilution (non-potable water)
Custom List

Report Issue Date: 8/5/2024

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 _29_ 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.

Amendment(s):

Signature:

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ENTHALPY ANALYTICAL

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Summary of Results

Enthalpy Analytical

Job No.: 0724-742-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND, N.C.

Summary

	Compound	CAS	070324-SO1 ng/L	070324-EO1 ng/L
Acids	PFBA	375-22-4	4.55	ND U
	PFPeA	2706-90-3	7.41	8.85
	PFHxA	307-24-4	6.18	7.52
	PFHpA	375-85-9	2.57	3.11
	PFOA	335-67-1	5.64	6.38
	PFNA	375-95-1	0.610	0.741
	PFDA	335-76-2	0.476 J	0.370 J
	PFUnDA	2058-94-8	ND U	0.0659 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
	PFHxDA	67905-19-5	ND U	ND U
Sulfonates	PFBS	375-73-5	4.99	4.59
	PFPeS	2706-91-4	0.622	0.521 J
	PFHxS	355-46-4	5.30	4.64
	PFHpS	375-92-8	0.201 L	0.253 L
	PFOS	1763-23-1	14.3	12.7
	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	0.108 L
	8:2 FTS	39108-34-4	ND U	ND U
	10:2 FTS	120226-60-0	ND U	ND U
Sulfonamidos	FBSA	30334-69-1	0.615	0.573
	N-EtFOSA	4151-50-2	ND U	ND U
	N-EtFOSAA	2991-50-6	ND U	ND U
	N-EtFOSE	1691-99-2	ND U	ND U
	N-MeFOSA	31506-32-8	ND U	ND U
	N-MeFOSAA	2355-31-9	ND U	ND U
	N-MeFOSE	24448-09-7	ND U	ND U
	PFOSA	754-91-6	ND U	ND U
PFECAs	ADONA	919005-14-4	ND U	ND U
	EVE Acid	69087-46-3	ND U	ND U
	HFPO-DA	13252-13-6	4.21	5.52
	Hydro-EVE Acid	773804-62-9	ND U	0.00230 L
	NFDHA	151772-58-6	ND U	ND U
	PEPA	267239-61-2	2.00	2.69
	PFECA-G	801212-59-9	ND U	ND U
	PFMOAA	674-13-5	21.9	24.9
	PFMOBA	863090-89-5	ND U	ND U
	PFMOPrA	377-73-1	ND U	ND U
	PFO2HxA	39492-88-1	4.99	6.76
	PFO3OA	39492-89-2	ND U	ND U
	PFO4DA	39492-90-5	ND U	ND U
	PFO5DA	39492-91-6	ND U	ND U
	PMPA	13140-29-9	6.69	7.36
	R-EVE	2416366-22-6	1.43	2.32
PFESAs	11Cl-PF3OUdS	763051-92-9	ND U	ND U
	9Cl-PF3ONS	756426-58-1	ND U	ND U
	Hydrolyzed PSDA	2416366-19-1	1.22	1.84
	Nafion Byproduct 1 (PS Acid)	29311-67-9	ND U	ND U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	0.0793 L	0.0819 L
	NVHOS	1132933-86-8	ND U	ND U
	PFEESA	113507-82-7	ND U	ND U
	R-PSDA	2416366-18-0	2.07 L	3.24
	R-PSDCA	241636-21-5	ND U	ND U

Enthalpy Analytical

Job No.: 0724-742-2 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND, N.C.

Summary

	Compound	CAS	070324-SO1 ng/L	070324-EO1 ng/L
Acids	PFPrA	422-64-0	ND U	ND U

Detailed Results

Enthalpy Analytical

Job No.: 0724-742-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND, N.C.

Enthalpy ID	0724-742-001-1	Prep Batch	EU17743	Sample Vol (mL)	285.56
Sample Name	070324-SO1	Prep Date	2024-07-10 14:00	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-07-11 23:01	Split Factor	N/A
Sampling Date	2024-07-03 13:00	Analyst	jogres	Method Code	EU-047-NPW
Received Date	2024-07-03	Instrument	Sauron	Sample Type	Sample
		Bottle ID	A		

	Compound	CAS	InjFileName	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	S110724016	4.55	0.222	0.560			
	PFPeA	2706-90-3	S110724016	7.41	0.160	0.560			
	PFHxA	307-24-4	S110724016	6.18	0.187	0.560			
	PFHpA	375-85-9	S110724016	2.57	0.196	0.560			
	PFOA	335-67-1	S110724016	5.64	0.128	0.560			
	PFNA	375-95-1	S110724016	0.610	0.127	0.560			
	PFDA	335-76-2	S110724016	0.476	0.160	0.560			J
	PFUnDA	2058-94-8	S110724016	ND	0.127	0.560			U
	PFDoDA	307-55-1	S110724016	ND	0.228	0.560			U
	PFTrDA	72629-94-8	S110724016	ND	0.186	0.560			U
	PFTeDA	376-06-7	S110724016	ND	0.214	0.560			U
	PFHxDA	67905-19-5	S110724016	ND	0.298	0.560			U
Sulfonates	PFBS	375-73-5	S110724016	4.99	0.298	0.560			
	PFPeS	2706-91-4	S110724016	0.622	0.115	0.528			
	PFHxS	355-46-4	S110724016	5.30	0.432	0.513			
	PFHpS	375-92-8	S110724016	0.201	0.271	0.534			L
	PFOS	1763-23-1	S110724016	14.3	0.296	0.519			
	PFNS	68259-12-1	S110724016	ND	0.174	0.540			U
	PFDS	335-77-3	S110724016	ND	0.294	0.540			U
	4:2 FTS	757124-72-4	S110724016	ND	0.0727	0.525			U
	6:2 FTS	27619-97-2	S110724016	ND	0.264	0.534			U
	8:2 FTS	39108-34-4	S110724016	ND	0.126	0.537			U
	10:2 FTS	120226-60-0	S110724016	ND	0.429	0.560			U
Sulfonamidos	FBSA	30334-69-1	S110724016	0.615	0.266	0.560			
	N-EtFOSA	4151-50-2	S110724016	ND	0.347	0.560			U
	N-EtFOSAA	2991-50-6	S110724016	ND	0.228	0.560			U
	N-EtFOSE	1691-99-2	S110724016	ND	0.858	2.52			U
	N-MeFOSA	31506-32-8	S110724016	ND	0.231	0.560			U
	N-MeFOSAA	2355-31-9	S110724016	ND	0.157	0.560			U
	N-MeFOSE	24448-09-7	S110724016	ND	0.532	2.52			U
	PFOSA	754-91-6	S110724016	ND	0.0786	0.560			U
PFECAs	ADONA	919005-14-4	S110724016	ND	0.152	0.531			U
	EVE Acid	69087-46-3	S110724016	ND	0.179	1.26			U
	HFPO-DA	13252-13-6	S110724016	4.21	0.0594	0.560			
	Hydro-EVE Acid	773804-62-9	S110724016	ND	0.184	0.560			U
	NFDHA	151772-58-6	S110724016	ND	0.118	0.560			U
	PEPA	267239-61-2	S110724016	2.00	0.105	0.560			
	PFECA-G	801212-59-9	S110724016	ND	0.0748	0.560			U
	PFMOAA	674-13-5	S110724016	21.9	0.284	0.560			
	PFMOBA	863090-89-5	S110724016	ND	0.940	1.26			U
	PFMOPrA	377-73-1	S110724016	ND	0.200	0.560			U
	PFO2HxA	39492-88-1	S110724016	4.99	0.180	0.560			
	PFO3OA	39492-89-2	S110724016	ND	0.257	0.560			U
	PFO4DA	39492-90-5	S110724016	ND	0.443	2.80			U
	PFO5DA	39492-91-6	S110724016	ND	0.448	2.80			U
	PMPA	13140-29-9	S110724016	6.69	0.132	0.560			
	R-EVE	2416366-22-6	S110724016	1.43	0.930	1.26			
PFESAs	11Cl-PF3OUdS	763051-92-9	S110724016	ND	0.264	0.528			U
	9Cl-PF3ONS	756426-58-1	S110724016	ND	0.359	0.522			U
	Hydrolyzed PSDA	2416366-19-1	S190724079	1.22	0.373	0.560			
	Nafion Byproduct 1 (PS Acid)	29311-67-9	S110724016	ND	0.299	0.560			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	S110724016	0.0793	0.464	0.560			L
	NVHOS	1132933-86-8	S110724016	ND	0.0863	0.560			U
	PFEESA	113507-82-7	S110724016	ND	0.168	0.560			U
	R-PSDA	2416366-18-0	S110724016	2.07	2.47	2.47			L
	R-PSDCA	241636-21-5	S110724016	ND	0.236	0.560			U
ES	MPFBA		S110724016				20-150%	85.4%	
	M5PFPeA		S110724016				20-150%	156.9%	Q
	M3PFBS		S110724016				20-150%	187.2%	Q
	M2-4:2 FTS		S110724016				20-150%	156.8%	Q
	M5PFHxA		S110724016				20-150%	85.7%	
	M3HFPO-DA		S110724016				20-150%	83.4%	
	M4PFHpA		S110724016				20-150%	82.7%	

ES	M3PFHxS		S110724016				20-150%	87.7%	
	M2-6:2 FTS		S110724016				20-150%	116.2%	
	M8PFOA		S110724016				20-150%	84.7%	
	M9PFNA		S110724016				20-150%	81.6%	
	M8PFOS		S110724016				20-150%	78.4%	
	M2-8:2 FTS		S110724016				20-150%	96.8%	
	M8FOSA-I		S110724016				20-150%	51.7%	
	M6PFDA		S110724016				20-150%	88.0%	
	d3-N-MeFOSAA		S110724016				20-150%	105.6%	
	d5-N-EtFOSAA		S110724016				20-150%	102.6%	
	M7PFUdA		S110724016				20-150%	76.9%	
	MPFDoA		S110724016				20-150%	50.8%	
	M2PFTeDA		S110724016				20-150%	18.3%	Q
	d3-N-MeFOSA		S110724016				10-200%	0.7%	Q
	d5-N-EtFOSA		S110724016				10-200%	0.6%	Q
	d7-N-MeFOSE		S110724016				10-200%	34.6%	
	d9-N-EtFOSE		S110724016				10-200%	29.1%	

Enthalpy Analytical

Job No.: 0724-742-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND, N.C.

Enthalpy ID	0724-742-002-1	Prep Batch	EU17743	Sample Vol (mL)	282.44
Sample Name	070324-EO1	Prep Date	2024-07-10 14:00	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-07-11 23:24	Split Factor	N/A
Sampling Date	2024-07-03 13:00	Analyst	jogres	Method Code	EU-047-NPW
Received Date	2024-07-03	Instrument	Sauron	Sample Type	Sample
		Bottle ID	A		

	Compound	CAS	InjFileName	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	S110724017	ND	0.225	0.566			U
	PFPeA	2706-90-3	S110724017	8.85	0.162	0.566			
	PFHxA	307-24-4	S110724017	7.52	0.189	0.566			
	PFHpA	375-85-9	S110724017	3.11	0.198	0.566			
	PFOA	335-67-1	S110724017	6.38	0.130	0.566			
	PFNA	375-95-1	S110724017	0.741	0.128	0.566			
	PFDA	335-76-2	S110724017	0.370	0.162	0.566			J
	PFUnDA	2058-94-8	S110724017	0.0659	0.128	0.566			L
	PFDoDA	307-55-1	S110724017	ND	0.230	0.566			U
	PFTrDA	72629-94-8	S110724017	ND	0.188	0.566			U
	PFTeDA	376-06-7	S110724017	ND	0.216	0.566			U
	PFHxDA	67905-19-5	S110724017	ND	0.301	0.566			U
Sulfonates	PFBS	375-73-5	S110724017	4.59	0.301	0.566			
	PFPeS	2706-91-4	S110724017	0.521	0.116	0.534			J
	PFHxS	355-46-4	S110724017	4.64	0.437	0.519			
	PFHpS	375-92-8	S110724017	0.253	0.274	0.540			L
	PFOS	1763-23-1	S110724017	12.7	0.299	0.525			
	PFNS	68259-12-1	S110724017	ND	0.176	0.546			U
	PFDS	335-77-3	S110724017	ND	0.297	0.546			U
	4:2 FTS	757124-72-4	S110724017	ND	0.0735	0.531			U
	6:2 FTS	27619-97-2	S110724017	0.108	0.267	0.540			L
	8:2 FTS	39108-34-4	S110724017	ND	0.127	0.543			U
	10:2 FTS	120226-60-0	S110724017	ND	0.434	0.566			U
Sulfonamidos	FBSA	30334-69-1	S110724017	0.573	0.269	0.566			
	N-EtFOSA	4151-50-2	S110724017	ND	0.351	0.566			U
	N-EtFOSAA	2991-50-6	S110724017	ND	0.230	0.566			U
	N-EtFOSE	1691-99-2	S110724017	ND	0.867	2.55			U
	N-MeFOSA	31506-32-8	S110724017	ND	0.234	0.566			U
	N-MeFOSAA	2355-31-9	S110724017	ND	0.159	0.566			U
	N-MeFOSE	24448-09-7	S110724017	ND	0.538	2.55			U
	PFOSA	754-91-6	S110724017	ND	0.0795	0.566			U
PFECAs	ADONA	919005-14-4	S110724017	ND	0.153	0.537			U
	EVE Acid	69087-46-3	S110724017	ND	0.181	1.27			U
	HFPO-DA	13252-13-6	S110724017	5.52	0.0600	0.566			
	Hydro-EVE Acid	773804-62-9	S110724017	0.00230	0.186	0.566			L
	NFDHA	151772-58-6	S110724017	ND	0.119	0.566			U
	PEPA	267239-61-2	S110724017	2.69	0.106	0.566			
	PFECA-G	801212-59-9	S110724017	ND	0.0756	0.566			U
	PFMOAA	674-13-5	S110724017	24.9	0.287	0.566			
	PFMOBA	863090-89-5	S110724017	ND	0.951	1.27			U
	PFMOPrA	377-73-1	S110724017	ND	0.202	0.566			U
	PFO2HxA	39492-88-1	S110724017	6.76	0.182	0.566			
	PFO3OA	39492-89-2	S110724017	ND	0.260	0.566			U
	PFO4DA	39492-90-5	S110724017	ND	0.448	2.83			U
	PFO5DA	39492-91-6	S110724017	ND	0.453	2.83			U
	PMPA	13140-29-9	S110724017	7.36	0.133	0.566			
	R-EVE	2416366-22-6	S110724017	2.32	0.940	1.27			
PFESAs	11Cl-PF3OUdS	763051-92-9	S110724017	ND	0.267	0.534			U
	9Cl-PF3ONS	756426-58-1	S110724017	ND	0.363	0.528			U
	Hydrolyzed PSDA	2416366-19-1	S190724080	1.84	0.377	0.566			
	Nafion Byproduct 1 (PS Acid)	29311-67-9	S110724017	ND	0.303	0.566			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	S110724017	0.0819	0.469	0.566			L
	NVHOS	1132933-86-8	S110724017	ND	0.0873	0.566			U
	PFEESA	113507-82-7	S110724017	ND	0.170	0.566			U
	R-PSDA	2416366-18-0	S110724017	3.24	2.50	2.50			
	R-PSDCA	241636-21-5	S110724017	ND	0.239	0.566			U
ES	MPFBA		S110724017				20-150%	84.2%	
	M5PFPeA		S110724017				20-150%	143.0%	
	M3PFBS		S110724017				20-150%	199.5%	Q
	M2-4:2 FTS		S110724017				20-150%	208.6%	Q
	M5PFHxA		S110724017				20-150%	82.7%	
	M3HFPO-DA		S110724017				20-150%	76.1%	
	M4PFHpA		S110724017				20-150%	82.7%	

ES	M3PFHxS		S110724017				20-150%	97.7%	
	M2-6:2 FTS		S110724017				20-150%	133.8%	
	M8PFOA		S110724017				20-150%	92.0%	
	M9PFNA		S110724017				20-150%	88.4%	
	M8PFOS		S110724017				20-150%	88.5%	
	M2-8:2 FTS		S110724017				20-150%	107.7%	
	M8FOSA-I		S110724017				20-150%	75.3%	
	M6PFDA		S110724017				20-150%	94.3%	
	d3-N-MeFOSAA		S110724017				20-150%	118.0%	
	d5-N-EtFOSAA		S110724017				20-150%	115.1%	
	M7PFUdA		S110724017				20-150%	83.0%	
	MPFDoA		S110724017				20-150%	63.1%	
	M2PFTeDA		S110724017				20-150%	32.7%	
	d3-N-MeFOSA		S110724017				10-200%	7.1%	Q
	d5-N-EtFOSA		S110724017				10-200%	7.1%	Q
	d7-N-MeFOSE		S110724017				10-200%	57.2%	
	d9-N-EtFOSE		S110724017				10-200%	49.7%	

Enthalpy Analytical

Job No.: 0724-742-2 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND, N.C.

Enthalpy ID	0724-742-001-1A	Prep Batch	EU17746	Sample Vol (mL)	0.1
Sample Name	070324-SO1	Prep Date	2024-07-10 16:20	Extract Vol (mL)	0.2
Matrix	aqueous	Analysis Date	2024-07-23 18:55	Split Factor	N/A
Sampling Date	2024-07-03 13:00	Analyst	jogres	Method Code	EU-047-NPW
Received Date	2024-07-03	Instrument	Samwise	Sample Type	Sample
		Bottle ID	B		

	Compound	CAS	InjFileName	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFPrA	422-64-0	SW230724-07231455	ND	700	1530			U
ES	13C3-PFPrA		SW230724-07231455				20-150%	111.3%	

Enthalpy Analytical

Job No.: 0724-742-2 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND, N.C.

Enthalpy ID	0724-742-002-1A	Prep Batch	EU17746	Sample Vol (mL)	0.1
Sample Name	070324-EO1	Prep Date	2024-07-10 16:20	Extract Vol (mL)	0.2
Matrix	aqueous	Analysis Date	2024-07-23 19:07	Split Factor	N/A
Sampling Date	2024-07-03 13:00	Analyst	jogres	Method Code	EU-047-NPW
Received Date	2024-07-03	Instrument	Samwise	Sample Type	Sample
		Bottle ID	B		

	Compound	CAS	InjFileName	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFPrA	422-64-0	SW230724-07231507	ND	700	1530			U
ES	13C3-PFPrA		SW230724-07231507				20-150%	108.9%	

QC Data

ENTHALPY
ANALYTICAL

Enthalpy Analytical

Job No.: 0724-742-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND, N.C.

Enthalpy ID	MB_17743_PFAS	Prep Batch	EU17743	Sample Vol (mL)	250
Sample Name	MB_17743_PFAS	Prep Date	2024-07-10 14:00	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-07-11 18:06	Split Factor	N/A
Sampling Date		Analyst	jogres	Method Code	EU-047-NPW
Received Date		Instrument	Sauron	Sample Type	Blank
		Bottle ID	-		

	Compound	CAS	InjFileName	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	S110724003	ND	0.254	0.640			U
	PFPeA	2706-90-3	S110724003	ND	0.183	0.640			U
	PFHxA	307-24-4	S110724003	ND	0.214	0.640			U
	PFHpA	375-85-9	S110724003	ND	0.224	0.640			U
	PFOA	335-67-1	S110724003	ND	0.146	0.640			U
	PFNA	375-95-1	S110724003	ND	0.145	0.640			U
	PFDA	335-76-2	S110724003	ND	0.183	0.640			U
	PFUnDA	2058-94-8	S110724003	ND	0.145	0.640			U
	PFDoDA	307-55-1	S110724003	ND	0.260	0.640			U
	PFTrDA	72629-94-8	S110724003	ND	0.212	0.640			U
	PFTeDA	376-06-7	S110724003	ND	0.244	0.640			U
	PFHxDA	67905-19-5	S110724003	ND	0.340	0.640			U
Sulfonates	PFBS	375-73-5	S110724003	ND	0.340	0.640			U
	PFPeS	2706-91-4	S110724003	ND	0.131	0.603			U
	PFHxS	355-46-4	S110724003	ND	0.494	0.586			U
	PFHpS	375-92-8	S110724003	ND	0.310	0.610			U
	PFOS	1763-23-1	S110724003	ND	0.338	0.593			U
	PFNS	68259-12-1	S110724003	ND	0.199	0.616			U
	PFDS	335-77-3	S110724003	ND	0.336	0.616			U
	4:2 FTS	757124-72-4	S110724003	ND	0.0830	0.600			U
	6:2 FTS	27619-97-2	S110724003	ND	0.302	0.610			U
	8:2 FTS	39108-34-4	S110724003	ND	0.143	0.613			U
	10:2 FTS	120226-60-0	S110724003	ND	0.490	0.640			U
Sulfonamidos	FBSA	30334-69-1	S110724003	ND	0.304	0.640			U
	N-EtFOSA	4151-50-2	S110724003	ND	0.396	0.640			U
	N-EtFOSAA	2991-50-6	S110724003	ND	0.260	0.640			U
	N-EtFOSE	1691-99-2	S110724003	ND	0.980	2.88			U
	N-MeFOSA	31506-32-8	S110724003	ND	0.264	0.640			U
	N-MeFOSAA	2355-31-9	S110724003	ND	0.180	0.640			U
	N-MeFOSE	24448-09-7	S110724003	ND	0.608	2.88			U
	PFOSA	754-91-6	S110724003	ND	0.0898	0.640			U
PFECAs	ADONA	919005-14-4	S110724003	ND	0.173	0.606			U
	EVE Acid	69087-46-3	S110724003	ND	0.204	1.44			U
	HFPO-DA	13252-13-6	S110724003	ND	0.0678	0.640			U
	Hydro-EVE Acid	773804-62-9	S110724003	ND	0.210	0.640			U
	NFDHA	151772-58-6	S110724003	ND	0.135	0.640			U
	PEPA	267239-61-2	S110724003	ND	0.120	0.640			U
	PFECA-G	801212-59-9	S110724003	ND	0.0854	0.640			U
	PFMOAA	674-13-5	S110724003	ND	0.324	0.640			U
	PFMOBA	863090-89-5	S110724003	ND	1.07	1.44			U
	PFMOPrA	377-73-1	S110724003	ND	0.228	0.640			U
	PFO2HxA	39492-88-1	S110724003	ND	0.206	0.640			U
	PFO3OA	39492-89-2	S110724003	ND	0.294	0.640			U
	PFO4DA	39492-90-5	S110724003	ND	0.506	3.20			U
	PFO5DA	39492-91-6	S110724003	ND	0.512	3.20			U
	PMPA	13140-29-9	S110724003	ND	0.151	0.640			U
	R-EVE	2416366-22-6	S110724003	ND	1.06	1.44			U
PFESAs	11Cl-PF3OUdS	763051-92-9	S110724003	ND	0.302	0.603			U
	9Cl-PF3ONS	756426-58-1	S110724003	ND	0.410	0.596			U
	Hydrolyzed PSDA	2416366-19-1	S190724075	ND	0.426	0.640			U
	Nafion Byproduct 1 (PS Acid)	29311-67-9	S110724003	ND	0.342	0.640			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	S110724003	ND	0.530	0.640			U
	NVHOS	1132933-86-8	S110724003	ND	0.0986	0.640			U
	PFEESA	113507-82-7	S110724003	ND	0.192	0.640			U
	R-PSDA	2416366-18-0	S110724003	ND	2.82	2.82			U
	R-PSDCA	241636-21-5	S110724003	ND	0.270	0.640			U
ES	MPFBA		S110724003				20-150%	91.3%	
	M5PFPeA		S110724003				20-150%	91.7%	
	M3PFBS		S110724003				20-150%	84.3%	
	M2-4:2 FTS		S110724003				20-150%	114.7%	
	M5PFHxA		S110724003				20-150%	94.9%	
	M3HFPO-DA		S110724003				20-150%	95.8%	
	M4PFHpA		S110724003				20-150%	92.0%	

Enthalpy Analytical

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Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND, N.C.

ES	M3PFHxS		S110724003				20-150%	100.1%	
	M2-6:2 FTS		S110724003				20-150%	119.1%	
	M8PFOA		S110724003				20-150%	94.3%	
	M9PFNA		S110724003				20-150%	85.4%	
	M8PFOS		S110724003				20-150%	90.4%	
	M2-8:2 FTS		S110724003				20-150%	101.1%	
	M8FOSA-I		S110724003				20-150%	55.5%	
	M6PFDA		S110724003				20-150%	93.1%	
	d3-N-MeFOSAA		S110724003				20-150%	113.3%	
	d5-N-EtFOSAA		S110724003				20-150%	103.7%	
	M7PFUdA		S110724003				20-150%	91.5%	
	MPFDoA		S110724003				20-150%	71.9%	
	M2PFTeDA		S110724003				20-150%	44.1%	
	d3-N-MeFOSA		S110724003				10-200%	0.1%	Q
	d5-N-EtFOSA		S110724003				10-200%	0.4%	Q
	d7-N-MeFOSE		S110724003				10-200%	49.6%	
	d9-N-EtFOSE		S110724003				10-200%	48.5%	

Enthalpy Analytical

Job No.: 0724-742-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND, N.C.

Enthalpy ID	OPR_17743_PFAS	Prep Batch	EU17743	Sample Vol (mL)	250
Sample Name	OPR_17743_PFAS	Prep Date	2024-07-10 14:00	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-07-11 18:29	Split Factor	N/A
Sampling Date		Analyst	jogres	Method Code	EU-047-NPW
Received Date		Instrument	Sauron	Sample Type	Control
		Bottle ID	-		

	Compound	CAS	InjFileName	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	S110724004	19.0	0.254	0.640	69.1-122%	94.9%	
	PFPeA	2706-90-3	S110724004	21.1	0.183	0.640	68.5-121%	105.7%	
	PFHxA	307-24-4	S110724004	21.3	0.214	0.640	68.3-121%	106.6%	
	PFHpA	375-85-9	S110724004	21.3	0.224	0.640	62.4-128%	106.4%	
	PFOA	335-67-1	S110724004	21.5	0.146	0.640	66.3-124%	107.6%	
	PFNA	375-95-1	S110724004	20.8	0.145	0.640	70.5-120%	104.2%	
	PFDA	335-76-2	S110724004	20.2	0.183	0.640	68.9-117%	101.1%	
	PFUnDA	2058-94-8	S110724004	20.3	0.145	0.640	58.1-132%	101.5%	
	PFDoDA	307-55-1	S110724004	22.2	0.260	0.640	52.1-140%	110.9%	
	PFTrDA	72629-94-8	S110724004	36.5	0.212	0.640	65-144%	182.4%	Q
	PFTeDA	376-06-7	S110724004	19.5	0.244	0.640	36.1-161%	97.3%	
Sulfonates	PFBS	375-73-5	S110724004	17.2	0.340	0.640	67.5-111.6%	97.2%	
	PFPeS	2706-91-4	S110724004	16.1	0.131	0.603	51.8-142%	85.6%	
	PFHxS	355-46-4	S110724004	16.5	0.494	0.586	59.6-128%	90.5%	
	PFHpS	375-92-8	S110724004	21.0	0.310	0.610	46.9-157%	110.3%	
	PFOS	1763-23-1	S110724004	16.9	0.338	0.593	59.2-132%	90.9%	
	PFNS	68259-12-1	S110724004	17.1	0.199	0.616	53.9-133%	89.0%	
	PFDS	335-77-3	S110724004	14.7	0.336	0.616	38.1-142%	75.9%	
	4:2 FTS	757124-72-4	S110724004	18.4	0.0830	0.600	61.9-131%	98.2%	
	6:2 FTS	27619-97-2	S110724004	17.3	0.302	0.610	62.3-129%	91.1%	
	8:2 FTS	39108-34-4	S110724004	20.5	0.143	0.613	37.5-159%	106.7%	
Sulfonamidos	N-EtFOSAA	2991-50-6	S110724004	20.6	0.260	0.640	61.5-133%	103.0%	
	N-MeFOSAA	2355-31-9	S110724004	19.6	0.180	0.640	57.3-138%	98.0%	
	PFOSA	754-91-6	S110724004	20.3	0.0898	0.640	49.1-143%	101.5%	
PFECAs	HFPO-DA	13252-13-6	S110724004	19.6	0.0678	0.640	57.2-130%	98.1%	
ES	MPFBA		S110724004				20-150%	95.5%	
	M5PFPeA		S110724004				20-150%	97.4%	
	M3PFBS		S110724004				20-150%	91.1%	
	M2-4:2 FTS		S110724004				20-150%	130.2%	
	M5PFHxA		S110724004				20-150%	97.3%	
	M3HFPO-DA		S110724004				20-150%	102.8%	
	M4PFHpA		S110724004				20-150%	93.0%	
	M3PFHxS		S110724004				20-150%	119.1%	
	M2-6:2 FTS		S110724004				20-150%	142.2%	
	M8PFOA		S110724004				20-150%	96.5%	
	M9PFNA		S110724004				20-150%	81.1%	
	M8PFOS		S110724004				20-150%	93.3%	
	M2-8:2 FTS		S110724004				20-150%	95.6%	
	M8FOSA-I		S110724004				20-150%	64.1%	
	M6PFDA		S110724004				20-150%	93.9%	
	d3-N-MeFOSAA		S110724004				20-150%	108.7%	
	d5-N-EtFOSAA		S110724004				20-150%	100.9%	
	M7PFUdA		S110724004				20-150%	81.6%	
	MPFDoA		S110724004				20-150%	62.3%	
	M2PFTeDA		S110724004				20-150%	29.4%	

Enthalpy Analytical

Job No.: 0724-742-2 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND, N.C.

Enthalpy ID	MB_17746_PFAS	Prep Batch	EU17746	Sample Vol (mL)	0.1
Sample Name	MB_17746_PFAS	Prep Date	2024-07-10 16:20	Extract Vol (mL)	0.2
Matrix	aqueous	Analysis Date	2024-07-23 18:07	Split Factor	N/A
Sampling Date		Analyst	jogres	Method Code	EU-047-NPW
Received Date		Instrument	Samwise	Sample Type	Blank
		Bottle ID	-		

	Compound	CAS	InjFileName	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFPrA	422-64-0	SW230724-07231407	ND	700	1530			U
ES	13C3-PFPrA		SW230724-07231407				20-150%	115.6%	

Enthalpy Analytical

Job No.: 0724-742-2 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND, N.C.

Enthalpy ID	OPR_17746_PFAS	Prep Batch	EU17746	Sample Vol (mL)	0.08
Sample Name	OPR_17746_PFAS	Prep Date	2024-07-10 16:20	Extract Vol (mL)	0.2
Matrix	aqueous	Analysis Date	2024-07-23 18:19	Split Factor	N/A
Sampling Date		Analyst	jogres	Method Code	EU-047-NPW
Received Date		Instrument	Samwise	Sample Type	Control
		Bottle ID	-		

	Compound	CAS	InjFileName	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFPrA	422-64-0	SW230724-07231419	18700	875	1910	40-150%	74.8%	
ES	13C3-PFPrA		SW230724-07231419				20-150%	105.6%	

Narrative Summary

Enthalpy Analytical Narrative Summary

Company	Brunswick County Public Utilities - NC
Job No.	0724-742
Client ID.	NORTHWEST WATER PLANT Site: LELAND, N.C.

1. Custody

Jayson-Shane Santos received the samples at 13.7 °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	Received
0724-742-001-1	070324-SO1	aqueous	2024-07-03
0724-742-001-1A	070324-SO1	aqueous	2024-07-03
0724-742-002-1	070324-EO1	aqueous	2024-07-03
0724-742-002-1A	070324-EO1	aqueous	2024-07-03

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	Custom List	ENVI-Carb

3. Analysis

The samples were analyzed using Sciex Triple Quad 7500 (LC/MS/MS "Samwise") and Waters Acquity UPLC equipped with Xevo TQ MS (LC/MS/MS "Sauron").

The samples were analyzed in more than one analytical sequence in order to include all of the analytes of interest and to meet method acceptance criteria.

4. Calibration

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

Enthalpy Analytical Narrative Summary

Company	Brunswick County Public Utilities - NC
Job No.	0724-742
Client ID.	NORTHWEST WATER PLANT Site: LELAND, N.C.

5. QC Notes

Ongoing Precision Recovery (OPR) control limits have not been established for some analytes of interest.

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

PFTrDA exceeded method recovery criteria in the ongoing precision recovery (OPR) QC sample but was not detected >LOQ in the samples. Data is reported without adverse impact.

Select extraction standards (ES) fell outside method recovery criteria in the (MB) QC sample. Target analytes are quantified based on their ratio to their labeled standard analogs. When detected at a signal-to-noise above 10:1 the ES peak area is used to quantify its respective target analyte using accepted isotope dilution principles. The data is reported without adverse impact.

PFAS by Isotope Dilution (non-potable water) samples were extracted within 28 days, and extracts analyzed within 28 days.

6. Reporting Notes

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

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.

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

- Ac - Alternate calculation flag indicates the es recovery was calculated using the opening concal when either of the following situations is encountered in the data processing software: the ES recovery is over 400% or the JS is not detected.
- 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.
- I/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 - For reports containing PFAS analytes only, this flag 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.

General Reporting Notes – Data Qualifiers

- 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
	* accredited for SOP EU047 / EPA method 1633		*# Method 537.1 Accredited ^ Method 533 Accredited ~EPA 1633 extended list*
	Target Analytes		
~	PFPrA	422-64-0	2,2,3,3,3-Pentafluoropropionic acid
*, ^	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
~	PFPrS (PFPS)	423-41-6	Perfluoropropanesulfonic 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
~	10:2 FTS	120226-60-0	Fluorotelomer sulfonate 10:2
~	FHxSA	41997-13-1	Perfluorohexanesulfonamide
*	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 (PS Acid)	29311-67-9	Nafion Byproduct 1
~	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	Nafion Byproduct 2
~	PEPA	267239-61-2	Perfluoro-2-ethoxypropanoic acid
~	PMPA	13140-29-9	Perfluoro-2-methoxypropanoic acid
*	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

	PFAS Compound Acronym List		
	Acronym	**CAS #**	**Compound Name**
	*** accredited for SOP EU047 / EPA method 1633**		***# Method 537.1 Accredited ^ Method 533 Accredited ~EPA 1633 extended list***
~	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
~	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
~	MeFBSA	68298-12-4	1-Butanesulfonamide; (N-(Methyl)nonafluorobutanesulfonamide)
~	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
~	BPAF	1478-61-1	Bisphenol AF
~	HQ-115	90076-65-6	Bis(trifluoromethane)sulfonimide lithium salt

Sample Custody

ENTHALPY
ANALYTICAL

ENTHALPY analytical

0724-742 Chain of Custody Record

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 Number:_____ PO#:_____

Project Manager:_GLENN WALKER_____ Site Name:_NORTHWEST WATER PLANT_____ Telephone#:_____

Report To:__SAME_____ Location:_LELAND N.C._____ 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:
070324-SO1	7/3/2024	1300PM	250 ml	G	NW	2											X	Please Add PFPrA and
070324-EO1	7/3/2024	1300PM	250 ml	G	DW	2											X	PFHpA To The Testing.
																		Mark Hager Knows About
																		This If you Have Questions

Relinquished By	Date	Received By	Date	Time	Sample Temperature Upon Receipt
BILLY BENTON	7/3/2024		7/3/24	13:33	☑ Iced ☐ Ambient °C 13.7°
					☐ Iced ☐ Ambient °C_____
					☐ Iced ☐ Ambient °C_____

2714 Exchange Drive • Wilmington, NC 28405 • (910) 212-5858 • www.enthalpy.com

JOB ID: 0724-742 Date / Time: 7/3/24 13:37 Initials: S.S.

OR

Client: Brunswick County Utilities

Cooler 1 of 1

Temp °C: 13.7 Thermometer ID: T15

Received via	Check one		Check one			Yes	No
FedEx ☐	On ice:	☑	in a Box:	☐	Cooler seals:	☐	☑
UPS ☐	Melted ice:	☐	in a Cooler:	☑	Sample seals:	☐	☑
DHL ☐	Ambient:	☐	Cooler in Box:	☐	Good condition:	☑	☐
USPS ☐							
Courier ☑							
Other ☐							

Comment:

Cooler of

Temp °C: Thermometer ID:

Received via	Check one		Check one			Yes	No
FedEx ☐	On ice:	☐	in a Box:	☐	Cooler seals:	☐	☐
UPS ☐	Melted ice:	☐	in a Cooler:	☐	Sample seals:	☐	☐
DHL ☐	Ambient:	☐	Cooler in Box:	☐	Good condition:	☐	☐
USPS ☐							
Courier ☐							
Other ☐							

Comment:

Cooler of

Temp °C: Thermometer ID:

Received via	Check one		Check one			Yes	No
FedEx ☐	On ice:	☐	in a Box:	☐	Cooler seals:	☐	☐
UPS ☐	Melted ice:	☐	in a Cooler:	☐	Sample seals:	☐	☐
DHL ☐	Ambient:	☐	Cooler in Box:	☐	Good condition:	☐	☐
USPS ☐							
Courier ☐							
Other ☐							

Comment:

This Is The Last Page Of This Report.

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