

Brunswick County Public Utilities - NC

PO Box 249
Bolivia, NC 28422-0249

LELAND, N.C.

Client Project# NORTHWEST WATER PLANT
Samples Received: 6/7/2024

Analytical Report 0624-737

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

Report Issue Date: 7/9/2024

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 28 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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Summary of Results

Enthalpy Analytical

Job No.: 0624-737-1 PFAS by Isotope Dilution (non-potable water)

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

Summary

	Compound	CAS	060724-SO1 ng/L	060724-EO1 ng/L	
Acids	PFBA	375-22-4	3.53	ND U	
	PFPrA	422-64-0	NR	NR	
	PFPeA	2706-90-3	6.97	6.24	
	PFHxA	307-24-4	6.12	5.75	
	PFHpA	375-85-9	2.51	2.61	
	PFOA	335-67-1	5.96	5.42	
	PFNA	375-95-1	0.950	0.733	
	PFDA	335-76-2	0.487 J	0.388 J	
	PFUnDA	2058-94-8	0.0684 L	ND U	
	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	3.55	3.53
		PFPeS	2706-91-4	0.487 J	0.509 J
PFHxS		355-46-4	3.58	3.44	
PFHpS		375-92-8	0.374 J	0.235 L	
PFOS		1763-23-1	12.2	10.9	
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	0.189 L	0.207 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	0.160 L	0.244 L	
	N-EFOSA	4151-50-2	ND U	ND U	
	N-EFOSAA	2991-50-6	ND U	ND U	
	N-EFOSE	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	1.76	1.68	
Hydro-EVE Acid		773804-62-9	ND U	ND U	
NFDHA		151772-58-6	ND U	ND U	
PEPA		267239-61-2	1.13	1.34	
PFECA-G		801212-59-9	ND U	ND U	
PFMOAA		674-13-5	10.7	14.8	
PFMOBA		863090-89-5	ND U	ND U	
PFMOPrA		377-73-1	ND U	ND U	
PFO2HxA		39492-88-1	2.62	ND U	
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	2.86	3.08	
R-EVE		2416366-22-6	1.47	1.77	
PFESAs	11Cl-PF3OUdS	763051-92-9	ND U	ND U	
	9Cl-PF3ONS	756426-58-1	ND U	ND U	
	Hydrolyzed PSDA	2416366-19-1	0.311 L	0.348 L	
	Nafion Byproduct 1 (PS Acid)	29311-67-9	ND U	ND U	
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	0.303 L	0.249 L	
	NVHOS	1132933-86-8	ND U	ND U	
	PFEESA	113507-82-7	ND U	ND U	
	R-PSDA	2416366-18-0	1.26 L	1.30 L	
R-PSDCA	2416366-21-5	ND U	ND U		

Detailed Results

Enthalpy Analytical

Job No.: 0624-737-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	0624-737-001-1	Prep Batch	EU17585	Sample Vol (mL)	293.92
Sample Name	060724-SO1	Prep Date	2024-06-13 15:13	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-06-17 09:49	Split Factor	N/A
Sampling Date	2024-06-07 11:35	Analyst	rappelle	Method Code	EU-047-NPW
Received Date	2024-06-07	Instrument	Sauron	Sample Type	Sample
		Bottle ID	A		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags	
Acids	PFBA	375-22-4	S160624057	3.53	0.216	0.544				
	PFPrA	422-64-0	NA	NR	NA	NA			NR	
	PFPeA	2706-90-3	S160624057	6.97	0.156	0.544				
	PFHxA	307-24-4	S160624057	6.12	0.182	0.544				
	PFHpA	375-85-9	S160624057	2.51	0.191	0.544				
	PFOA	335-67-1	S160624057	5.96	0.125	0.544				
	PFNA	375-95-1	S160624057	0.950	0.123	0.544				
	PFDA	335-76-2	S160624057	0.487	0.156	0.544			J	
	PFUnDA	2058-94-8	S160624057	0.0684	0.123	0.544			L	
	PFDoDA	307-55-1	S160624057	ND	0.221	0.544			U	
	PFHxDA	67905-19-5	S160624057	ND	0.289	0.544			U	
	Sulfonates	PFBS	375-73-5	S160624057	3.55	0.289	0.544			
		PFPeS	2706-91-4	S160624057	0.487	0.112	0.513			J
PFHxS		355-46-4	S160624057	3.58	0.420	0.499				
PFHpS		375-92-8	S160624057	0.374	0.264	0.519			J	
PFOS		1763-23-1	S160624057	12.2	0.287	0.504				
PFNS		68259-12-1	S160624057	ND	0.169	0.524			U	
PFDS		335-77-3	S160624057	ND	0.286	0.524			U	
4:2 FTS		757124-72-4	S160624057	ND	0.0706	0.510			U	
6:2 FTS		27619-97-2	S160624057	0.189	0.257	0.519			L	
8:2 FTS		39108-34-4	S160624057	ND	0.122	0.521			U	
10:2 FTS		120226-60-0	S160624057	ND	0.417	0.544			U	
Sulfonamidos	FBSA	30334-69-1	S160624057	0.160	0.259	0.544			L	
	N-EtFOSA	4151-50-2	S160624057	ND	0.337	0.544			U	
	N-EtFOSAA	2991-50-6	S160624057	ND	0.221	0.544			U	
	N-EtFOSE	1691-99-2	S160624057	ND	0.834	2.45			U	
	N-MeFOSA	31506-32-8	S160624057	ND	0.225	0.544			U	
	N-MeFOSAA	2355-31-9	S160624057	ND	0.153	0.544			U	
	N-MeFOSE	24448-09-7	S160624057	ND	0.517	2.45			U	
	PFOSA	754-91-6	S160624057	ND	0.0764	0.544			U	
PFECAs	ADONA	919005-14-4	S160624057	ND	0.147	0.516			U	
	EVE Acid	69087-46-3	S160624057	ND	0.174	1.22			U	
	HFPO-DA	13252-13-6	S160624057	1.76	0.0577	0.544				
	Hydro-EVE Acid	773804-62-9	S160624057	ND	0.179	0.544			U	
	NFDHA	151772-58-6	S160624057	ND	0.114	0.544			U	
	PEPA	267239-61-2	S160624057	1.13	0.102	0.544				
	PFECA-G	801212-59-9	S160624057	ND	0.0726	0.544			U	
	PFMOAA	674-13-5	S160624057	10.7	0.276	0.544				
	PFMOBA	863090-89-5	S160624057	ND	0.914	1.22			U	
	PFMOPrA	377-73-1	S160624057	ND	0.194	0.544			U	
	PFO2HxA	39492-88-1	S160624057	2.62	0.175	0.544				
	PFO3OA	39492-89-2	S160624057	ND	0.250	0.544			U	
	PFO4DA	39492-90-5	S160624057	ND	0.430	2.72			U	
	PFO5DA	39492-91-6	S160624057	ND	0.435	2.72			U	
	PMPA	13140-29-9	S160624057	2.86	0.128	0.544				
	R-EVE	2416366-22-6	S220624005	1.47	0.903	1.22				
	PFESAs	11Cl-PF3OUdS	763051-92-9	S160624057	ND	0.257	0.513			U
9Cl-PF3ONS		756426-58-1	S160624057	ND	0.349	0.507			U	
Hydrolyzed PSDA		2416366-19-1	S220624005	0.311	0.362	0.544			L	
Nafion Byproduct 1 (PS Acid)		29311-67-9	S160624057	ND	0.291	0.544			U	
Nafion Byproduct 2 (Hydro-PS Acid)		749836-20-2	S160624057	0.303	0.451	0.544			L	
NVHOS		1132933-86-8	S220624005	ND	0.0839	0.544			U	
PFEESA		113507-82-7	S160624057	ND	0.164	0.544			U	
R-PSDA		2416366-18-0	S220624005	1.26	2.40	2.40			L	
R-PSDCA		241636-21-5	S220624005	ND	0.230	0.544			U	
ES		MPFBA		S160624057				20-150%	84.5%	
	M5PFPeA		S160624057				20-150%	140.2%		
	M3PFBS		S160624057				20-150%	68.9%		
	M2-4:2 FTS		S160624057				20-150%	125.8%		
	M5PFHxA		S160624057				20-150%	94.6%		
	M3HFPO-DA		S160624057				20-150%	107.7%		

Enthalpy Analytical

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

ES	M4PFHpA		S160624057			20-150%	86.4%	
	M3PFHxS		S160624057			20-150%	82.2%	
	M2-6:2 FTS		S160624057			20-150%	65.3%	
	M8PFOA		S160624057			20-150%	63.8%	
	M9PFNA		S160624057			20-150%	41.6%	
	M8PFOS		S160624057			20-150%	43.9%	
	M2-8:2 FTS		S160624057			20-150%	41.8%	
	M8FOSA-I		S160624057			20-150%	6.1%	Q
	M6PFDA		S160624057			20-150%	30.9%	
	d3-N-MeFOSAA		S160624057			20-150%	32.4%	
	d5-N-EiFOSAA		S160624057			20-150%	29.9%	
	M7PFUdA		S160624057			20-150%	19.2%	Q
	MPFDoA		S160624057			20-150%	12.4%	Q
	d3-N-MeFOSA		S160624057			10-200%	0.7%	Q
	d5-N-EiFOSA		S160624057			10-200%	0.5%	Q
	d7-N-MeFOSE		S160624057			10-200%	3.9%	Q
	d9-N-EiFOSE		S160624057			10-200%	2.1%	Q

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Job No.: 0624-737-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	0624-737-001-1A	Prep Batch	EU17624	Sample Vol (mL)	295.76
Sample Name	060724-SO1	Prep Date	2024-06-21 10:55	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-06-22 02:53	Split Factor	N/A
Sampling Date	2024-06-07 11:35	Analyst	jogres	Method Code	EU-047-NPW
Received Date	2024-06-07	Instrument	Pippin	Sample Type	Sample
		Bottle ID	B		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFTrDA	72629-94-8	P2106924024	ND	0.179	0.541			U
	PFPrA	422-64-0	NA	NR	NA	NA			NR
	PFTeDA	376-06-7	P2106924024	ND	0.206	0.541			U
ES	M2PFTeDA		P2106924024				20-150%	7.4%	Q

Enthalpy Analytical

Job No.: 0624-737-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	0624-737-002-1	Prep Batch	EU17585	Sample Vol (mL)	292.75
Sample Name	060724-EO1	Prep Date	2024-06-13 15:13	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-06-17 10:12	Split Factor	N/A
Sampling Date	2024-06-07 11:35	Analyst	rappelle	Method Code	EU-047-NPW
Received Date	2024-06-07	Instrument	Sauron	Sample Type	Sample
		Bottle ID	A		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags	
Acids	PFBA	375-22-4	S160624058	ND	0.217	0.547			U	
	PFPrA	422-64-0	NA	NR	NA	NA			NR	
	PFPeA	2706-90-3	S160624058	6.24	0.156	0.547				
	PFHxA	307-24-4	S160624058	5.75	0.183	0.547				
	PFHpA	375-85-9	S160624058	2.61	0.191	0.547				
	PFOA	335-67-1	S160624058	5.42	0.125	0.547				
	PFNA	375-95-1	S160624058	0.733	0.123	0.547				
	PFDA	335-76-2	S160624058	0.388	0.156	0.547			J	
	PFUnDA	2058-94-8	S160624058	ND	0.123	0.547			U	
	PFDoDA	307-55-1	S160624058	ND	0.222	0.547			U	
	PFHxDA	67905-19-5	S160624058	ND	0.290	0.547			U	
	Sulfonates	PFBS	375-73-5	S160624058	3.53	0.290	0.547			
		PFPeS	2706-91-4	S160624058	0.509	0.112	0.515			J
		PFHxS	355-46-4	S160624058	3.44	0.422	0.501			
PFHpS		375-92-8	S160624058	0.235	0.265	0.521			L	
PFOS		1763-23-1	S160624058	10.9	0.289	0.506				
PFNS		68259-12-1	S160624058	ND	0.170	0.526			U	
PFDS		335-77-3	S160624058	ND	0.287	0.526			U	
4:2 FTS		757124-72-4	S160624058	ND	0.0709	0.512			U	
6:2 FTS		27619-97-2	S160624058	0.207	0.258	0.521			L	
8:2 FTS		39108-34-4	S160624058	ND	0.122	0.524			U	
10:2 FTS		120226-60-0	S160624058	ND	0.418	0.547			U	
Sulfonamidos	FBSA	30334-69-1	S160624058	0.244	0.260	0.547			L	
	N-EtFOSA	4151-50-2	S160624058	ND	0.338	0.547			U	
	N-EtFOSAA	2991-50-6	S160624058	ND	0.222	0.547			U	
	N-EtFOSE	1691-99-2	S160624058	ND	0.837	2.46			U	
	N-MeFOSA	31506-32-8	S160624058	ND	0.225	0.547			U	
	N-MeFOSAA	2355-31-9	S160624058	ND	0.154	0.547			U	
	N-MeFOSE	24448-09-7	S160624058	ND	0.519	2.46			U	
	PFOSA	754-91-6	S160624058	ND	0.0767	0.547			U	
PFECAs	ADONA	919005-14-4	S160624058	ND	0.148	0.518			U	
	EVE Acid	69087-46-3	S160624058	ND	0.174	1.23			U	
	HFPO-DA	13252-13-6	S160624058	1.68	0.0579	0.547				
	Hydro-EVE Acid	773804-62-9	S160624058	ND	0.179	0.547			U	
	NFDHA	151772-58-6	S160624058	ND	0.115	0.547			U	
	PEPA	267239-61-2	S160624058	1.34	0.102	0.547				
	PFECA-G	801212-59-9	S160624058	ND	0.0729	0.547			U	
	PFMOAA	674-13-5	S160624058	14.8	0.277	0.547				
	PFMOBA	863090-89-5	S160624058	ND	0.917	1.23			U	
	PFMOPrA	377-73-1	S160624058	ND	0.195	0.547			U	
	PFO2HxA	39492-88-1	S160624058	ND	0.176	0.547			U	
	PFO3OA	39492-89-2	S160624058	ND	0.251	0.547			U	
	PFO4DA	39492-90-5	S160624058	ND	0.432	2.73			U	
	PFO5DA	39492-91-6	S160624058	ND	0.437	2.73			U	
	PMPA	13140-29-9	S160624058	3.08	0.129	0.547				
	R-EVE	2416366-22-6	S220624006	1.77	0.907	1.23				
	PFESAs	11Cl-PF3OUdS	763051-92-9	S160624058	ND	0.258	0.515			U
9Cl-PF3ONS		756426-58-1	S160624058	ND	0.350	0.509			U	
Hydrolyzed PSDA		2416366-19-1	S220624006	0.348	0.364	0.547			L	
Nafion Byproduct 1 (PS Acid)		29311-67-9	S160624058	ND	0.292	0.547			U	
Nafion Byproduct 2 (Hydro-PS Acid)		749836-20-2	S160624058	0.249	0.453	0.547			L	
NVHOS		1132933-86-8	S220624006	ND	0.0842	0.547			U	
PFESAs		113507-82-7	S160624058	ND	0.164	0.547			U	
R-PSDA		2416366-18-0	S220624006	1.30	2.41	2.41			L	
R-PSDCA		241636-21-5	S220624006	ND	0.231	0.547			U	
ES	MPFBA		S160624058				20-150%	77.3%		
	M5PFPeA		S160624058				20-150%	126.5%		
	M3PFBS		S160624058				20-150%	69.8%		
	M2-4:2 FTS		S160624058				20-150%	165.9%	Q	
	M5PFHxA		S160624058				20-150%	89.7%		
	M3HFPO-DA		S160624058				20-150%	94.1%		

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

ES	M4PFHpA		S160624058				20-150%	76.4%	
	M3PFHxS		S160624058				20-150%	77.5%	
	M2-6:2 FTS		S160624058				20-150%	79.8%	
	M8PFOA		S160624058				20-150%	66.8%	
	M9PFNA		S160624058				20-150%	54.5%	
	M8PFOS		S160624058				20-150%	56.2%	
	M2-8:2 FTS		S160624058				20-150%	59.2%	
	M8FOSA-I		S160624058				20-150%	23.3%	
	M6PFDA		S160624058				20-150%	39.4%	
	d3-N-MeFOSAA		S160624058				20-150%	40.8%	
	d5-N-EiFOSAA		S160624058				20-150%	33.3%	
	M7PFUdA		S160624058				20-150%	15.3%	Q
	MPFDoA		S160624058				20-150%	5.6%	Q
	d3-N-MeFOSA		S160624058				10-200%	1.8%	Q
	d5-N-EiFOSA		S160624058				10-200%	1.9%	Q
	d7-N-MeFOSE		S160624058				10-200%	13.9%	
	d9-N-EiFOSE		S160624058				10-200%	10.0%	

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

Enthalpy ID	0624-737-002-1A	Prep Batch	EU17624	Sample Vol (mL)	295.07
Sample Name	060724-EO1	Prep Date	2024-06-21 10:55	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-06-22 03:16	Split Factor	N/A
Sampling Date	2024-06-07 11:35	Analyst	jogres	Method Code	EU-047-NPW
Received Date	2024-06-07	Instrument	Pippin	Sample Type	Sample
		Bottle ID	B		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFTeDA	72629-94-8	P2106924025	ND	0.180	0.542			U
	PFPrA	422-64-0	NA	NR	NA	NA			NR
	PFTeDA	376-06-7	P2106924025	ND	0.207	0.542			U
ES	M2PFTeDA		P2106924025				20-150%	30.3%	

QC Data

Enthalpy Analytical

Job No.: 0624-737-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	MB_17585_PFAS	Prep Batch	EU17585	Sample Vol (mL)	250
Sample Name	MB_17585_PFAS	Prep Date	2024-06-13 15:13	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-06-17 02:38	Split Factor	N/A
Sampling Date		Analyst	rappelle	Method Code	EU-047-NPW
Received Date		Instrument	Sauron	Sample Type	Blank
		Bottle ID	-		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags	
Acids	PFBA	375-22-4	S160624038	ND	0.254	0.640			U	
	PFPrA	422-64-0	NA	NR	NA	NA			NR	
	PFPeA	2706-90-3	S160624038	ND	0.183	0.640			U	
	PFHxA	307-24-4	S160624038	ND	0.214	0.640			U	
	PFHpA	375-85-9	S160624038	ND	0.224	0.640			U	
	PFOA	335-67-1	S160624038	0.00210	0.146	0.640			L	
	PFNA	375-95-1	S160624038	ND	0.145	0.640			U	
	PFDA	335-76-2	S160624038	ND	0.183	0.640			U	
	PFUnDA	2058-94-8	S160624038	ND	0.145	0.640			U	
	PFDoDA	307-55-1	S160624038	ND	0.260	0.640			U	
	PFHxDA	67905-19-5	S160624038	ND	0.340	0.640			U	
	Sulfonates	PFBS	375-73-5	S160624038	ND	0.340	0.640			U
		PFPeS	2706-91-4	S160624038	ND	0.131	0.603			U
		PFHxS	355-46-4	S160624038	ND	0.494	0.586			U
PFHpS		375-92-8	S160624038	ND	0.310	0.610			U	
PFOS		1763-23-1	S160624038	ND	0.338	0.593			U	
PFNS		68259-12-1	S160624038	ND	0.199	0.616			U	
PFDS		335-77-3	S160624038	ND	0.336	0.616			U	
4:2 FTS		757124-72-4	S160624038	ND	0.0830	0.600			U	
6:2 FTS		27619-97-2	S160624038	ND	0.302	0.610			U	
8:2 FTS		39108-34-4	S160624038	ND	0.143	0.613			U	
10:2 FTS	120226-60-0	S160624038	ND	0.490	0.640			U		
Sulfonamidos	FBSA	30334-69-1	S160624038	ND	0.304	0.640			U	
	N-EtFOSA	4151-50-2	S160624038	ND	0.396	0.640			U	
	N-EtFOSAA	2991-50-6	S160624038	ND	0.260	0.640			U	
	N-EtFOSE	1691-99-2	S160624038	ND	0.980	2.88			U	
	N-MeFOSA	31506-32-8	S160624038	ND	0.264	0.640			U	
	N-MeFOSAA	2355-31-9	S160624038	ND	0.180	0.640			U	
	N-MeFOSE	24448-09-7	S160624038	ND	0.608	2.88			U	
	PFOSA	754-91-6	S160624038	ND	0.0898	0.640			U	
PFECAs	ADONA	919005-14-4	S160624038	ND	0.173	0.606			U	
	EVE Acid	69087-46-3	S160624038	ND	0.204	1.44			U	
	HFPO-DA	13252-13-6	S160624038	ND	0.0678	0.640			U	
	Hydro-EVE Acid	773804-62-9	S160624038	ND	0.210	0.640			U	
	NFDHA	151772-58-6	S160624038	ND	0.135	0.640			U	
	PEPA	267239-61-2	S160624038	ND	0.120	0.640			U	
	PFECA-G	801212-59-9	S160624038	ND	0.0854	0.640			U	
	PFMOAA	674-13-5	S160624038	ND	0.324	0.640			U	
	PFMOBA	863090-89-5	S160624038	ND	1.07	1.44			U	
	PFMOPrA	377-73-1	S160624038	ND	0.228	0.640			U	
	PFO2HxA	39492-88-1	S160624038	ND	0.206	0.640			U	
	PFO3OA	39492-89-2	S160624038	ND	0.294	0.640			U	
	PFO4DA	39492-90-5	S160624038	ND	0.506	3.20			U	
	PFO5DA	39492-91-6	S160624038	ND	0.512	3.20			U	
	PMPA	13140-29-9	S160624038	ND	0.151	0.640			U	
	R-EVE	2416366-22-6	S220624003	ND	1.06	1.44			U	
PFESAs	11Cl-PF3OUdS	763051-92-9	S160624038	ND	0.302	0.603			U	
	9Cl-PF3ONS	756426-58-1	S160624038	ND	0.410	0.596			U	
	Hydrolyzed PSDA	2416366-19-1	S220624003	ND	0.426	0.640			U	
	Nafion Byproduct 1 (PS Acid)	29311-67-9	S160624038	ND	0.342	0.640			U	
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	S160624038	ND	0.530	0.640			U	
	NVHOS	1132933-86-8	S220624003	ND	0.0986	0.640			U	
	PFESAs	113507-82-7	S160624038	ND	0.192	0.640			U	
	R-PSDA	2416366-18-0	S220624003	ND	2.82	2.82			U	
	R-PSDCA	241636-21-5	S220624003	ND	0.270	0.640			U	
	ES	MPFBA		S160624038				20-150%	89.1%	
M5PFPeA			S160624038				20-150%	90.4%		
M3PFBS			S160624038				20-150%	35.1%		
M2-4:2 FTS			S160624038				20-150%	107.0%		
M5PFHxA			S160624038				20-150%	99.5%		
M3HFPO-DA			S160624038				20-150%	128.6%		

Enthalpy Analytical

Job No.: 0624-737-1 PFAS by Isotope Dilution (non-potable water)

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

ES	M4PFHpA		S160624038			20-150%	98.1%	
	M3PFHxS		S160624038			20-150%	101.7%	
	M2-6:2 FTS		S160624038			20-150%	103.7%	
	M8PFOA		S160624038			20-150%	96.2%	
	M9PFNA		S160624038			20-150%	89.6%	
	M8PFOS		S160624038			20-150%	97.4%	
	M2-8:2 FTS		S160624038			20-150%	137.7%	
	M8FOSA-I		S160624038			20-150%	55.8%	
	M6PFDA		S160624038			20-150%	92.7%	
	d3-N-MeFOSAA		S160624038			20-150%	114.8%	
	d5-N-EiFOSAA		S160624038			20-150%	113.3%	
	M7PFUdA		S160624038			20-150%	85.3%	
	MPFDoA		S160624038			20-150%	86.6%	
	d3-N-MeFOSA		S160624038			10-200%	0.1%	Q
	d5-N-EiFOSA		S160624038			10-200%	0.1%	Q
	d7-N-MeFOSE		S160624038			10-200%	44.1%	
	d9-N-EiFOSE		S160624038			10-200%	33.8%	

Enthalpy Analytical

Job No.: 0624-737-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	MB_17624_PFAS	Prep Batch	EU17624	Sample Vol (mL)	250
Sample Name	MB_17624_PFAS	Prep Date	2024-06-21 10:55	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-06-21 23:52	Split Factor	N/A
Sampling Date		Analyst	jogres	Method Code	EU-047-NPW
Received Date		Instrument	Pippin	Sample Type	Blank
		Bottle ID	-		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFTrDA	72629-94-8	P2106924016	ND	0.212	0.640			U
	PFPrA	422-64-0	NA	NR	NA	NA			NR
	PFTeDA	376-06-7	P2106924016	ND	0.244	0.640			U
ES	M2PFTeDA		P2106924016				20-150%	12.7%	Q

Enthalpy Analytical

Job No.: 0624-737-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	OPR_17585_PFAS	Prep Batch	EU17585	Sample Vol (mL)	250
Sample Name	OPR_17585_PFAS	Prep Date	2024-06-13 15:13	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-06-17 03:01	Split Factor	N/A
Sampling Date		Analyst	rappelle	Method Code	EU-047-NPW
Received Date		Instrument	Sauron	Sample Type	Control
		Bottle ID	-		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	S160624039	22.6	0.254	0.640	69.1-122%	113.2%	
	PFPeA	2706-90-3	S160624039	21.1	0.183	0.640	68.5-121%	105.5%	
	PFHxA	307-24-4	S160624039	21.2	0.214	0.640	68.3-121%	106.2%	
	PFHpA	375-85-9	S160624039	19.8	0.224	0.640	62.4-128%	98.9%	
	PFOA	335-67-1	S160624039	18.8	0.146	0.640	66.3-124%	93.8%	
	PFNA	375-95-1	S160624039	19.7	0.145	0.640	70.5-120%	98.3%	
	PFDA	335-76-2	S160624039	19.3	0.183	0.640	68.9-117%	96.3%	
	PFUnDA	2058-94-8	S160624039	20.0	0.145	0.640	58.1-132%	100.0%	
	PFDoDA	307-55-1	S160624039	20.8	0.260	0.640	52.1-140%	104.2%	
	Sulfonates	PFBS	375-73-5	S160624039	17.5	0.340	0.640	67.5-111.6%	98.6%
PFPeS		2706-91-4	S160624039	17.9	0.131	0.603	51.8-142%	94.9%	
PFHxS		355-46-4	S160624039	16.1	0.494	0.586	59.6-128%	88.2%	
PFHpS		375-92-8	S160624039	16.8	0.310	0.610	46.9-157%	88.0%	
PFOS		1763-23-1	S160624039	16.3	0.338	0.593	59.2-132%	88.0%	
PFNS		68259-12-1	S160624039	19.8	0.199	0.616	53.9-133%	103.0%	
PFDS		335-77-3	S160624039	20.0	0.336	0.616	38.1-142%	103.8%	
4:2 FTS		757124-72-4	S160624039	17.7	0.0830	0.600	61.9-131%	94.2%	
6:2 FTS		27619-97-2	S160624039	20.1	0.302	0.610	62.3-129%	105.6%	
8:2 FTS		39108-34-4	S160624039	19.0	0.143	0.613	37.5-159%	99.2%	
Sulfonamidos	N-EtFOSAA	2991-50-6	S160624039	20.4	0.260	0.640	61.5-133%	102.2%	
	N-MeFOSAA	2355-31-9	S160624039	19.4	0.180	0.640	57.3-138%	97.1%	
	PFOSA	754-91-6	S160624039	17.4	0.0898	0.640	49.1-143%	86.9%	
PFECAs	HFPO-DA	13252-13-6	S160624039	17.5	0.0678	0.640	57.2-130%	87.3%	
ES	MPFBA		S160624039				20-150%	86.0%	
	M5PFPeA		S160624039				20-150%	92.1%	
	M3PFBS		S160624039				20-150%	34.7%	
	M2-4:2 FTS		S160624039				20-150%	99.9%	
	M5PFHxA		S160624039				20-150%	95.2%	
	M3HFPO-DA		S160624039				20-150%	119.1%	
	M4PFHpA		S160624039				20-150%	95.5%	
	M3PFHxS		S160624039				20-150%	93.7%	
	M2-6:2 FTS		S160624039				20-150%	94.6%	
	M8PFOA		S160624039				20-150%	95.7%	
	M9PFNA		S160624039				20-150%	85.3%	
	M8PFOS		S160624039				20-150%	95.1%	
	M2-8:2 FTS		S160624039				20-150%	128.6%	
	M8FOSA-I		S160624039				20-150%	63.1%	
	M6PFDA		S160624039				20-150%	94.9%	
	d3-N-MeFOSAA		S160624039				20-150%	110.7%	
	d5-N-EtFOSAA		S160624039				20-150%	107.1%	
	M7PFUDa		S160624039				20-150%	86.1%	
	MPFDoA		S160624039				20-150%	87.7%	

Enthalpy Analytical

Job No.: 0624-737-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	OPR_17624_PFAS	Prep Batch	EU17624	Sample Vol (mL)	250
Sample Name	OPR_17624_PFAS	Prep Date	2024-06-21 10:55	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-06-22 00:15	Split Factor	N/A
Sampling Date		Analyst	jogres	Method Code	EU-047-NPW
Received Date		Instrument	Pippin	Sample Type	Control
		Bottle ID	-		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFTrDA	72629-94-8	P2106924017	30.8	0.212	0.640	65-144%	154.0%	Q
	PFTeDA	376-06-7	P2106924017	18.6	0.244	0.640	36.1-161%	93.1%	
ES	M2PFTeDA		P2106924017				20-150%	38.0%	

Narrative Summary

Enthalpy Analytical Narrative Summary

Company	Brunswick County Public Utilities - NC
Job No.	0624-737
Client ID.	NORTHWEST WATER PLANT Site: LELAND, N.C.

1. Custody

Cherith McCullagh received the samples at 6.8 °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
0624-737-001-1	060724-SO1	aqueous	2024-06-07
0624-737-001-1A	060724-SO1	aqueous	2024-06-07
0624-737-002-1	060724-EO1	aqueous	2024-06-07
0624-737-002-1A	060724-EO1	aqueous	2024-06-07

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 Waters Acquity UPLC equipped with Xevo TQ MS (LC/MS/MS "Pippin" and "Sauron").

The samples were analyzed using more than one extraction batch and analytical sequence 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.

5. QC Notes

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

Enthalpy Analytical Narrative Summary

Company	Brunswick County Public Utilities - NC
Job No.	0624-737
Client ID.	NORTHWEST WATER PLANT Site: LELAND, N.C.

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

PFPrA was detected > 1/2 LOQ in the method blank. Results were confirmed in the re-extraction batch. Insufficient sample remained to re-extract. PFPrA is not reportable (NR) in this data set.

- OPR_17624_PFAS (PFTTrDA) exceeds method recovery criteria. This analyte was not detected >LOQ in the samples; therefore, the data is reportable without adverse impact.

Select surrogates (ES) fell outside method recovery criteria in the method blank (MB) and/or OPR. 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.

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

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.



General Reporting Notes – Data Qualifiers

- 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-chloroheptafluoro-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-methoxybutanoic 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-dioxaheptanoic) 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

0624-737



Chain of Custody Record

Enthalpy Ultratrace Job#: _____ COC Page 1 of 1

Special Handling:

- 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				Analyses						Notes:			
						# of Bottles	# of Jars	# of Bags	# Other	Method 1613	Method 8290	Method 1668A/B/C PCE	PFAS by LC/MS/MS	PAHs by HRGC/HRMS	Sample on Hold		Method 23	ALL PFAS	
060724-SO1	6/7/2024	1135AM	250 ml	G	NW	2												X	Please Add PFPrA and
060724-EO1	6/7/2024	1135AM	250 ml	G	DW	2												X	PFHpA To The Testing.
																			Mark Hager Knows About
																			This If you Have Questions

Relinquished By:	Date: <u>6/7/2024</u>	Received By: <u>C. McCallaghan</u>	Date: <u>6-7-24</u>	Time: <u>14:36</u>	Sample Temperature Upon Receipt: <input checked="" type="checkbox"/> Iced <input type="checkbox"/> Ambient °C <u>6.8</u>
					<input type="checkbox"/> Iced <input type="checkbox"/> Ambient °C _____
					<input type="checkbox"/> Iced <input type="checkbox"/> Ambient °C _____

JOB ID: 0624-737 Date / Time: 6/7/24 14:36 Initials: C.A.M
 OR
 Client: Brunswick Co. Utilities

Temp °C: 6.8 Thermometer ID: T16 Cooler 1 of 1

Received via	<i>Check one</i>		<i>Check one</i>			
	On ice:	<input checked="" type="checkbox"/>	in a Box:	<input type="checkbox"/>	Yes	No
	Melted ice:	<input type="checkbox"/>	in a Cooler:	<input checked="" type="checkbox"/>	Cooler seals:	<input type="checkbox"/> <input checked="" type="checkbox"/>
	Ambient:	<input type="checkbox"/>	Cooler in Box:	<input type="checkbox"/>	Sample seals:	<input type="checkbox"/> <input checked="" type="checkbox"/>
					Good condition:	<input checked="" type="checkbox"/> <input type="checkbox"/>

Received via:
 FedEx
 UPS
 DHL
 USPS
 Courier
 Other

Comment:

Temp °C: Thermometer ID: Cooler of

Received via	<i>Check one</i>		<i>Check one</i>			
	On ice:	<input type="checkbox"/>	in a Box:	<input type="checkbox"/>	Yes	No
	Melted ice:	<input type="checkbox"/>	in a Cooler:	<input type="checkbox"/>	Cooler seals:	<input type="checkbox"/> <input type="checkbox"/>
	Ambient:	<input type="checkbox"/>	Cooler in Box:	<input type="checkbox"/>	Sample seals:	<input type="checkbox"/> <input type="checkbox"/>
					Good condition:	<input type="checkbox"/> <input type="checkbox"/>

Received via:
 FedEx
 UPS
 DHL
 USPS
 Courier
 Other

Comment:

Temp °C: Thermometer ID: Cooler of

Received via	<i>Check one</i>		<i>Check one</i>			
	On ice:	<input type="checkbox"/>	in a Box:	<input type="checkbox"/>	Yes	No
	Melted ice:	<input type="checkbox"/>	in a Cooler:	<input type="checkbox"/>	Cooler seals:	<input type="checkbox"/> <input type="checkbox"/>
	Ambient:	<input type="checkbox"/>	Cooler in Box:	<input type="checkbox"/>	Sample seals:	<input type="checkbox"/> <input type="checkbox"/>
					Good condition:	<input type="checkbox"/> <input type="checkbox"/>

Received via:
 FedEx
 UPS
 DHL
 USPS
 Courier
 Other

Comment:

**This Is The Last Page
Of This Report.**