

# Brunswick County Public Utilities

PO Box 249  
Bolivia, NC 28422-0249

## Northwest Water Plant Leland, N.C.

Samples Received: 5/3/2024

### Analytical Report 0524-730

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

Report Issue Date: 6/3/2024

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 24 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:



Amanda Valois, QA Associate



Enthalpy Analytical, LLC – Ultratrace  
Christina Kurnath, Project Manager  
chkurnath@montrose-env.com / www.enthalpy.com  
O: 910-876-6895  
2714 Exchange Drive, Wilmington, NC 28405

# Summary of Results

## Enthalpy Analytical

Job No.: 0524-730-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Northwest Water Plant Leland, N.C.

### Summary

	Compound	CAS	050324-SO1 ng/L	050324-EO1 ng/L
Acids	PFPPrA	422-64-0	10.5	9.21
	PFBA	375-22-4	ND U	ND U
	PFPeA	2706-90-3	4.16	4.79
	PFHxA	307-24-4	4.93	5.61
	PFHpA	375-85-9	2.05	2.32
	PFOA	335-67-1	4.65	4.37
	PFNA	375-95-1	0.525 J	0.409 J
	PFDA	335-76-2	0.150 L	0.182 J
	PFUnDA	2058-94-8	ND U	ND U
	PFDoDA	307-55-1	ND U	ND U
	PFTTrDA	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	2.99
PFPeS		2706-91-4	0.519 J	0.683
PFHxS		355-46-4	3.73	3.57
PFHpS		375-92-8	0.337 J	0.238 L
PFOS		1763-23-1	9.91	10.7
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	0.0956 L	ND U
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	0.299 J	0.319 J
	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	0.0580 L	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	4.34	4.19
	Hydro-EVE Acid	773804-62-9	0.0717 L	0.0758 L
	NFDHA	151772-58-6	ND U	ND U
	PEPA	267239-61-2	2.12	1.77
	PFECA-G	801212-59-9	ND U	ND U
	PFMOAA	674-13-5	19.1	22.7
	PFMOBA	863090-89-5	ND U	ND U
	PFMOPrA	377-73-1	ND U	ND U
	PFO2HxA	39492-88-1	5.15	5.55
	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	7.09	8.14
	R-EVE	2416366-22-6	7.25	7.81
	PFESAs	11Cl-PF3OUdS	763051-92-9	ND U
9Cl-PF3ONS		756426-58-1	ND U	ND U
Hydrolyzed PSDA		2416366-19-1	1.80	2.15
Nafion Byproduct 1 (PS Acid)		29311-67-9	ND U	ND U
Nafion Byproduct 2 (Hydro-PS Acid)		749836-20-2	0.338 L	0.302 L
NVHOS		1132933-86-8	ND U	ND U
PFEESA		113507-82-7	ND U	ND U
R-PSDA		2416366-18-0	4.17	4.34
R-PSDCA	2416366-21-5	ND U	ND U	

# Detailed Results

# Enthalpy Analytical

Job No.: 0524-730-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Northwest Water Plant Leland, N.C.

Enthalpy ID	0524-730-001-1	Prep Batch	EU17411	Sample Vol (mL)	286.45
Sample Name	050324-SO1	Prep Date	2024-05-14 08:55	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-05-15 22:49	Split Factor	N/A
Sampling Date	2024-05-03 09:05	Analyst	jogres	Method Code	EU-047-NPW
Received Date	2024-05-03	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	PFPrA	422-64-0	F160524008	10.5	0.489	1.07			
	PFBA	375-22-4	S150524034	ND	0.222	0.559			U
	PFPeA	2706-90-3	S150524034	4.16	0.160	0.559			
	PFHxA	307-24-4	S150524034	4.93	0.187	0.559			
	PFHpA	375-85-9	S150524034	2.05	0.195	0.559			
	PFOA	335-67-1	S150524034	4.65	0.128	0.559			
	PFNA	375-95-1	S150524034	0.525	0.126	0.559			J
	PFDA	335-76-2	S150524034	0.150	0.160	0.559			L
	PFUnDA	2058-94-8	S150524034	ND	0.126	0.559			U
	PFDoDA	307-55-1	S150524034	ND	0.227	0.559			U
	PFTTrDA	72629-94-8	S150524034	ND	0.185	0.559			U
	PFTeDA	376-06-7	S150524034	ND	0.213	0.559			U
	PFHxDA	67905-19-5	S150524034	ND	0.297	0.559			U
	Sulfonates	PFBS	375-73-5	S280524038	2.99	0.297	0.559		
PFPeS		2706-91-4	S280524038	0.519	0.115	0.526			J
PFHxS		355-46-4	S150524034	3.73	0.431	0.512			
PFHpS		375-92-8	S150524034	0.337	0.271	0.532			J
PFOS		1763-23-1	S150524034	9.91	0.295	0.517			
PFNS		68259-12-1	S150524034	ND	0.173	0.538			U
PFDS		335-77-3	S150524034	ND	0.293	0.538			U
4:2 FTS		757124-72-4	S150524034	ND	0.0724	0.523			U
6:2 FTS		27619-97-2	S150524034	0.0956	0.264	0.532			L
8:2 FTS		39108-34-4	S150524034	ND	0.125	0.535			U
10:2 FTS	120226-60-0	S150524034	ND	0.428	0.559			U	
Sulfonamidos	FBSA	30334-69-1	S280524038	0.299	0.265	0.559			J
	N-EtFOSA	4151-50-2	S150524034	ND	0.346	0.559			U
	N-EtFOSAA	2991-50-6	S150524034	ND	0.227	0.559			U
	N-EtFOSE	1691-99-2	S150524034	ND	0.855	2.51			U
	N-MeFOSA	31506-32-8	S150524034	ND	0.230	0.559			U
	N-MeFOSAA	2355-31-9	S150524034	ND	0.157	0.559			U
	N-MeFOSE	24448-09-7	S150524034	ND	0.531	2.51			U
	PFOSA	754-91-6	S150524034	0.0580	0.0784	0.559			L
PFECAs	ADONA	919005-14-4	S150524034	ND	0.151	0.529			U
	EVE Acid	69087-46-3	S150524034	ND	0.178	1.26			U
	HFPO-DA	13252-13-6	S150524034	4.34	0.0592	0.559			
	Hydro-EVE Acid	773804-62-9	S150524034	0.0717	0.183	0.559			L
	NFDHA	151772-58-6	S150524034	ND	0.117	0.559			U
	PEPA	267239-61-2	S150524034	2.12	0.105	0.559			
	PFECA-G	801212-59-9	S150524034	ND	0.0745	0.559			U
	PFMOAA	674-13-5	S150524034	19.1	0.283	0.559			
	PFMOBA	863090-89-5	S150524034	ND	0.937	1.26			U
	PFMOPrA	377-73-1	S150524034	ND	0.199	0.559			U

# Enthalpy Analytical

Job No.: 0524-730-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Northwest Water Plant Leland, N.C.

PFECAs	PFO2HxA	39492-88-1	S150524034	5.15	0.180	0.559			
	PFO3OA	39492-89-2	S150524034	ND	0.257	0.559			U
	PFO4DA	39492-90-5	S150524034	ND	0.442	2.79			U
	PFO5DA	39492-91-6	S150524034	ND	0.447	2.79			U
	PMPA	13140-29-9	S150524034	7.09	0.132	0.559			
	R-EVE	2416366-22-6	S150524034	7.25	0.927	1.26			
PFESAs	11Cl-PF3OUdS	763051-92-9	S150524034	ND	0.264	0.526			U
	9Cl-PF3ONS	756426-58-1	S150524034	ND	0.358	0.520			U
	Hydrolyzed PSDA	2416366-19-1	S150524034	1.80	0.372	0.559			
	Nafion Byproduct 1 (PS Acid)	29311-67-9	S150524034	ND	0.298	0.559			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	S150524034	0.338	0.463	0.559			L
	NVHOS	1132933-86-8	S150524034	ND	0.0861	0.559			U
	PFEESA	113507-82-7	S280524038	ND	0.168	0.559			U
	R-PSDA	2416366-18-0	S150524034	4.17	2.46	2.46			
	R-PSDCA	241636-21-5	S150524034	ND	0.236	0.559			U
ES	MPFBA		S150524034				20-150%	82.8%	
	M5PFPeA		S150524034				20-150%	100.8%	
	M3PFBS		S280524038				20-150%	103.8%	
	M2-4:2 FTS		S150524034				20-150%	64.8%	
	M5PFHxA		S150524034				20-150%	83.4%	
	M3HFPO-DA		S150524034				20-150%	103.4%	
	M4PFHpA		S150524034				20-150%	85.4%	
	M3PFHxS		S150524034				20-150%	80.8%	
	M2-6:2 FTS		S150524034				20-150%	70.7%	
	M8PFOA		S150524034				20-150%	84.0%	
	M9PFNA		S150524034				20-150%	74.7%	
	M8PFOS		S150524034				20-150%	79.4%	
	M2-8:2 FTS		S150524034				20-150%	59.7%	
	M8FOSA-I		S150524034				20-150%	62.5%	
	M6PFDA		S150524034				20-150%	96.9%	
	d3-N-MeFOSAA		S150524034				20-150%	50.4%	
	d5-N-EtFOSAA		S150524034				20-150%	44.0%	
	M7PFUdA		S150524034				20-150%	76.2%	
	MPFDoA		S150524034				20-150%	68.4%	
	M2PFTeDA		S150524034				20-150%	24.1%	
	d3-N-MeFOSA		S150524034				10-200%	12.6%	
	d5-N-EtFOSA		S150524034				10-200%	11.1%	
	d7-N-MeFOSE		S150524034				10-200%	76.5%	
d9-N-EtFOSE		S150524034				10-200%	44.4%		
13C3-PFPtA		F160524008				20-150%	70.0%		

# Enthalpy Analytical

Job No.: 0524-730-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Northwest Water Plant Leland, N.C.

Enthalpy ID	0524-730-002-1	Prep Batch	EU17411	Sample Vol (mL)	295.4
Sample Name	050324-EO1	Prep Date	2024-05-14 08:55	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-05-15 23:12	Split Factor	N/A
Sampling Date	2024-05-03 09:05	Analyst	jogres	Method Code	EU-047-NPW
Received Date	2024-05-03	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	PFPrA	422-64-0	F160524009	9.21	0.474	1.03			
	PFBA	375-22-4	S150524035	ND	0.215	0.542			U
	PFPeA	2706-90-3	S150524035	4.79	0.155	0.542			
	PFHxA	307-24-4	S150524035	5.61	0.181	0.542			
	PFHpA	375-85-9	S150524035	2.32	0.190	0.542			
	PFOA	335-67-1	S150524035	4.37	0.124	0.542			
	PFNA	375-95-1	S150524035	0.409	0.122	0.542			J
	PFDA	335-76-2	S150524035	0.182	0.155	0.542			J
	PFUnDA	2058-94-8	S150524035	ND	0.122	0.542			U
	PFDoDA	307-55-1	S150524035	ND	0.220	0.542			U
	PFTTrDA	72629-94-8	S150524035	ND	0.179	0.542			U
	PFTeDA	376-06-7	S150524035	ND	0.206	0.542			U
	PFHxDA	67905-19-5	S150524035	ND	0.288	0.542			U
	Sulfonates	PFBS	375-73-5	S280524039	3.39	0.288	0.542		
PFPeS		2706-91-4	S280524039	0.683	0.111	0.510			
PFHxS		355-46-4	S150524035	3.57	0.418	0.496			
PFHpS		375-92-8	S150524035	0.238	0.262	0.516			L
PFOS		1763-23-1	S150524035	10.7	0.286	0.502			
PFNS		68259-12-1	S150524035	ND	0.168	0.522			U
PFDS		335-77-3	S150524035	ND	0.284	0.522			U
4:2 FTS		757124-72-4	S150524035	ND	0.0702	0.507			U
6:2 FTS		27619-97-2	S150524035	ND	0.256	0.516			U
8:2 FTS		39108-34-4	S150524035	ND	0.121	0.519			U
10:2 FTS	120226-60-0	S150524035	ND	0.415	0.542			U	
Sulfonamidos	FBSA	30334-69-1	S280524039	0.319	0.257	0.542			J
	N-EtFOSA	4151-50-2	S150524035	ND	0.335	0.542			U
	N-EtFOSAA	2991-50-6	S150524035	ND	0.220	0.542			U
	N-EtFOSE	1691-99-2	S150524035	ND	0.829	2.44			U
	N-MeFOSA	31506-32-8	S150524035	ND	0.223	0.542			U
	N-MeFOSAA	2355-31-9	S150524035	ND	0.152	0.542			U
	N-MeFOSE	24448-09-7	S150524035	ND	0.515	2.44			U
	PFOSA	754-91-6	S150524035	ND	0.0760	0.542			U
PFECAs	ADONA	919005-14-4	S150524035	ND	0.147	0.513			U
	EVE Acid	69087-46-3	S150524035	ND	0.173	1.22			U
	HFPO-DA	13252-13-6	S150524035	4.19	0.0574	0.542			
	Hydro-EVE Acid	773804-62-9	S150524035	0.0758	0.178	0.542			L
	NFDHA	151772-58-6	S150524035	ND	0.114	0.542			U
	PEPA	267239-61-2	S150524035	1.77	0.102	0.542			
	PFECA-G	801212-59-9	S150524035	ND	0.0723	0.542			U
	PFMOAA	674-13-5	S150524035	22.7	0.274	0.542			
	PFMOBA	863090-89-5	S150524035	ND	0.909	1.22			U
	PFMOPrA	377-73-1	S150524035	ND	0.193	0.542			U

# Enthalpy Analytical

Job No.: 0524-730-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Northwest Water Plant Leland, N.C.

PFECAs	PFO2HxA	39492-88-1	S150524035	5.55	0.174	0.542			
	PFO3OA	39492-89-2	S150524035	ND	0.249	0.542			U
	PFO4DA	39492-90-5	S150524035	ND	0.428	2.71			U
	PFO5DA	39492-91-6	S150524035	ND	0.433	2.71			U
	PMPA	13140-29-9	S150524035	8.14	0.128	0.542			
	R-EVE	2416366-22-6	S150524035	7.81	0.899	1.22			
PFESAs	11Cl-PF3OUdS	763051-92-9	S150524035	ND	0.256	0.510			U
	9Cl-PF3ONS	756426-58-1	S150524035	ND	0.347	0.505			U
	Hydrolyzed PSDA	2416366-19-1	S150524035	2.15	0.361	0.542			
	Nafion Byproduct 1 (PS Acid)	29311-67-9	S150524035	ND	0.289	0.542			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	S150524035	0.302	0.449	0.542			L
	NVHOS	1132933-86-8	S150524035	ND	0.0834	0.542			U
	PFEESA	113507-82-7	S280524039	ND	0.163	0.542			U
	R-PSDA	2416366-18-0	S150524035	4.34	2.39	2.39			
	R-PSDCA	241636-21-5	S150524035	ND	0.229	0.542			U
ES	MPFBA		S150524035				20-150%	79.8%	
	M5PFPeA		S150524035				20-150%	104.1%	
	M3PFBS		S280524039				20-150%	94.3%	
	M2-4:2 FTS		S150524035				20-150%	69.1%	
	M5PFHxA		S150524035				20-150%	81.8%	
	M3HFPO-DA		S150524035				20-150%	102.6%	
	M4PFHpA		S150524035				20-150%	79.5%	
	M3PFHxS		S150524035				20-150%	85.8%	
	M2-6:2 FTS		S150524035				20-150%	68.8%	
	M8PFOA		S150524035				20-150%	80.7%	
	M9PFNA		S150524035				20-150%	70.4%	
	M8PFOS		S150524035				20-150%	74.9%	
	M2-8:2 FTS		S150524035				20-150%	58.4%	
	M8FOSA-I		S150524035				20-150%	62.2%	
	M6PFDA		S150524035				20-150%	78.2%	
	d3-N-MeFOSAA		S150524035				20-150%	50.0%	
	d5-N-EtFOSAA		S150524035				20-150%	44.5%	
	M7PFUdA		S150524035				20-150%	66.3%	
	MPFD <sub>o</sub> A		S150524035				20-150%	64.9%	
	M2PFTeDA		S150524035				20-150%	26.3%	
	d3-N-MeFOSA		S150524035				10-200%	21.5%	
	d5-N-EtFOSA		S150524035				10-200%	21.7%	
	d7-N-MeFOSE		S150524035				10-200%	71.3%	
d9-N-EtFOSE		S150524035				10-200%	47.3%		
13C3-PFP <sub>r</sub> A		F160524009				20-150%	58.0%	Q	

# QC Data

# Enthalpy Analytical

Job No.: 0524-730-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Northwest Water Plant Leland, N.C.

Enthalpy ID	MB_17411_PFAS	Prep Batch	EU17411	Sample Vol (mL)	250
Sample Name	MB_17411_PFAS	Prep Date	2024-05-14 08:55	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-05-15 19:25	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	PFPPrA	422-64-0	F160524006	ND	0.560	1.22			U
	PFBA	375-22-4	S150524025	ND	0.254	0.640			U
	PFPeA	2706-90-3	S150524025	ND	0.183	0.640			U
	PFHxA	307-24-4	S150524025	ND	0.214	0.640			U
	PFHpA	375-85-9	S150524025	ND	0.224	0.640			U
	PFOA	335-67-1	S150524025	ND	0.146	0.640			U
	PFNA	375-95-1	S150524025	ND	0.145	0.640			U
	PFDA	335-76-2	S150524025	ND	0.183	0.640			U
	PFUnDA	2058-94-8	S150524025	ND	0.145	0.640			U
	PFDoDA	307-55-1	S150524025	ND	0.260	0.640			U
	PFTTrDA	72629-94-8	S150524025	ND	0.212	0.640			U
	PFTeDA	376-06-7	S150524025	ND	0.244	0.640			U
	PFHxDA	67905-19-5	S150524025	ND	0.340	0.640			U
	Sulfonates	PFBS	375-73-5	S280524029	ND	0.340	0.640		
PFPeS		2706-91-4	S280524029	ND	0.131	0.603			U
PFHxS		355-46-4	S150524025	ND	0.494	0.586			U
PFHpS		375-92-8	S150524025	ND	0.310	0.610			U
PFOS		1763-23-1	S150524025	ND	0.338	0.593			U
PFNS		68259-12-1	S150524025	ND	0.199	0.616			U
PFDS		335-77-3	S150524025	ND	0.336	0.616			U
4:2 FTS		757124-72-4	S150524025	ND	0.0830	0.600			U
6:2 FTS		27619-97-2	S150524025	ND	0.302	0.610			U
8:2 FTS		39108-34-4	S150524025	ND	0.143	0.613			U
10:2 FTS	120226-60-0	S150524025	ND	0.490	0.640			U	
Sulfonamidos	FBSA	30334-69-1	S280524029	ND	0.304	0.640			U
	N-EtFOSA	4151-50-2	S150524025	ND	0.396	0.640			U
	N-EtFOSAA	2991-50-6	S150524025	ND	0.260	0.640			U
	N-EtFOSE	1691-99-2	S150524025	ND	0.980	2.88			U
	N-MeFOSA	31506-32-8	S150524025	ND	0.264	0.640			U
	N-MeFOSAA	2355-31-9	S150524025	ND	0.180	0.640			U
	N-MeFOSE	24448-09-7	S150524025	ND	0.608	2.88			U
	PFOSA	754-91-6	S150524025	ND	0.0898	0.640			U
PFECAs	ADONA	919005-14-4	S150524025	ND	0.173	0.606			U
	EVE Acid	69087-46-3	S150524025	ND	0.204	1.44			U
	HFPO-DA	13252-13-6	S150524025	ND	0.0678	0.640			U
	Hydro-EVE Acid	773804-62-9	S150524025	ND	0.210	0.640			U
	NFDHA	151772-58-6	S150524025	ND	0.135	0.640			U
	PEPA	267239-61-2	S150524025	ND	0.120	0.640			U
	PFECA-G	801212-59-9	S150524025	ND	0.0854	0.640			U
	PFMOAA	674-13-5	S150524025	ND	0.324	0.640			U
	PFMOBA	863090-89-5	S150524025	ND	1.07	1.44			U
	PFMOPrA	377-73-1	S150524025	ND	0.228	0.640			U

# Enthalpy Analytical

Job No.: 0524-730-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Northwest Water Plant Leland, N.C.

PFECAs	PFO2HxA	39492-88-1	S150524025	ND	0.206	0.640			U
	PFO3OA	39492-89-2	S150524025	ND	0.294	0.640			U
	PFO4DA	39492-90-5	S150524025	ND	0.506	3.20			U
	PFO5DA	39492-91-6	S150524025	ND	0.512	3.20			U
	PMPA	13140-29-9	S150524025	ND	0.151	0.640			U
	R-EVE	2416366-22-6	S150524025	ND	1.06	1.44			U
	PFESAs	11Cl-PF3OUdS	763051-92-9	S150524025	ND	0.302	0.603		
9Cl-PF3ONS		756426-58-1	S150524025	ND	0.410	0.596			U
Hydrolyzed PSDA		2416366-19-1	S150524025	ND	0.426	0.640			U
Nafion Byproduct 1 (PS Acid)		29311-67-9	S150524025	ND	0.342	0.640			U
Nafion Byproduct 2 (Hydro-PS Acid)		749836-20-2	S150524025	ND	0.530	0.640			U
NVHOS		1132933-86-8	S150524025	ND	0.0986	0.640			U
PFEESA		113507-82-7	S280524029	ND	0.192	0.640			U
R-PSDA		2416366-18-0	S150524025	ND	2.82	2.82			U
R-PSDCA		241636-21-5	S150524025	ND	0.270	0.640			U
ES	MPFBA		S150524025				20-150%	89.4%	
	M5PFPeA		S150524025				20-150%	108.1%	
	M3PFBS		S280524029				20-150%	71.0%	
	M2-4:2 FTS		S150524025				20-150%	46.0%	
	M5PFHxA		S150524025				20-150%	93.5%	
	M3HFPO-DA		S150524025				20-150%	117.8%	
	M4PFHpA		S150524025				20-150%	89.5%	
	M3PFHxS		S150524025				20-150%	69.5%	
	M2-6:2 FTS		S150524025				20-150%	54.7%	
	M8PFOA		S150524025				20-150%	75.3%	
	M9PFNA		S150524025				20-150%	56.5%	
	M8PFOS		S150524025				20-150%	54.2%	
	M2-8:2 FTS		S150524025				20-150%	35.8%	
	M8FOSA-I		S150524025				20-150%	34.8%	
	M6PFDA		S150524025				20-150%	55.5%	
	d3-N-MeFOSAA		S150524025				20-150%	27.7%	
	d5-N-EtFOSAA		S150524025				20-150%	21.5%	
	M7PFUdA		S150524025				20-150%	43.0%	
	MPFD <sub>o</sub> A		S150524025				20-150%	43.9%	
	M2PFTeDA		S150524025				20-150%	11.8%	Q
	d3-N-MeFOSA		S150524025				10-200%	1.7%	Q
	d5-N-EtFOSA		S150524025				10-200%	1.5%	Q
d7-N-MeFOSE		S150524025				10-200%	38.8%		
d9-N-EtFOSE		S150524025				10-200%	27.9%		
13C3-PFP <sub>r</sub> A		F160524006				20-150%	129.5%		

Job No.: 0524-730-1 PFAS by Isotope Dilution (non-potable water)  
 Brunswick County Public Utilities - NC Northwest Water Plant Leland, N.C.

Enthalpy ID	OPR_17411_PFAS	Prep Batch	EU17411	Sample Vol (mL)	250
Sample Name	OPR_17411_PFAS	Prep Date	2024-05-14 08:55	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-05-15 19:48	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	S150524026	16.8	0.254	0.640	69.1-122%	84.1%	
	PFPeA	2706-90-3	S150524026	17.8	0.183	0.640	68.5-121%	88.9%	
	PFHxA	307-24-4	S150524026	20.8	0.214	0.640	68.3-121%	103.9%	
	PFHpA	375-85-9	S150524026	18.9	0.224	0.640	62.4-128%	94.5%	
	PFOA	335-67-1	S150524026	18.9	0.146	0.640	66.3-124%	94.6%	
	PFNA	375-95-1	S150524026	19.7	0.145	0.640	70.5-120%	98.4%	
	PFDA	335-76-2	S150524026	18.9	0.183	0.640	68.9-117%	94.6%	
	PFUnDA	2058-94-8	S150524026	19.7	0.145	0.640	58.1-132%	98.4%	
	PFDODA	307-55-1	S150524026	20.5	0.260	0.640	52.1-140%	102.6%	
	PFTfDA	72629-94-8	S150524026	56.0	0.212	0.640	65-144%	279.8%	Q
	PFTeDA	376-06-7	S150524026	18.8	0.244	0.640	36.1-161%	94.0%	
Sulfonates	PFBS	375-73-5	S280524030	17.8	0.340	0.640	67.5-111.6%	100.3%	
	PFPeS	2706-91-4	S280524030	18.0	0.131	0.603	51.8-142%	95.7%	
	PFHxS	355-46-4	S150524026	18.4	0.494	0.586	59.6-128%	100.6%	
	PFHpS	375-92-8	S150524026	18.8	0.310	0.610	46.9-157%	98.8%	
	PFOS	1763-23-1	S150524026	19.0	0.338	0.593	59.2-132%	102.5%	
	PFNS	68259-12-1	S150524026	19.1	0.199	0.616	53.9-133%	99.5%	
	PFDS	335-77-3	S150524026	19.2	0.336	0.616	38.1-142%	99.3%	
	4:2 FTS	757124-72-4	S150524026	17.7	0.0830	0.600	61.9-131%	94.5%	
	6:2 FTS	27619-97-2	S150524026	19.5	0.302	0.610	62.3-129%	102.4%	
	8:2 FTS	39108-34-4	S150524026	19.3	0.143	0.613	37.5-159%	100.7%	
Sulfonamidos	N-EtFOSAA	2991-50-6	S150524026	18.8	0.260	0.640	61.5-133%	94.1%	
	N-MeFOSAA	2355-31-9	S150524026	21.2	0.180	0.640	57.3-138%	105.9%	
	PFOSA	754-91-6	S150524026	20.8	0.0898	0.640	49.1-143%	104.0%	
PFECAs	HFPO-DA	13252-13-6	S150524026	17.8	0.0678	0.640	57.2-130%	89.0%	
ES	MPFBA		S150524026				20-150%	88.0%	
	M5PFPeA		S150524026				20-150%	97.5%	
	M3PFBS		S280524030				20-150%	65.9%	
	M2-4:2 FTS		S150524026				20-150%	43.9%	
	M5PFHxA		S150524026				20-150%	82.8%	
	M3HFPO-DA		S150524026				20-150%	118.5%	
	M4PFHpA		S150524026				20-150%	82.1%	
	M3PFHxS		S150524026				20-150%	75.8%	
	M2-6:2 FTS		S150524026				20-150%	62.9%	
	M8PFOA		S150524026				20-150%	87.7%	
	M9PFNA		S150524026				20-150%	80.4%	
	M8PFOS		S150524026				20-150%	77.5%	
	M2-8:2 FTS		S150524026				20-150%	57.8%	
	M8FOSA-I		S150524026				20-150%	61.4%	
	M6PFDA		S150524026				20-150%	91.6%	
	d3-N-MeFOSAA		S150524026				20-150%	47.0%	
	d5-N-EtFOSAA		S150524026				20-150%	39.6%	
	M7PFUdA		S150524026				20-150%	82.4%	
	MPFDaA		S150524026				20-150%	87.1%	
	M2PFTeDA		S150524026				20-150%	31.9%	

# Narrative Summary



# Enthalpy Analytical Narrative Summary

Company	Brunswick County Public Utilities - NC
Job No.	0524-730
Client ID.	N/A Site: Northwest Water Plant, Leland, N.C.

## 1. Custody

Jayson-Shane Santos received the samples at 3.0 °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
0524-730-001-1	050324-SO1	aqueous	2024-05-03
0524-730-002-1	050324-EO1	aqueous	2024-05-03

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

The QC and Field 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  $\geq 0.99$ . 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.	0524-730
Client ID.	N/A Site: Northwest Water Plant, Leland, N.C.

## 5. QC Notes

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

PFTTrDA 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 QC samples. 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.

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
<b>Target Analytes</b>		
<b>* Analyte is not accredited for SOP EU047 # Method 537.1 Accredited ^ Method 533 Accredited</b>		
^ 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-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	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
<b>Target Analytes</b>		
<b>* Analyte is not accredited for SOP EU047 # Method 537.1 Accredited ^ Method 533 Accredited</b>		
* 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
* PFOA	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

0524-730



# 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](mailto: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 PCB	PFAS by LC/MS/MS	PAHs by HRGC/HRMS	Sample on Hold		Method 23	ALL PFAS	
050324-SO1	5/3/2024	0905AM	250 ml	G	NW	2											X	Please Add PFPrA and	
050324-EO1	5/3/2024	0905AM	250 ml	G	DW	2												X	PFHpA To The Testing.
																			Mark Hager Knows About
																			This if you Have Questions

Relinquished By:	Date: <u>5/3/2024</u>	Received By:	Date: <u>5/3/24</u>	Time: <u>13:58</u>	Sample Temperature Upon Receipt: <input checked="" type="checkbox"/> Iced <input type="checkbox"/> Ambient °C <u>3.0</u>
					<input type="checkbox"/> Iced <input type="checkbox"/> Ambient °C _____
					<input type="checkbox"/> Iced <input type="checkbox"/> Ambient °C _____

EE 13:38 S.S. 5/3/24

JOB ID: 0524-730

Date / Time: 5/3/24 ~~4-13~~

Initials: S.S.

OR

Client: Brunswick County Utilities

Cooler 1 of 1

Temp °C: 3.0

Thermometer ID: T16

Received via

- FedEx
- UPS
- DHL
- USPS
- Courier
- Other

Check one

- On ice:
- Melted ice:
- Ambient:

Check one

- in a Box:
- in a Cooler:
- Cooler in Box:

Yes

No

- Cooler seals:  Yes  No
- Sample seals:  Yes  No
- Good condition:  Yes  No

Comment:

Empty comment box

Temp °C: [ ]

Thermometer ID: [ ]

Cooler [ ] of [ ]

Received via

- FedEx
- UPS
- DHL
- USPS
- Courier
- Other

Check one

- On ice:
- Melted ice:
- Ambient:

Check one

- in a Box:
- in a Cooler:
- Cooler in Box:

Yes

No

- Cooler seals:  Yes  No
- Sample seals:  Yes  No
- Good condition:  Yes  No

Comment:

Empty comment box

Temp °C: [ ]

Thermometer ID: [ ]

Cooler [ ] of [ ]

Received via

- FedEx
- UPS
- DHL
- USPS
- Courier
- Other

Check one

- On ice:
- Melted ice:
- Ambient:

Check one

- in a Box:
- in a Cooler:
- Cooler in Box:

Yes

No

- Cooler seals:  Yes  No
- Sample seals:  Yes  No
- Good condition:  Yes  No

Comment:

Empty comment box

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