

Brunswick County Public Utilities - NC

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Leland NC

Client Project# NORTHWEST WATER PLANT
Samples Received: 12/19/2025

Analytical Report 1225-860

PFAS by Isotope Dilution (non-potable water)

Report Issue Date: 1/9/2026

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 35 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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Narrative Summary



Enthalpy Analytical Narrative Summary

Company	Brunswick County Public Utilities - NC
Job No.	1225-860-1
Client ID.	NORTHWEST WATER PLANT

1. Custody

Isabelle Martin received the samples at 5.3 °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
1225-860-001-1A	121925-S01	aqueous	2025-12-19
1225-860-002-1A	121925-E01	aqueous	2025-12-19

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
EU047	Brunswick List	ENVI-Carb

3. Analysis

The samples were analyzed using LC/MS/MS instrument Frodo.

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.

The Standards that did not were:

- SID BQ05 (PFO4DA, PFO5DA)
- SID BQ07 (ADONA, Nafion Byproduct 2 (Hydro-PS Acid), PFO4DA, PFO5DA)

Analyte(s) that exceed method control limits in the concals were not detected >LOQ in the samples. The data is reported without adverse impact.

Enthalpy Analytical Narrative Summary

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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.

QC samples that did not meet method acceptance criteria were:

- OPR_119624_PFAS (ADONA)

Analyte(s) that deviate from method recovery criteria in the ongoing precision recovery (OPR) QC sample were not detected >LOQ in the samples. Data is reported without adverse impact.

- OPR_119624_PFAS (M2PFTeDA) - See additional Reporting Notes below.

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 (ES) in the analyses recovered outside method 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. 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.

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 2016 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			Methods					
Acronym	CAS #	Compound Name	SOP EU047	EPA 1633 (B-24)	EPA 1633X	EPA 537.1	EPA 533	EPA 8327*
Target Analytes								
PFBA	375-22-4	Perfluorobutanoic Acid	X	X	X		X	X
PFPeA	2706-90-3	Perfluoropentanoic Acid	X	X	X		X	X
PFHxA	307-24-4	Perfluorohexanoic Acid	X	X	X	X	X	X
PFHpA	375-85-9	Perfluoroheptanoic Acid	X	X	X	X	X	X
PFOA	335-67-1	Perfluorooctanoic Acid	X	X	X	X	X	X
PFNA	375-95-1	Perfluorononanoic Acid	X	X	X	X	X	X
PFDA	335-76-2	Perfluorodecanoic acid	X	X	X	X	X	X
PFUnA (PFUnDA)	2058-94-8	Perfluoroundecanoic acid	X	X	X	X	X	X
PFDoA (PFDoDA)	307-55-1	Perfluorododecanoic acid	X	X	X	X		X
PFTrDA (PFTriA, PFTTrDA)	72629-94-8	Perfluorotridecanoic acid	X	X	X	X		X
PFTeDA (PFTA, PFTreA)	376-06-7	Perfluorotetradecanoic acid	X	X	X	X		X
PFBS	375-73-5	Perfluorobutane sulfonic acid	X	X	X	X	X	X
PFPeS	2706-91-4	Perfluoropentane sulfonic acid	X	X	X		X	X
PFHxS	355-46-4	Perfluorohexane sulfonic acid	X	X	X	X	X	X
PFHpS	375-92-8	Perfluoroheptane sulfonic acid	X	X	X		X	X
PFOS	1763-23-1	Perfluorooctane sulfonic acid	X	X	X	X	X	X
PFNS	68259-12-1	Perfluorononane sulfonic acid	X	X	X			X
PFDS	335-77-3	Perfluorodecane sulfonic acid	X	X	X			X
4:2 FTS	757124-72-4	4:2 fluorotelomer sulfonic acid	X	X	X		X	X
6:2 FTS	27619-97-2	6:2 fluorotelomer sulfonic acid	X	X	X		X	X
8:2 FTS	39108-34-4	8:2 fluorotelomer sulfonic acid	X	X	X		X	X
10:2 FTS	120226-60-0	Fluorotelomer sulfonate 10:2						X
FHxSA	41997-13-1	Perfluorohexanesulfonamide			X			X
PFOSA (FOSA)	754-91-6	Perfluorooctane sulfonamide	X	X	X			X
N-MeFOSAA	2355-31-9	N-methyl perfluorooctane sulfonamido acetic acid	X	X	X	X		X
N-MeFOSA	31506-32-8	N-methylperfluoro-1-octanesulfonamide	X	X	X			X
N-MeFOSE	24448-09-7	2-(N-methylperfluoro-1-octanesulfonamido)-ethanol	X	X	X			X
N-EtFOSAA	2991-50-6	N-ethyl perfluorooctane sulfonamido acetic acid	X	X	X	X		X
N-EtFOSA	4151-50-2	N-ethylperfluoro-1-octanesulfonamide	X	X	X			X
N-EtFOSE	1691-99-2	2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol	X	X	X			X
HFPO-DA	13252-13-6	Hexafluoropropyleneoxide dimer acid (GenX)	X	X	X	X	X	X
11Cl-PF3OUds	763051-92-9	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	X	X	X	X	X	X
9Cl-PF3ONS	756426-58-1	9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	X	X	X	X	X	X
ADONA	919005-14-4	4,8-dioxa-3H-perfluorononanoic acid	X	X	X	X	X	X
PFESA	113507-82-7	Perfluoro(2-ethoxyethane)sulfonic acid		X	X		X	X
PFMOBA (PFMBA)	863090-89-5	Perfluoro-4-methoxybutanoic acid		X	X		X	X
NFDHA	151772-58-6	Nonafluoro-3,6-dioxaheptanoic acid		X	X		X	X
PFMOPrA (PFMPA)	377-73-1	Perfluoro-3-methoxypropanoic acid		X	X		X	X
PFPrA	422-64-0	Perfluoropropionic acid, 2,2,3,3,3-Pentafluoropropionic acid			X			X
PFPrS (PFPS)	423-41-6	Perfluoropropanesulfonic acid			X			X



PFAS Compound Acronym List			Methods					
Acronym	CAS #	Compound Name	SOP EU047	EPA 1633 (B-24)	EPA 1633X	EPA 537.1	EPA 533	EPA 8327*
PFMOAA	674-13-5	Perfluoro-2-methoxyacetic acid;			X			X
PFO2HxA	39492-88-1	Perfluoro (3,5-dioxahexanoic) acid			X			X
PFO3OA	39492-89-2	Perfluoro (3,5,7-trioxaoctanoic) acid			X			X
PFO4DA	39492-90-5	Perfluoro (3,5,7,9-tetraoxadecanoic) acid			X			X
PFO5DA	39492-91-6	Perfluoro(3,5,7,9,11-pentaoxadodecanoic) acid			X			X
Nafion Byproduct 1 (PS Acid)	29311-67-9	1,1,2,2-tetrafluoro-2-[1,1,1,2,3,3-hexafluoro-3-(1,2,2-trifluoroethenoxy)propan-2-yl]oxyethanesulfonic acid			X			X
Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	Perfluoro-2-[[perfluoro-3-(perfluoroethoxy)-2-propanyl]oxy]ethanesulfonic acid (Hydro-PS Acid)			X			X
PEPA	267239-61-2	Perfluoro-2-ethoxypropanoic acid			X			X
PMPA	13140-29-9	Perfluoro-2-methoxypropanoic acid			X			X
PFECA-G, (PFPE-1)	801212-59-9	4-(Heptafluoroisopropoxy)hexafluorobutanoic acid, Perfluoro-4-isopropoxybutanoic acid			X			X
PFHxDA	67905-19-5	Perfluorohexadecanoic acid			X			
R-PSDA (Nafion Byproduct 4)	2416366-18-0	Perfluoro-4-(2-sulfoethoxy)pentanoic acid; 2,2,3,3,4,5,5-Octafluoro-4-(1,1,2,2-tetrafluoro-2-sulfoethoxy)pentanoic acid			X			X
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			X			X
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			X			X
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			X			X
FBSA	30334-69-1	Perfluorobutylsulfonamide			X			X
MeFBSA	68298-12-4	1-Butanesulfonamide; (N-(Methyl)nonafluorobutanesulfonamide); 1,1,2,2,3,3,4,4,4-nonafluoro-N-methyl-1-Butanesulfonamide			X			X
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			X			X
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			X			X
NVHOS	1132933-86-8	Perfluoroethoxysulfonic acid; 1,1,2,2-Tetrafluoro-2-(1,2,2,2-tetrafluoroethoxy)ethane-1-sulfonic acid			X			X

PFAS Compound Acronym List			Methods					
Acronym	CAS #	Compound Name	SOP EU047	EPA 1633 (B-24)	EPA 1633X	EPA 537.1	EPA 533	EPA 8327*
PFDoS	79780-39-5	Perfluorododecane sulfonic acid		X	X			X
PFOA	16517-11-6	Perfluorooctadecanoic acid			X			
3:3 FTCA	356-02-5	2H,2H,3H,3H-Perfluorohexanoic acid		X	X			X
5:3 FTCA	914637-49-3	2H,2H,3H,3H-Perfluorooctanoic acid		X	X			X
7:3 FTCA	812-70-4	2H,2H,3H,3H-Perfluorodecanoic acid		X	X			X
N-AP-FHxSA	50598-28-2	N-(3-(Dimethylamino)propyl)tridecafluoro-1-hexanesulfonamide			X			X
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			X			X
BPAF	1478-61-1	Bisphenol AF			X			X
HQ-115	90076-65-6	Bis(trifluoromethane)sulfonimide lithium salt			X			X

* Accreditation pending

Results

Enthalpy Analytical

Job No.: 1225-860-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT

Summary

	Compound	CAS	121925-S01 ng/L	121925-E01 ng/L
Acids	PFBA	375-22-4	4.91	4.79
	PFPeA	2706-90-3	8.26	8.76
	PFHxA	307-24-4	6.04	6.58
	PFHpA	375-85-9	2.67	2.89
	PFOA	335-67-1	5.11	5.43
	PFNA	375-95-1	0.524 J	0.586
	PFDA	335-76-2	0.202 J	0.207 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	4.29
PFPeS		2706-91-4	0.516	0.814
PFHxS		355-46-4	4.83	5.39
PFHpS		375-92-8	0.149 L	0.171 L
PFOS		1763-23-1	8.88	10.4
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	0.149 L	0.258 J
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	0.358 J	0.425 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	0.00821 L	ND U
PFECAs	ADONA	919005-14-4	ND U	ND U
	EVE Acid	69087-46-3	0.0144 L	0.0155 L
	HFPO-DA	13252-13-6	3.50	3.36
	Hydro-EVE Acid	773804-62-9	0.179 J	0.217 J
	NFDHA	151772-58-6	ND U	ND U
	PEPA	267239-61-2	3.21	20.4
	PFECA-G	801212-59-9	ND U	ND U
	PFMOAA	674-13-5	7.53	1.99
	PFMOBA	863090-89-5	ND U	ND U
	PFMOPrA	377-73-1	0.0226 L	0.384 J
	PFO2HxA	39492-88-1	5.10	3.98

Enthalpy Analytical

Job No.: 1225-860-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT

Summary

	Compound	CAS	121925-S01 ng/L	121925-E01 ng/L
PFECAs	PFO3OA	39492-89-2	1.05	0.943
	PFO4DA	39492-90-5	ND U	ND U
	PFO5DA	39492-91-6	ND U	ND U
	PMPA	13140-29-9	8.52	7.06
	R-EVE	2416366-22-6	11.5	13.4
PFESAs	11Cl-PF3OUdS	763051-92-9	ND U	ND U
	9Cl-PF3ONS	756426-58-1	ND U	ND U
	Hydrolyzed PSDA	2416366-19-1	4.56	4.67
	Nafion Byproduct 1 (PS Acid)	29311-67-9	0.0475 L	0.0475 L
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	0.605	0.574
	NVHOS	1132933-86-8	3.58	3.22
	PFEESA	113507-82-7	ND U	ND U
	R-PSDA	2416366-18-0	12.1	13.4
	R-PSDCA	2416366-21-5	ND U	ND U

Enthalpy Analytical

Job No.: 1225-860-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT

Details

Sample Name	121925-S01	Prep Batch	EU119624
Sampling Site		Analyst	zoeardt
Enthalpy ID	1225-860-001-1A	Instrument	Frodo
Matrix	aqueous	Sample Vol mL	292.99
Sampling Date	2025-12-19 13:30	Extract Vol mL	0.4
Received Date	2025-12-19	Split Factor	N/A
Prep Date	2025-12-23 08:15	Method Code	EU-047-NPW
AnalysisDate	2025-12-24 23:15		
SampleType	Sample		
Bottle ID	A		

	Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags	
Acids	PFBA	375-22-4	FR241225040	4.91	0.217	0.546				
	PFPeA	2706-90-3	FR241225040	8.26	0.156	0.546				
	PFFhxA	307-24-4	FR241225040	6.04	0.183	0.546				
	PFFhPA	375-85-9	FR241225040	2.67	0.191	0.546				
	PFOA	335-67-1	FR241225040	5.11	0.125	0.546				
	PFNA	375-95-1	FR241225040	0.524	0.123	0.546			J	
	PFDA	335-76-2	FR241225040	0.202	0.156	0.546			J	
	PFUnDA	2058-94-8	FR241225040	ND	0.123	0.546			U	
	PFDODA	307-55-1	FR241225040	ND	0.222	0.546			U	
	PFTrDA	72629-94-8	FR241225040	ND	0.181	0.546			U	
	PFTeDA	376-06-7	FR241225040	ND	0.208	0.546			U	
	PFFhxDA	67905-19-5	FR241225040	ND	0.290	0.546			U	
	Sulfonates	PFBS	375-73-5	FR241225040	4.29	0.290	0.546			
		PFPeS	2706-91-4	FR241225040	0.516	0.112	0.514			
PFFhXS		355-46-4	FR241225040	4.83	0.422	0.500				
PFFhPS		375-92-8	FR241225040	0.149	0.265	0.520			L	
PFOS		1763-23-1	FR241225040	8.88	0.288	0.506				
PFNS		68259-12-1	FR241225040	ND	0.169	0.526			U	
PFDS		335-77-3	FR241225040	ND	0.287	0.526			U	
4:2 FTS		757124-72-4	FR241225040	ND	0.0708	0.512			U	
6:2 FTS		27619-97-2	FR241225040	0.149	0.258	0.520			L	
8:2 FTS		39108-34-4	FR241225040	ND	0.122	0.523			U	
10:2 FTS	120226-60-0	FR241225040	ND	0.418	0.546			U		
Sulfonamidos	FBSA	30334-69-1	FR241225040	0.358	0.259	0.546			J	
	N-EtFOSA	4151-50-2	FR241225040	ND	0.338	0.546			U	
	N-EtFOSAA	2991-50-6	FR241225040	ND	0.222	0.546			U	
	N-EtFOSE	1691-99-2	FR241225040	ND	0.836	2.46			U	
	N-MeFOSA	31506-32-8	FR241225040	ND	0.225	0.546			U	
	N-MeFOSAA	2355-31-9	FR241225040	ND	0.153	0.546			U	
	N-MeFOSE	24448-09-7	FR241225040	ND	0.519	2.46			U	
	PFOSA	754-91-6	FR241225040	0.00821	0.0766	0.546			L	
	PFECAs	ADONA	919005-14-4	FR241225040	ND	0.148	0.517			U
EVE Acid		69087-46-3	FR241225040	0.0144	0.174	1.23			L	
HFPO-DA		13252-13-6	FR241225040	3.50	0.0579	0.546				
Hydro-EVE Acid		773804-62-9	FR241225040	0.179	0.179	0.546			J	
NFDHA		151772-58-6	FR241225040	ND	0.115	0.546			U	
PEPA		267239-61-2	FR241225040	3.21	0.102	0.546				
PFECA-G		801212-59-9	FR241225040	ND	0.0729	0.546			U	
PFMOAA		674-13-5	FR241225040	7.53	0.276	0.546				
PFMOBA		863090-89-5	FR241225040	ND	0.916	1.23			U	
PFMOPrA		377-73-1	FR241225040	0.0226	0.195	0.546			L	
PFO2HxA		39492-88-1	FR241225040	5.10	0.176	0.546				
PFO3OA		39492-89-2	FR241225040	1.05	0.251	0.546				
PFO4DA		39492-90-5	FR241225040	ND	0.432	2.73			U	
PFO5DA		39492-91-6	FR241225040	ND	0.437	2.73			U	
PMPA		13140-29-9	FR241225040	8.52	0.129	0.546				
R-EVE		2416366-22-6	FR241225040	11.5	0.906	1.23				
PFESAs	11Cl-PF3OUds	763051-92-9	FR241225040	ND	0.258	0.514			U	
	9Cl-PF3ONS	756426-58-1	FR241225040	ND	0.350	0.509			U	
	Hydrolyzed PSDA	2416366-19-1	FR241225040	4.56	0.363	0.546				
	Nafion Byproduct 1 (PS Acid)	29311-67-9	FR241225040	0.0475	0.292	0.546			L	
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	FR241225040	0.605	0.452	0.546				
	NVHOS	1132933-86-8	FR241225040	3.58	0.0841	0.546				
	PFEESA	113507-82-7	FR241225040	ND	0.164	0.546			U	
R-PSDA	2416366-18-0	FR241225040	12.1	2.41	2.41					
R-PSDCA	2416366-21-5	FR241225040	ND	0.230	0.546			U		
ES	MPPFBA		FR241225040				20-150%	60.0%		
	M5PFPeA		FR241225040				20-150%	123%		
	M3PFBS		FR241225040				20-150%	121%		
	M2-4:2 FTS		FR241225040				20-150%	103%		
	M5PFFhxA		FR241225040				20-150%	104%		
	M3HFPO-DA		FR241225040				20-150%	135%		

Enthalpy Analytical

Job No.: 1225-860-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT

Details

Sample Name	121925-S01	Prep Batch	EU119624
Sampling Site		Analyst	zoearndt
Enthalpy ID	1225-860-001-1A	Instrument	Frodo
Matrix	aqueous	Sample Vol mL	292.99
Sampling Date	2025-12-19 13:30	Extract Vol mL	0.4
Received Date	2025-12-19	Split Factor	N/A
Prep Date	2025-12-23 08:15	Method Code	EU-047-NPW
AnalysisDate	2025-12-24 23:15		
SampleType	Sample		
Bottle ID	A		

Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
M4PFHpA		FR241225040				20-150%	93.6%	
M3PFHxS		FR241225040				20-150%	85.1%	
M2-6:2 FTS		FR241225040				20-150%	38.4%	
M8PFOA		FR241225040				20-150%	72.3%	
M9PFNA		FR241225040				20-150%	62.7%	
M8PFOS		FR241225040				20-150%	72.4%	
M2-8:2 FTS		FR241225040				20-150%	30.7%	
M8FOSA-I		FR241225040				20-150%	59.5%	
M6PFDA		FR241225040				20-150%	73.3%	
d3-N-MeFOSAA		FR241225040				20-150%	51.7%	
d5-N-EtFOSAA		FR241225040				20-150%	53.8%	
M7PFUdA		FR241225040				20-150%	63.6%	
MPFDoA		FR241225040				20-150%	55.3%	
M2PFTeDA		FR241225040				20-150%	30.1%	
d3-N-MeFOSA		FR241225040				10-200%	43.5%	
d5-N-EtFOSA		FR241225040				10-200%	32.1%	
d7-N-MeFOSE		FR241225040				10-200%	65.4%	
d9-N-EtFOSE		FR241225040				10-200%	45.6%	

Enthalpy Analytical

Job No.: 1225-860-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT

Details

Sample Name 121925-E01
 Sampling Site
 Enthalpy ID 1225-860-002-1A Prep Batch EU119624
 Matrix aqueous Analyst zoeardt
 Sampling Date 2025-12-19 13:30 Instrument Frodo
 Received Date 2025-12-19 Sample Vol mL 304.76
 Prep Date 2025-12-23 08:15 Extract Vol mL 0.4
 AnalysisDate 2025-12-24 23:38 Split Factor N/A
 SampleType Sample Method Code EU-047-NPW
 Bottle ID A

	Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	FR241225041	4.79	0.208	0.525			
	PFPeA	2706-90-3	FR241225041	8.76	0.150	0.525			
	PFHxA	307-24-4	FR241225041	6.58	0.176	0.525			
	PFHpA	375-85-9	FR241225041	2.89	0.184	0.525			
	PFOA	335-67-1	FR241225041	5.43	0.120	0.525			
	PFNA	375-95-1	FR241225041	0.586	0.119	0.525			
	PFDA	335-76-2	FR241225041	0.207	0.150	0.525			
	PFUnDA	2058-94-8	FR241225041	ND	0.119	0.525			J
	PFDoDA	307-55-1	FR241225041	ND	0.213	0.525			U
	PFTrDA	72629-94-8	FR241225041	ND	0.174	0.525			U
	PFTeDA	376-06-7	FR241225041	ND	0.200	0.525			U
	PFHxDA	67905-19-5	FR241225041	ND	0.279	0.525			U
	Sulfonates	PFBS	375-73-5	FR241225041	4.56	0.279	0.525		
PFPeS		2706-91-4	FR241225041	0.814	0.108	0.495			
PFHxS		355-46-4	FR241225041	5.39	0.405	0.481			
PFHpS		375-92-8	FR241225041	0.171	0.254	0.500			L
PFOS		1763-23-1	FR241225041	10.4	0.277	0.486			
PFNS		68259-12-1	FR241225041	ND	0.163	0.506			U
PFDS		335-77-3	FR241225041	ND	0.276	0.506			U
4:2 FTS		757124-72-4	FR241225041	ND	0.0681	0.492			U
6:2 FTS		27619-97-2	FR241225041	0.258	0.248	0.500			J
8:2 FTS		39108-34-4	FR241225041	ND	0.118	0.503			U
10:2 FTS	120226-60-0	FR241225041	ND	0.402	0.525			U	
Sulfonamidos	FBSA	30334-69-1	FR241225041	0.425	0.249	0.525			J
	N-EtFOSA	4151-50-2	FR241225041	ND	0.325	0.525			U
	N-EtFOSAA	2991-50-6	FR241225041	ND	0.213	0.525			U
	N-EtFOSE	1691-99-2	FR241225041	ND	0.804	2.36			U
	N-MeFOSA	31506-32-8	FR241225041	ND	0.217	0.525			U
	N-MeFOSAA	2355-31-9	FR241225041	ND	0.147	0.525			U
	N-MeFOSE	24448-09-7	FR241225041	ND	0.499	2.36			U
	PFOSA	754-91-6	FR241225041	ND	0.0737	0.525			U
	PFECAs	ADONA	919005-14-4	FR241225041	ND	0.142	0.497		
EVE Acid		69087-46-3	FR241225041	0.0155	0.167	1.18			L
HFPO-DA		13252-13-6	FR241225041	3.36	0.0556	0.525			
Hydro-EVE Acid		773804-62-9	FR241225041	0.217	0.172	0.525			J
NFDHA		151772-58-6	FR241225041	ND	0.110	0.525			U
PEPA		267239-61-2	FR241225041	20.4	0.0984	0.525			
PFECA-G		801212-59-9	FR241225041	ND	0.0701	0.525			U
PFMOAA		674-13-5	FR241225041	1.99	0.266	0.525			
PFMOBA		863090-89-5	FR241225041	ND	0.881	1.18			U
PFMOPrA		377-73-1	FR241225041	0.384	0.187	0.525			J
PFO2HxA		39492-88-1	FR241225041	3.98	0.169	0.525			
PFO3OA		39492-89-2	FR241225041	0.943	0.241	0.525			
PFO4DA		39492-90-5	FR241225041	ND	0.415	2.63			U
PFO5DA		39492-91-6	FR241225041	ND	0.420	2.63			U
PMPA		13140-29-9	FR241225041	7.06	0.124	0.525			
R-EVE	2416366-22-6	FR241225041	13.4	0.871	1.18				
PFESAs	11Cl-PF3OUds	763051-92-9	FR241225041	ND	0.248	0.495			U
	9Cl-PF3ONS	756426-58-1	FR241225041	ND	0.336	0.489			U
	Hydrolyzed PSDA	2416366-19-1	FR241225041	4.67	0.349	0.525			
	Nafion Byproduct 1 (PS Acid)	29311-67-9	FR241225041	0.0475	0.281	0.525			L
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	FR241225041	0.574	0.435	0.525			
	NVHOS	1132933-86-8	FR241225041	3.22	0.0809	0.525			
	PFEESA	113507-82-7	FR241225041	ND	0.158	0.525			U
R-PSDA	2416366-18-0	FR241225041	13.4	2.31	2.31				
R-PSDCA	2416366-21-5	FR241225041	ND	0.221	0.525			U	
ES	MPFBA		FR241225041				20-150%	9.08%	Q
	M5PFPeA		FR241225041				20-150%	109%	
	M3PFBS		FR241225041				20-150%	153%	Q
	M2-4:2 FTS		FR241225041				20-150%	143%	
	M5PFHxA		FR241225041				20-150%	106%	
	M3HFPO-DA		FR241225041				20-150%	136%	

Enthalpy Analytical

Job No.: 1225-860-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT

Details

Sample Name	121925-E01	Prep Batch	EU119624
Sampling Site		Analyst	zoearndt
Enthalpy ID	1225-860-002-1A	Instrument	Frodo
Matrix	aqueous	Sample Vol mL	304.76
Sampling Date	2025-12-19 13:30	Extract Vol mL	0.4
Received Date	2025-12-19	Split Factor	N/A
Prep Date	2025-12-23 08:15	Method Code	EU-047-NPW
AnalysisDate	2025-12-24 23:38		
SampleType	Sample		
Bottle ID	A		

Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
M4PFHpA		FR241225041				20-150%	109%	
M3PFHxS		FR241225041				20-150%	110%	
M2-6:2 FTS		FR241225041				20-150%	61.2%	
M8PFOA		FR241225041				20-150%	88.6%	
M9PFNA		FR241225041				20-150%	74.1%	
M8PFOS		FR241225041				20-150%	87.5%	
M2-8:2 FTS		FR241225041				20-150%	40.4%	
M8FOSA-I		FR241225041				20-150%	70.9%	
M6PFDA		FR241225041				20-150%	92.2%	
d3-N-MeFOSAA		FR241225041				20-150%	64.3%	
d5-N-EiFOSAA		FR241225041				20-150%	69.1%	
M7PFUdA		FR241225041				20-150%	82.3%	
MPFDoA		FR241225041				20-150%	71.0%	
M2PFTeDA		FR241225041				20-150%	50.3%	
d3-N-MeFOSA		FR241225041				10-200%	65.3%	
d5-N-EiFOSA		FR241225041				10-200%	48.4%	
d7-N-MeFOSE		FR241225041				10-200%	109%	
d9-N-EiFOSE		FR241225041				10-200%	94.4%	

QC Data



Enthalpy Analytical

Job No.: 1225-860-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT

Details

Sample Name	MB_119624_PFAS	Prep Batch	EU119624
Sampling Site		Analyst	zoeardt
Enthalpy ID	MB_119624_PFAS	Instrument	Frodo
Matrix	aqueous	Sample Vol mL	250
Sampling Date		Extract Vol mL	0.4
Received Date		Split Factor	N/A
Prep Date	2025-12-23 08:15	Method Code	EU-047-NPW
AnalysisDate	2025-12-24 16:25		
SampleType	Blank		
Bottle ID	-		

	Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags	
Acids	PFBA	375-22-4	FR241225022	ND	0.254	0.640			U	
	PFPeA	2706-90-3	FR241225022	ND	0.183	0.640			U	
	PFHxA	307-24-4	FR241225022	ND	0.214	0.640			U	
	PFHpA	375-85-9	FR241225022	ND	0.224	0.640			U	
	PFOA	335-67-1	FR241225022	ND	0.146	0.640			U	
	PFNA	375-95-1	FR241225022	ND	0.145	0.640			U	
	PFDA	335-76-2	FR241225022	ND	0.183	0.640			U	
	PFUnDA	2058-94-8	FR241225022	ND	0.145	0.640			U	
	PFDODA	307-55-1	FR241225022	ND	0.260	0.640			U	
	PFTrDA	72629-94-8	FR241225022	ND	0.212	0.640			U	
	PFTeDA	376-06-7	FR241225022	ND	0.244	0.640			U	
	PFHxDA	67905-19-5	FR241225022	ND	0.340	0.640			U	
	Sulfonates	PFBS	375-73-5	FR241225022	ND	0.340	0.640			U
		PFPeS	2706-91-4	FR241225022	ND	0.131	0.603			U
		PFHxS	355-46-4	FR241225022	ND	0.494	0.586			U
PFHpS		375-92-8	FR241225022	ND	0.310	0.610			U	
PFOS		1763-23-1	FR241225022	ND	0.338	0.593			U	
PFNS		68259-12-1	FR241225022	ND	0.199	0.616			U	
PFDS		335-77-3	FR241225022	ND	0.336	0.616			U	
4:2 FTS		757124-72-4	FR241225022	ND	0.0830	0.600			U	
6:2 FTS		27619-97-2	FR241225022	0.0175	0.302	0.610			L	
8:2 FTS		39108-34-4	FR241225022	ND	0.143	0.613			U	
10:2 FTS	120226-60-0	FR241225022	ND	0.490	0.640			U		
Sulfonamidos	FBSA	30334-69-1	FR241225022	ND	0.304	0.640			U	
	N-EtFOSA	4151-50-2	FR241225022	ND	0.396	0.640			U	
	N-EtFOSAA	2991-50-6	FR241225022	0.0305	0.260	0.640			L	
	N-EtFOSE	1691-99-2	FR241225022	0.0312	0.980	2.88			L	
	N-MeFOSA	31506-32-8	FR241225022	ND	0.264	0.640			U	
	N-MeFOSAA	2355-31-9	FR241225022	0.0138	0.180	0.640			L	
	N-MeFOSE	24448-09-7	FR241225022	ND	0.608	2.88			U	
	PFOSA	754-91-6	FR241225022	ND	0.0898	0.640			U	
	PFECAs	ADONA	919005-14-4	FR241225022	ND	0.173	0.606			U
EVE Acid		69087-46-3	FR241225022	0.0114	0.204	1.44			L	
HFPO-DA		13252-13-6	FR241225022	ND	0.0678	0.640			U	
Hydro-EVE Acid		773804-62-9	FR241225022	0.00818	0.210	0.640			L	
NFDHA		151772-58-6	FR241225022	ND	0.135	0.640			U	
PEPA		267239-61-2	FR241225022	ND	0.120	0.640			U	
PFECA-G		801212-59-9	FR241225022	0.0174	0.0854	0.640			L	
PFMOAA		674-13-5	FR241225022	ND	0.324	0.640			U	
PFMOBA		863090-89-5	FR241225022	ND	1.07	1.44			U	
PFMOPrA		377-73-1	FR241225022	ND	0.228	0.640			U	
PFO2HxA		39492-88-1	FR241225022	ND	0.206	0.640			U	
PFO3OA		39492-89-2	FR241225022	ND	0.294	0.640			U	
PFO4DA		39492-90-5	FR241225022	0.902	0.506	3.20			J	
PFO5DA		39492-91-6	FR241225022	ND	0.512	3.20			U	
PMPA		13140-29-9	FR241225022	ND	0.151	0.640			U	
R-EVE	2416366-22-6	FR241225022	ND	1.06	1.44			U		
PFESAs	11Cl-PF3OUdS	763051-92-9	FR241225022	0.0123	0.302	0.603			L	
	9Cl-PF3ONS	756426-58-1	FR241225022	ND	0.410	0.596			U	
	Hydrolyzed PSDA	2416366-19-1	FR241225022	ND	0.426	0.640			U	
	Nafion Byproduct 1 (PS Acid)	29311-67-9	FR241225022	ND	0.342	0.640			U	
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	FR241225022	ND	0.530	0.640			U	
	NVHOS	1132933-86-8	FR241225022	ND	0.0986	0.640			U	
	PFEESA	113507-82-7	FR241225022	ND	0.192	0.640			U	
	R-PSDA	2416366-18-0	FR241225022	ND	2.82	2.82			U	
R-PSDCA	2416366-21-5	FR241225022	ND	0.270	0.640			U		
ES	MFPBFA		FR241225022				20-150%	60.6%		
	M5PFPeA		FR241225022				20-150%	77.6%		
	M3PFBS		FR241225022				20-150%	57.1%		
	M2-4:2 FTS		FR241225022				20-150%	85.8%		
	M5PFHxA		FR241225022				20-150%	103%		
	M3HFPO-DA		FR241225022				20-150%	139%		

Enthalpy Analytical

Job No.: 1225-860-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT

Details

Sample Name	MB_119624_PFAS	Prep Batch	EU119624
Sampling Site		Analyst	zoeardt
Enthalpy ID	MB_119624_PFAS	Instrument	Frodo
Matrix	aqueous	Sample Vol mL	250
Sampling Date		Extract Vol mL	0.4
Received Date		Split Factor	N/A
Prep Date	2025-12-23 08:15	Method Code	EU-047-NPW
AnalysisDate	2025-12-24 16:25		
SampleType	Blank		
Bottle ID	-		

Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
M4PFHpA		FR241225022				20-150%	90.2%	
M3PFHxS		FR241225022				20-150%	73.1%	
M2-6:2 FTS		FR241225022				20-150%	34.5%	
M8PFOA		FR241225022				20-150%	72.2%	
M9PFNA		FR241225022				20-150%	59.9%	
M8PFOS		FR241225022				20-150%	68.2%	
M2-8:2 FTS		FR241225022				20-150%	29.2%	
M8FOSA-I		FR241225022				20-150%	54.0%	
M6PFDA		FR241225022				20-150%	70.3%	
d3-N-MeFOSAA		FR241225022				20-150%	47.6%	
d5-N-EtFOSAA		FR241225022				20-150%	50.5%	
M7PFUdA		FR241225022				20-150%	63.3%	
MPFDoA		FR241225022				20-150%	54.4%	
M2PFTeDA		FR241225022				20-150%	40.2%	
d3-N-MeFOSA		FR241225022				10-200%	34.6%	
d5-N-EtFOSA		FR241225022				10-200%	28.2%	
d7-N-MeFOSE		FR241225022				10-200%	73.0%	
d9-N-EtFOSE		FR241225022				10-200%	62.5%	

Enthalpy Analytical

Job No.: 1225-860-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT

Enthalpy ID	OPR_119624_PFAS	Prep Batch	EU119624	Sample Vol (mL)	250
Sample Name	OPR_119624_PFAS	Prep Date	2025-12-23 08:15	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2025-12-24 16:47	Split Factor	N/A
Sampling Date		Analyst	zoeardt	Method Code	EU-047-NPW
Received Date		Instrument	Frodo	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	FR241225023	23.6	0.254	0.640	47.9-144%	118%		
	PFPeA	2706-90-3	FR241225023	22.2	0.183	0.640	41.7-159%	111%		
	PFHxA	307-24-4	FR241225023	24.0	0.214	0.640	43.2-154%	120%		
	PFHpA	375-85-9	FR241225023	22.5	0.224	0.640	42.1-155%	113%		
	PFOA	335-67-1	FR241225023	23.9	0.146	0.640	51.1-148%	120%		
	PFNA	375-95-1	FR241225023	23.8	0.145	0.640	51.6-153%	119%		
	PFDA	335-76-2	FR241225023	23.4	0.183	0.640	44.5-156%	117%		
	PFUnDA	2058-94-8	FR241225023	23.3	0.145	0.640	40.3-156%	116%		
	PFDoDA	307-55-1	FR241225023	25.1	0.260	0.640	40.4-158%	125%		
	PFTrDA	72629-94-8	FR241225023	24.3	0.212	0.640	42.2-201%	121%		
	PFTeDA	376-06-7	FR241225023	24.1	0.244	0.640	43-162%	120%		
	Sulfonates	PFBS	375-73-5	FR241225023	20.1	0.340	0.640	42.7-155%	113%	
		PFPeS	2706-91-4	FR241225023	19.8	0.131	0.603	40.3-152%	105%	
PFHxS		355-46-4	FR241225023	21.8	0.494	0.586	45-148%	119%		
PFHpS		375-92-8	FR241225023	24.8	0.310	0.610	39.8-166%	130%		
PFOS		1763-23-1	FR241225023	20.9	0.338	0.593	59.2-132%	113%		
PFNS		68259-12-1	FR241225023	17.8	0.199	0.616	38.1-153%	92.4%		
PFDS		335-77-3	FR241225023	10.7	0.336	0.616	28.6-148%	55.7%		
4:2 FTS		757124-72-4	FR241225023	22.4	0.0830	0.600	41.5-157%	120%		
6:2 FTS		27619-97-2	FR241225023	23.2	0.302	0.610	44.5-160%	122%		
8:2 FTS		39108-34-4	FR241225023	20.6	0.143	0.613	39.4-166%	107%		
Sulfonamidos	N-EtFOSA	4151-50-2	FR241225023	23.3	0.396	0.640	26.7-172%	116%		
	N-EtFOSAA	2991-50-6	FR241225023	23.8	0.260	0.640	42.8-156%	119%		
	N-EtFOSE	1691-99-2	FR241225023	103	0.980	2.88	38.9-161%	114%		
	N-MeFOSA	31506-32-8	FR241225023	22.7	0.264	0.640	26.4-183%	113%		
	N-MeFOSAA	2355-31-9	FR241225023	24.4	0.180	0.640	42-155%	122%		
	N-MeFOSE	24448-09-7	FR241225023	100	0.608	2.88	37.6-155%	111%		
	PFOSA	754-91-6	FR241225023	22.6	0.0898	0.640	39.1-158%	113%		
	ADONA	919005-14-4	FR241225023	30.5	0.173	0.606	32.2-151%	153%	Q	
PFECAs	HFPO-DA	13252-13-6	FR241225023	20.1	0.0678	0.640	61.8-131%	101%		
	11Cl-PF3OUdS	763051-92-9	FR241225023	11.1	0.302	0.603	21.8-141%	55.3%		
PFESAs	9Cl-PF3ONS	756426-58-1	FR241225023	22.9	0.410	0.596	37.6-146%	114%		
	ES	MPFBA	FR241225023				20-150%	69.8%		
M5PFPeA		FR241225023				20-150%	78.8%			
M3PFBS		FR241225023				20-150%	56.6%			
M2-4:2 FTS		FR241225023				20-150%	80.0%			
M5PFHxA		FR241225023				20-150%	97.7%			
M3HFPO-DA		FR241225023				20-150%	136%			
M4PFHpA		FR241225023				20-150%	85.6%			
M3PFHxS		FR241225023				20-150%	72.3%			
M2-6:2 FTS		FR241225023				20-150%	33.4%			
M8PFOA		FR241225023				20-150%	65.4%			
M9PFNA		FR241225023				20-150%	51.9%			
M8PFOS		FR241225023				20-150%	58.0%			
M2-8:2 FTS		FR241225023				20-150%	24.2%			
M8FOSA-I		FR241225023				20-150%	45.9%			
M6PFDA		FR241225023				20-150%	54.2%			
d3-N-MeFOSAA		FR241225023				20-150%	34.3%			
d5-N-EtFOSAA		FR241225023				20-150%	29.8%			
M7PFUDa		FR241225023				20-150%	37.8%			
MPFDoA		FR241225023				20-150%	24.3%			
M2PFTeDA		FR241225023				20-150%	19.4%	Q		
d3-N-MeFOSA	FR241225023				10-200%	17.1%				
d5-N-EtFOSA	FR241225023				10-200%	13.5%				
d7-N-MeFOSE	FR241225023				10-200%	51.8%				
d9-N-EtFOSE	FR241225023				10-200%	40.8%				

Narrative Summary



Enthalpy Analytical Narrative Summary

Company	Brunswick County Public Utilities - NC
Job No.	1225-860-2
Client ID.	NORTHWEST WATER PLANT

1. Custody

Isabelle Martin received the samples at 5.3 °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
1225-860-001-1	121925-S01	aqueous	2025-12-19
1225-860-002-1	121925-E01	aqueous	2025-12-19

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
EU047	PFPrA	n/a

3. Analysis

The samples were analyzed by direct injection using LC/MS/MS instrument Bumblebee.

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

The QC sample analyses passed all method criteria.

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

Enthalpy Analytical Narrative Summary

Company	Brunswick County Public Utilities - NC
Job No.	1225-860-2
Client ID.	NORTHWEST WATER PLANT

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.

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 2016 TNI Standard under certificate number 05075.

Results

Enthalpy Analytical

Job No.: 1225-860-2 PFAS by Isotope Dilution (non-potable water)
Brunswick County Public Utilities - NC NORTHWEST WATER PLANT

Summary

	Compound	CAS	121925-S01 ng/L	121925-E01 ng/L
Acids	PFPPrA	422-64-0	194 L	221 L

Enthalpy Analytical

Job No.: 1225-860-2 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT

Details

Sample Name	121925-S01		
Sampling Site			
Enthalpy ID	1225-860-001-1	Prep Batch	EU119621
Matrix	aqueous	Analyst	jogres
Sampling Date	2025-12-19 13:30	Instrument	Bumblebee
Received Date	2025-12-19	Sample Vol mL	0.1
Prep Date	2025-12-22 04:25	Extract Vol mL	0.2
AnalysisDate	2025-12-23 18:59	Split Factor	N/A
SampleType	Sample	Method Code	EU-047-NPW
Bottle ID	A		

	Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFPrA	422-64-0	8231225-12231859	194	700	1530			L
ES	¹³ C3-PFPrA		8231225-12231859				20-150%	109%	

Enthalpy Analytical

Job No.: 1225-860-2 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT

Details

Sample Name	121925-E01	Prep Batch	EU119621
Sampling Site		Analyst	jogres
Enthalpy ID	1225-860-002-1	Instrument	Bumblebee
Matrix	aqueous	Sample Vol mL	0.1
Sampling Date	2025-12-19 13:30	Extract Vol mL	0.2
Received Date	2025-12-19	Split Factor	N/A
Prep Date	2025-12-22 04:25	Method Code	EU-047-NPW
AnalysisDate	2025-12-23 19:11		
SampleType	Sample		
Bottle ID	A		

	Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFPrA	422-64-0	8231225-12231911	221	700	1530			L
ES	¹³ C3-PFPrA		8231225-12231911				20-150%	113%	

QC Data

Enthalpy Analytical

Job No.: 1225-860-2 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT

Details

Sample Name	MB_119621_PFAS	Prep Batch	EU119621
Sampling Site		Analyst	jogres
Enthalpy ID	MB_119621_PFAS	Instrument	Bumblebee
Matrix	aqueous	Sample Vol mL	0.1
Sampling Date		Extract Vol mL	0.2
Received Date		Split Factor	N/A
Prep Date	2025-12-22 04:25	Method Code	EU-047-NPW
AnalysisDate	2025-12-23 18:36		
SampleType	Blank		
Bottle ID	-		

	Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFPrA	422-64-0	8231225-12231836	199	700	1530			L
ES	13C3-PFPrA		8231225-12231836				20-150%	100%	

Enthalpy Analytical

Job No.: 1225-860-2 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT

Details

Sample Name	OPR_119621_PFAS	Prep Batch	EU119621
Sampling Site		Analyst	jogres
Enthalpy ID	OPR_119621_PFAS	Instrument	Bumblebee
Matrix	aqueous	Sample Vol mL	0.1
Sampling Date		Extract Vol mL	0.2
Received Date		Split Factor	N/A
Prep Date	2025-12-22 04:25	Method Code	EU-047-NPW
AnalysisDate	2025-12-23 18:48		
SampleType	Control		
Bottle ID	-		

	Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFPrA	422-64-0	8231225-12231848	15100	700	1530	40-150%	75.4%	
ES	13C3-PFPrA		8231225-12231848				20-150%	102%	

Sample Custody

JOB ID:

Date / Time: 12/19/25 15:06

Initials: VVM

OR

Client: Brunswick County Utilities

Cooler of

Temp °C: 5.3

Thermometer ID: T10

- 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:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sample seals:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Good condition:	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Comment:

~~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:	<input type="checkbox"/>	<input type="checkbox"/>
Sample seals:	<input type="checkbox"/>	<input type="checkbox"/>
Good condition:	<input type="checkbox"/>	<input type="checkbox"/>

Comment:

12/19/25
VVM

~~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:	<input type="checkbox"/>	<input type="checkbox"/>
Sample seals:	<input type="checkbox"/>	<input type="checkbox"/>
Good condition:	<input type="checkbox"/>	<input type="checkbox"/>

Comment: