Brunswick County Public Utilities - NC

PO Box 249
Bolivia, NC 28422-0249

LELAND N.C.

Client Project# NORTHWEST WATER PLANT
Samples Received: 8/22/2025

Analytical Report
0825-874

PFAS by Isotope Dilution (non-potable water)

Report Issue Date: 9/26/2025

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 30 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
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1. Custody

Jose Justiniano received the samples at 4.8 °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
0825-874-001-1	082125-SO1	aqueous	2025-08-22
0825-874-001-2	082125-SO1	aqueous	2025-08-22
0825-874-002-1	082125-EO1	aqueous	2025-08-22
0825-874-002-2	082125-EO1	aqueous	2025-08-22

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 instruments Frodo and Jetfire.

Select samples were analyzed on more than one analytical sequence in order to meet method acceptance criteria.

The samples were analyzed using more than one batch preparation and analytical sequence to include all analytes of interest.

Polar compound PFPrA in the samples, including the method blank (MB) and Ongoing Precision Recovery (OPR) samples, was analyzed by direct inject calibration.

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.

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The Standards that did not were:

• SID BQ06 (d5-N-EtFOSAA, EVE Acid, Hydrolyzed PSDA, M2-4:2 FTS, M2-6:2 FTS, M5PFPeA, PFECA-G, PFO4DA, R-EVE, R-PSDA)

• SID BQ07 (8:2 FTS, d5-N-EtFOSAA, EVE Acid, Hydro-EVE Acid, Hydrolyzed PSDA, M2-4:2 FTS, M2-6:2 FTS, M2-8:2 FTS, M5PFPeA, NVHOS, PFECA-G, PFO4DA, , R-EVE, R-PSDA, R-PSDCA)

When analyte(s) exceed method control limits in the concals but are not detected >LOQ in the samples, the data is reported without adverse impact. Where an impacted analyte was detected >LOQ, the sample was reinjected to meet method criteria.

Select extraction standards (ES) deviated from method control limits in the concal(s). Where recovery met signal-to-noise threshold and impacted analyte(s) met method recovery criteria, the data is accepted with no adverse impact.

These following standards fell below method criteria in the concal(s) but met minimum lab recovery for reporting with non-detects in samples analyzed. The data is reported with no adverse impact.

• SID BQ06 (PMPA, PFO2HxA)

• SID BQ07 (PEPA, PMPA, PFO2HxA)

5. QC Notes

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

The OPR results for polar analytes are a qualitative measure not to be used for determining batch precision and recovery. The data is reported with no adverse impact.

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

QC samples that did not meet method acceptance criteria were:

• MB_118695_PFAS (M5PFPeA, M2-4:2 FTS) - See additional Reporting Notes below.
• OPR_118695_PFAS (M5PFPeA, M2-4:2 FTS, d5-N-EtFOSA) - See additional Reporting Notes below.
• OPR_118727_PFAS (PFPrA)

Analyte(s) that exceeded method recovery criteria in the ongoing precision recovery (OPR) QC sample were not detected >LOQ in the samples. 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.

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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.

- 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, PFTrDA)	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
PFEESA	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			
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; 2,2,3,3,4,5,5,5-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
PFODA	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.: 0825-874-1 PFAS by Isotope Dilution (non-potable water)

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

Summary

	Compound	CAS	082125-SO1 ng/L	082125-SO1 ng/L	082125-EO1 ng/L	082125-EO1 ng/L
Acids	PFPrA	422-64-0		ND U		ND U
	PFBA	375-22-4	3.77		2.55	
	PFPeA	2706-90-3	3.41		3.34	
	PFHxA	307-24-4	2.66		2.49	
	PFHpA	375-85-9	1.30		1.29	
	PFOA	335-67-1	2.99		2.84	
	PFNA	375-95-1	0.472 J		0.466 J	
	PFDA	335-76-2	0.158 J		0.158 J	
	PFUnDA	2058-94-8	0.0211 L		0.00666 L	
	PFDoDA	307-55-1	ND U		ND U	
	PFTrDA	72629-94-8	ND U		0.0146 L	
	PFTeDA	376-06-7	ND U		ND U	
	PFHxDA	67905-19-5	ND U		ND U	
Sulfonates	PFBS	375-73-5	1.95		1.92	
	PFPeS	2706-91-4	0.391 J		0.434 J	
	PFHxS	355-46-4	2.26		2.23	
	PFHpS	375-92-8	0.0468 L		0.0506 L	
	PFOS	1763-23-1	7.33		7.06	
	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	0.0540 L		0.269 J	
	8:2 FTS	39108-34-4	0.00141 L		0.00101 L	
	10:2 FTS	120226-60-0	ND U		ND U	
Sulfonamidos	FBSA	30334-69-1	0.0918 L		0.0749 L	
	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	0.182 J		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	1.51		1.39	
	Hydro-EVE Acid	773804-62-9	ND U		ND U	
	NFDHA	151772-58-6	ND U		ND U	
	PEPA	267239-61-2	3.02		3.49	
	PFECA-G	801212-59-9	ND U		ND U	
	PFMOAA	674-13-5	13.9		3.46	
	PFMOBA	863090-89-5	ND U		0.0865 L	
	PFMOPrA	377-73-1	ND U		ND U	

Enthalpy Analytical

Job No.: 0825-874-1 PFAS by Isotope Dilution (non-potable water)

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

Summary

	Compound	CAS	082125-SO1 ng/L	082125-SO1 ng/L	082125-EO1 ng/L	082125-EO1 ng/L
PFECAs	PFO2HxA	39492-88-1	3.39		3.18	
	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	4.04		3.16	
	R-EVE	2416366-22-6	1.66		0.970 J	
PFESAs	11Cl-PF3OUdS	763051-92-9	ND U		ND U	
	9Cl-PF3ONS	756426-58-1	ND U		ND U	
	Hydrolyzed PSDA	2416366-19-1	0.169 L		0.159 L	
	Nafion Byproduct 1 (PS Acid)	29311-67-9	ND U		ND U	
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	0.312 L		0.330 L	
	NVHOS	1132933-86-8	0.667		0.826	
	PFEESA	113507-82-7	ND U		ND U	
	R-PSDA	2416366-18-0	1.08 L		1.02 L	
	R-PSDCA	2416366-21-5	ND U		ND U	

Enthalpy Analytical

Job No.: 0825-874-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	082125-SO1		
Sampling Site			
Enthalpy ID	0825-874-001-1	Prep Batch	EU118695
Matrix	aqueous	Analyst	ext-magennaef
Sampling Date	2025-08-22 13:15	Instrument	Frodo
Received Date	2025-08-22	Sample Vol mL	315.89
Prep Date	2025-09-02 17:07	Extract Vol mL	0.4
AnalysisDate	2025-09-07 17:28	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	FR060925070	3.77	0.201	0.507			
	PFPeA	2706-90-3	FR060925070	3.41	0.145	0.507			
	PFHxA	307-24-4	FR060925070	2.66	0.169	0.507			
	PFHpA	375-85-9	FR060925070	1.30	0.177	0.507			
	PFOA	335-67-1	FR060925070	2.99	0.116	0.507			
	PFNA	375-95-1	FR060925070	0.472	0.114	0.507			J
	PFDA	335-76-2	FR060925070	0.158	0.145	0.507			J
	PFUnDA	2058-94-8	FR060925070	0.0211	0.114	0.507			L
	PFDoDA	307-55-1	FR060925070	ND	0.206	0.507			U
	PFTrDA	72629-94-8	FR060925070	ND	0.168	0.507			U
	PFTeDA	376-06-7	FR060925070	ND	0.193	0.507			U
	PFHxDA	67905-19-5	FR060925070	ND	0.269	0.507			U
Sulfonates	PFBS	375-73-5	FR060925070	1.95	0.269	0.507			
	PFPeS	2706-91-4	FR060925070	0.391	0.104	0.477			J
	PFHxS	355-46-4	FR060925070	2.26	0.391	0.464			
	PFHpS	375-92-8	FR060925070	0.0468	0.245	0.483			L
	PFOS	1763-23-1	FR060925070	7.33	0.267	0.469			
	PFNS	68259-12-1	FR060925070	ND	0.157	0.488			U
	PFDS	335-77-3	FR060925070	ND	0.266	0.488			U
	4:2 FTS	757124-72-4	FR060925070	ND	0.0657	0.475			U
	6:2 FTS	27619-97-2	FR060925070	0.0540	0.239	0.483			L
	8:2 FTS	39108-34-4	FR060925070	0.00141	0.113	0.485			L
	10:2 FTS	120226-60-0	FR060925070	ND	0.388	0.507			U
Sulfonamidos	FBSA	30334-69-1	FR060925070	0.0918	0.241	0.507			L
	N-EtFOSA	4151-50-2	FR060925070	ND	0.313	0.507			U
	N-EtFOSAA	2991-50-6	FR060925070	ND	0.206	0.507			U
	N-EtFOSE	1691-99-2	FR060925070	ND	0.776	2.28			U
	N-MeFOSA	31506-32-8	FR060925070	ND	0.209	0.507			U
	N-MeFOSAA	2355-31-9	FR060925070	ND	0.142	0.507			U
	N-MeFOSE	24448-09-7	FR060925070	ND	0.481	2.28			U
	PFOSA	754-91-6	FR060925070	0.182	0.0711	0.507			J
PFECAs	ADONA	919005-14-4	FR060925070	ND	0.137	0.480			U
	EVE Acid	69087-46-3	FR060925070	ND	0.161	1.14			U
	HFPO-DA	13252-13-6	FR060925070	1.51	0.0537	0.507			
	Hydro-EVE Acid	773804-62-9	FR060925070	ND	0.166	0.507			U
	NFDHA	151772-58-6	FR060925070	ND	0.107	0.507			U
	PEPA	267239-61-2	FR060925070	3.02	0.0950	0.507			
	PFECA-G	801212-59-9	FR060925070	ND	0.0676	0.507			U
	PFMOAA	674-13-5	FR060925070	13.9	0.256	0.507			
	PFMOBA	863090-89-5	FR060925070	ND	0.850	1.14			U
	PFMOPrA	377-73-1	FR060925070	ND	0.180	0.507			U
	PFO2HxA	39492-88-1	FR060925070	3.39	0.163	0.507			
	PFO3OA	39492-89-2	FR060925070	ND	0.233	0.507			U
	PFO4DA	39492-90-5	FR060925070	ND	0.400	2.53			U
	PFO5DA	39492-91-6	FR060925070	ND	0.405	2.53			U
	PMPA	13140-29-9	FR060925070	4.04	0.119	0.507			
	R-EVE	2416366-22-6	FR060925070	1.66	0.840	1.14			
PFESAs	11Cl-PF3OUdS	763051-92-9	FR060925070	ND	0.239	0.477			U
	9Cl-PF3ONS	756426-58-1	FR060925070	ND	0.324	0.472			U
	Hydrolyzed PSDA	2416366-19-1	FR060925070	0.169	0.337	0.507			L
	Nafion Byproduct 1 (PS Acid)	29311-67-9	FR060925070	ND	0.271	0.507			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	FR060925070	0.312	0.419	0.507			L
	NVHOS	1132933-86-8	FR060925070	0.667	0.0780	0.507			
	PFEESA	113507-82-7	FR060925070	ND	0.152	0.507			U
	R-PSDA	2416366-18-0	FR060925070	1.08	2.23	2.23			L
	R-PSDCA	2416366-21-5	FR060925070	ND	0.214	0.507			U
ES	MPFBA		FR060925070				20-150%	83.3%	
	M5PFPeA		FR060925070				20-150%	28.4%	Ac
	M3PFBS		FR060925070				20-150%	50.9%	Ac
	M2-4:2 FTS		FR060925070				20-150%	181%	Q
	M5PFHxA		FR060925070				20-150%	86.5%	
	M3HFPO-DA		FR060925070				20-150%	72.8%	

Enthalpy Analytical

Job No.: 0825-874-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	082125-SO1		
Sampling Site			
Enthalpy ID	0825-874-001-1	Prep Batch	EU118695
Matrix	aqueous	Analyst	ext-magennaef
Sampling Date	2025-08-22 13:15	Instrument	Frodo
Received Date	2025-08-22	Sample Vol mL	315.89
Prep Date	2025-09-02 17:07	Extract Vol mL	0.4
AnalysisDate	2025-09-07 17:28	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
	M4PFHpA		FR060925070				20-150%	102%	
	M3PFHxS		FR060925070				20-150%	105%	
	M2-6:2 FTS		FR060925070				20-150%	173%	Q
	M8PFOA		FR060925070				20-150%	104%	
	M9PFNA		FR060925070				20-150%	102%	
	M8PFOS		FR060925070				20-150%	94.4%	
	M2-8:2 FTS		FR060925070				20-150%	146%	
	M8FOSA-I		FR060925070				20-150%	85.1%	
	M6PFDA		FR060925070				20-150%	108%	
	d3-N-MeFOSAA		FR060925070				20-150%	126%	
	d5-N-EtFOSAA		FR060925070				20-150%	125%	
	M7PFUdA		FR060925070				20-150%	97.4%	
	MPFDoA		FR060925070				20-150%	74.2%	
	M2PFTeDA		FR060925070				20-150%	17.7%	Q
	d3-N-MeFOSA		FR060925070				10-200%	10.3%	
	d5-N-EtFOSA		FR060925070				10-200%	5.34%	Q
	d7-N-MeFOSE		FR060925070				10-200%	21.0%	
	d9-N-EtFOSE		FR060925070				10-200%	12.6%	

Enthalpy Analytical

Job No.: 0825-874-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	082125-SO1		
Sampling Site			
Enthalpy ID	0825-874-001-2	Prep Batch	EU118727
Matrix	aqueous	Analyst	jogres
Sampling Date	2025-08-22 13:15	Instrument	Jetfire
Received Date	2025-08-22	Sample Vol mL	0.1
Prep Date	2025-09-02 15:30	Extract Vol mL	0.2
AnalysisDate	2025-09-03 01:23	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	J020925-09030123	ND	700	1530			U
ES	13C3-PFPrA		J020925-09030123				20-150%	125%	

Enthalpy Analytical

Job No.: 0825-874-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	082125-EO1		
Sampling Site			
Enthalpy ID	0825-874-002-1	Prep Batch	EU118695
Matrix	aqueous	Analyst	ext-magennaef
Sampling Date	2025-08-22 13:15	Instrument	Frodo
Received Date	2025-08-22	Sample Vol mL	305.39
Prep Date	2025-09-02 17:07	Extract Vol mL	0.4
AnalysisDate	2025-09-07 17:50	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	FR060925071	2.55	0.208	0.524			
	PFPeA	2706-90-3	FR060925071	3.34	0.150	0.524			
	PFHxA	307-24-4	FR060925071	2.49	0.175	0.524			
	PFHpA	375-85-9	FR060925071	1.29	0.183	0.524			
	PFOA	335-67-1	FR060925071	2.84	0.120	0.524			
	PFNA	375-95-1	FR060925071	0.466	0.118	0.524			J
	PFDA	335-76-2	FR060925071	0.158	0.150	0.524			J
	PFUnDA	2058-94-8	FR060925071	0.00666	0.118	0.524			L
	PFDoDA	307-55-1	FR060925071	ND	0.213	0.524			U
	PFTrDA	72629-94-8	FR060925071	0.0146	0.174	0.524			L
	PFTeDA	376-06-7	FR060925071	ND	0.200	0.524			U
	PFHxDA	67905-19-5	FR060925071	ND	0.278	0.524			U
Sulfonates	PFBS	375-73-5	FR060925071	1.92	0.278	0.524			
	PFPeS	2706-91-4	FR060925071	0.434	0.108	0.494			J
	PFHxS	355-46-4	FR060925071	2.23	0.404	0.480			
	PFHpS	375-92-8	FR060925071	0.0506	0.254	0.499			L
	PFOS	1763-23-1	FR060925071	7.06	0.277	0.485			
	PFNS	68259-12-1	FR060925071	ND	0.163	0.505			U
	PFDS	335-77-3	FR060925071	ND	0.275	0.505			U
	4:2 FTS	757124-72-4	FR060925071	ND	0.0679	0.491			U
	6:2 FTS	27619-97-2	FR060925071	0.269	0.247	0.499			J
	8:2 FTS	39108-34-4	FR060925071	0.00101	0.117	0.502			L
	10:2 FTS	120226-60-0	FR060925071	ND	0.401	0.524			U
Sulfonamidos	FBSA	30334-69-1	FR060925071	0.0749	0.249	0.524			L
	N-EtFOSA	4151-50-2	FR060925071	ND	0.324	0.524			U
	N-EtFOSAA	2991-50-6	FR060925071	ND	0.213	0.524			U
	N-EtFOSE	1691-99-2	FR060925071	ND	0.802	2.36			U
	N-MeFOSA	31506-32-8	FR060925071	ND	0.216	0.524			U
	N-MeFOSAA	2355-31-9	FR060925071	ND	0.147	0.524			U
	N-MeFOSE	24448-09-7	FR060925071	ND	0.498	2.36			U
	PFOSA	754-91-6	FR060925071	ND	0.0735	0.524			U
PFECAs	ADONA	919005-14-4	FR060925071	ND	0.142	0.496			U
	EVE Acid	69087-46-3	FR060925071	ND	0.167	1.18			U
	HFPO-DA	13252-13-6	FR060925071	1.39	0.0555	0.524			
	Hydro-EVE Acid	773804-62-9	FR060925071	ND	0.172	0.524			U
	NFDHA	151772-58-6	FR060925071	ND	0.110	0.524			U
	PEPA	267239-61-2	FR060925071	3.49	0.0982	0.524			
	PFECA-G	801212-59-9	FR060925071	ND	0.0699	0.524			U
	PFMOAA	674-13-5	FR060925071	3.46	0.265	0.524			
	PFMOBA	863090-89-5	FR060925071	0.0865	0.879	1.18			L
	PFMOPrA	377-73-1	FR060925071	ND	0.187	0.524			U
	PFO2HxA	39492-88-1	FR060925071	3.18	0.169	0.524			
	PFO3OA	39492-89-2	FR060925071	ND	0.241	0.524			U
	PFO4DA	39492-90-5	FR060925071	ND	0.414	2.62			U
	PFO5DA	39492-91-6	FR060925071	ND	0.419	2.62			U
	PMPA	13140-29-9	FR060925071	3.16	0.123	0.524			
	R-EVE	2416366-22-6	FR060925071	0.970	0.869	1.18			J
PFESAs	11Cl-PF3OUdS	763051-92-9	FR060925071	ND	0.247	0.494			U
	9Cl-PF3ONS	756426-58-1	FR060925071	ND	0.336	0.488			U
	Hydrolyzed PSDA	2416366-19-1	FR060925071	0.159	0.349	0.524			L
	Nafion Byproduct 1 (PS Acid)	29311-67-9	FR060925071	ND	0.280	0.524			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	FR060925071	0.330	0.434	0.524			L
	NVHOS	1132933-86-8	FR060925071	0.826	0.0807	0.524			
	PFEESA	113507-82-7	FR060925071	ND	0.158	0.524			U
	R-PSDA	2416366-18-0	FR060925071	1.02	2.31	2.31			L
	R-PSDCA	2416366-21-5	FR060925071	ND	0.221	0.524			U
ES	MPFBA		FR060925071				20-150%	30.3%	
	M5PFPeA		FR060925071				20-150%	306%	Q
	M3PFBS		FR060925071				20-150%	284%	Q
	M2-4:2 FTS		FR060925071				20-150%	178%	Q
	M5PFHxA		FR060925071				20-150%	85.2%	
	M3HFPO-DA		FR060925071				20-150%	69.5%	

Enthalpy Analytical

Job No.: 0825-874-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	082125-EO1		
Sampling Site			
Enthalpy ID	0825-874-002-1	Prep Batch	EU118695
Matrix	aqueous	Analyst	ext-magennaef
Sampling Date	2025-08-22 13:15	Instrument	Frodo
Received Date	2025-08-22	Sample Vol mL	305.39
Prep Date	2025-09-02 17:07	Extract Vol mL	0.4
AnalysisDate	2025-09-07 17:50	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
	M4PFHpA		FR060925071				20-150%	99.6%	
	M3PFHxS		FR060925071				20-150%	102%	
	M2-6:2 FTS		FR060925071				20-150%	170%	Q
	M8PFOA		FR060925071				20-150%	102%	
	M9PFNA		FR060925071				20-150%	100%	
	M8PFOS		FR060925071				20-150%	95.1%	
	M2-8:2 FTS		FR060925071				20-150%	150%	
	M8FOSA-I		FR060925071				20-150%	96.0%	
	M6PFDA		FR060925071				20-150%	108%	
	d3-N-MeFOSAA		FR060925071				20-150%	135%	
	d5-N-EtFOSAA		FR060925071				20-150%	146%	
	M7PFUdA		FR060925071				20-150%	105%	
	MPFDoA		FR060925071				20-150%	94.5%	
	M2PFTeDA		FR060925071				20-150%	51.8%	
	d3-N-MeFOSA		FR060925071				10-200%	37.1%	
	d5-N-EtFOSA		FR060925071				10-200%	31.6%	
	d7-N-MeFOSE		FR060925071				10-200%	54.9%	
	d9-N-EtFOSE		FR060925071				10-200%	46.9%	

Enthalpy Analytical

Job No.: 0825-874-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	082125-EO1		
Sampling Site			
Enthalpy ID	0825-874-002-2	Prep Batch	EU118727
Matrix	aqueous	Analyst	jogres
Sampling Date	2025-08-22 13:15	Instrument	Jetfire
Received Date	2025-08-22	Sample Vol mL	0.1
Prep Date	2025-09-02 15:30	Extract Vol mL	0.2
AnalysisDate	2025-09-03 01:35	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	J020925-09030135	ND	700	1530			U
ES	13C3-PFPrA		J020925-09030135				20-150%	120%	

QC Data

Enthalpy Analytical

Job No.: 0825-874-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	MB_118695_PFAS		
Sampling Site			
Enthalpy ID	MB_118695_PFAS	Prep Batch	EU118695
Matrix	aqueous	Analyst	ext-magennaef
Sampling Date		Instrument	Frodo
Received Date		Sample Vol mL	250
Prep Date	2025-09-02 17:07	Extract Vol mL	0.4
AnalysisDate	2025-09-07 09:30	Split Factor	N/A
SampleType	Blank	Method Code	EU-047-NPW
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	FR060925049	ND	0.254	0.640			U
	PFPeA	2706-90-3	FR060925049	ND	0.183	0.640			U
	PFHxA	307-24-4	FR060925049	ND	0.214	0.640			U
	PFHpA	375-85-9	FR060925049	ND	0.224	0.640			U
	PFOA	335-67-1	FR060925049	ND	0.146	0.640			U
	PFNA	375-95-1	FR060925049	ND	0.145	0.640			U
	PFDA	335-76-2	FR060925049	ND	0.183	0.640			U
	PFUnDA	2058-94-8	FR060925049	ND	0.145	0.640			U
	PFDoDA	307-55-1	FR060925049	ND	0.260	0.640			U
	PFTrDA	72629-94-8	FR060925049	ND	0.212	0.640			U
	PFTeDA	376-06-7	FR060925049	0.0118	0.244	0.640			L
	PFHxDA	67905-19-5	FR060925049	ND	0.340	0.640			U
Sulfonates	PFBS	375-73-5	FR060925049	ND	0.340	0.640			U
	PFPeS	2706-91-4	FR060925049	ND	0.131	0.603			U
	PFHxS	355-46-4	FR060925049	ND	0.494	0.586			U
	PFHpS	375-92-8	FR060925049	ND	0.310	0.610			U
	PFOS	1763-23-1	FR060925049	ND	0.338	0.593			U
	PFNS	68259-12-1	FR060925049	ND	0.199	0.616			U
	PFDS	335-77-3	FR060925049	ND	0.336	0.616			U
	4:2 FTS	757124-72-4	FR060925049	ND	0.0830	0.600			U
	6:2 FTS	27619-97-2	FR060925049	0.206	0.302	0.610			L
	8:2 FTS	39108-34-4	FR060925049	0.00148	0.143	0.613			L
	10:2 FTS	120226-60-0	FR060925049	ND	0.490	0.640			U
Sulfonamidos	FBSA	30334-69-1	FR060925049	ND	0.304	0.640			U
	N-EtFOSA	4151-50-2	FR060925049	ND	0.396	0.640			U
	N-EtFOSAA	2991-50-6	FR060925049	ND	0.260	0.640			U
	N-EtFOSE	1691-99-2	FR060925049	ND	0.980	2.88			U
	N-MeFOSA	31506-32-8	FR060925049	ND	0.264	0.640			U
	N-MeFOSAA	2355-31-9	FR060925049	ND	0.180	0.640			U
	N-MeFOSE	24448-09-7	FR060925049	ND	0.608	2.88			U
	PFOSA	754-91-6	FR060925049	ND	0.0898	0.640			U
PFECAs	ADONA	919005-14-4	FR060925049	ND	0.173	0.606			U
	EVE Acid	69087-46-3	FR060925049	ND	0.204	1.44			U
	HFPO-DA	13252-13-6	FR060925049	ND	0.0678	0.640			U
	Hydro-EVE Acid	773804-62-9	FR060925049	ND	0.210	0.640			U
	NFDHA	151772-58-6	FR060925049	ND	0.135	0.640			U
	PEPA	267239-61-2	FR060925049	ND	0.120	0.640			U
	PFECA-G	801212-59-9	FR060925049	ND	0.0854	0.640			U
	PFMOAA	674-13-5	FR060925049	ND	0.324	0.640			U
	PFMOBA	863090-89-5	FR060925049	ND	1.07	1.44			U
	PFMOPrA	377-73-1	FR060925049	ND	0.228	0.640			U
	PFO2HxA	39492-88-1	FR060925049	ND	0.206	0.640			U
	PFO3OA	39492-89-2	FR060925049	ND	0.294	0.640			U
	PFO4DA	39492-90-5	FR060925049	ND	0.506	3.20			U
	PFO5DA	39492-91-6	FR060925049	ND	0.512	3.20			U
	PMPA	13140-29-9	FR060925049	ND	0.151	0.640			U
	R-EVE	2416366-22-6	FR060925049	0.154	1.06	1.44			L
PFESAs	11Cl-PF3OUdS	763051-92-9	FR060925049	ND	0.302	0.603			U
	9Cl-PF3ONS	756426-58-1	FR060925049	ND	0.410	0.596			U
	Hydrolyzed PSDA	2416366-19-1	FR060925049	ND	0.426	0.640			U
	Nafion Byproduct 1 (PS Acid)	29311-67-9	FR060925049	ND	0.342	0.640			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	FR060925049	ND	0.530	0.640			U
	NVHOS	1132933-86-8	FR060925049	ND	0.0986	0.640			U
	PFEESA	113507-82-7	FR060925049	ND	0.192	0.640			U
	R-PSDA	2416366-18-0	FR060925049	ND	2.82	2.82			U
	R-PSDCA	2416366-21-5	FR060925049	ND	0.270	0.640			U
ES	MPFBA		FR060925049				20-150%	81.3%	
	M5PFPeA		FR060925049				20-150%	171%	Q
	M3PFBS		FR060925049				20-150%	80.0%	
	M2-4:2 FTS		FR060925049				20-150%	179%	Q
	M5PFHxA		FR060925049				20-150%	85.9%	
	M3HFPO-DA		FR060925049				20-150%	52.1%	

Enthalpy Analytical

Job No.: 0825-874-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	MB_118695_PFAS		
Sampling Site			
Enthalpy ID	MB_118695_PFAS	Prep Batch	EU118695
Matrix	aqueous	Analyst	ext-magennaef
Sampling Date		Instrument	Frodo
Received Date		Sample Vol mL	250
Prep Date	2025-09-02 17:07	Extract Vol mL	0.4
AnalysisDate	2025-09-07 09:30	Split Factor	N/A
SampleType	Blank	Method Code	EU-047-NPW
Bottle ID	-		

	Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
	M4PFHpA		FR060925049				20-150%	83.2%	
	M3PFHxS		FR060925049				20-150%	85.0%	
	M2-6:2 FTS		FR060925049				20-150%	134%	
	M8PFOA		FR060925049				20-150%	79.7%	
	M9PFNA		FR060925049				20-150%	77.0%	
	M8PFOS		FR060925049				20-150%	74.2%	
	M2-8:2 FTS		FR060925049				20-150%	115%	
	M8FOSA-I		FR060925049				20-150%	72.1%	
	M6PFDA		FR060925049				20-150%	85.4%	
	d3-N-MeFOSAA		FR060925049				20-150%	106%	
	d5-N-EtFOSAA		FR060925049				20-150%	113%	
	M7PFUdA		FR060925049				20-150%	80.9%	
	MPFDoA		FR060925049				20-150%	71.3%	
	M2PFTeDA		FR060925049				20-150%	39.9%	
	d3-N-MeFOSA		FR060925049				10-200%	17.7%	
	d5-N-EtFOSA		FR060925049				10-200%	17.0%	
	d7-N-MeFOSE		FR060925049				10-200%	41.7%	
	d9-N-EtFOSE		FR060925049				10-200%	37.9%	

Enthalpy Analytical

Job No.: 0825-874-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	MB_118727_PFAS		
Sampling Site			
Enthalpy ID	MB_118727_PFAS	Prep Batch	EU118727
Matrix	aqueous	Analyst	jogres
Sampling Date		Instrument	Jetfire
Received Date		Sample Vol mL	0.1
Prep Date	2025-09-02 15:30	Extract Vol mL	0.2
AnalysisDate	2025-09-03 01:00	Split Factor	N/A
SampleType	Blank	Method Code	EU-047-NPW
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	J020925-09030100	ND	700	1530			U
ES	13C3-PFPrA		J020925-09030100				20-150%	129%	

Enthalpy Analytical

Job No.: 0825-874-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	OPR_118695_PFAS	Prep Batch	EU118695	Sample Vol (mL)	250
Sample Name	OPR_118695_PFAS	Prep Date	2025-09-02 17:07	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2025-09-07 10:16	Split Factor	N/A
Sampling Date		Analyst	ext-magennaef	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	FR060925051	18.9	0.254	0.640	47.9-144%	94.4%	
	PFPeA	2706-90-3	FR060925051	18.4	0.183	0.640	41.7-159%	92.2%	
	PFHxA	307-24-4	FR060925051	19.4	0.214	0.640	43.2-154%	97.1%	
	PFHpA	375-85-9	FR060925051	18.5	0.224	0.640	42.1-155%	92.3%	
	PFOA	335-67-1	FR060925051	19.5	0.146	0.640	51.1-148%	97.3%	
	PFNA	375-95-1	FR060925051	19.4	0.145	0.640	51.6-153%	96.8%	
	PFDA	335-76-2	FR060925051	18.4	0.183	0.640	44.5-156%	91.9%	
	PFUnDA	2058-94-8	FR060925051	18.6	0.145	0.640	40.3-156%	93.1%	
	PFDoDA	307-55-1	FR060925051	18.9	0.260	0.640	40.4-158%	94.3%	
	PFTrDA	72629-94-8	FR060925051	27.8	0.212	0.640	42.2-201%	139%	
	PFTeDA	376-06-7	FR060925051	21.8	0.244	0.640	43-162%	109%	
Sulfonates	PFBS	375-73-5	FR060925051	16.1	0.340	0.640	42.7-155%	91.0%	
	PFPeS	2706-91-4	FR060925051	16.6	0.131	0.603	40.3-152%	88.0%	
	PFHxS	355-46-4	FR060925051	16.9	0.494	0.586	45-148%	92.7%	
	PFHpS	375-92-8	FR060925051	18.2	0.310	0.610	39.8-166%	95.4%	
	PFOS	1763-23-1	FR060925051	18.0	0.338	0.593	59.2-132%	97.0%	
	PFNS	68259-12-1	FR060925051	19.1	0.199	0.616	38.1-153%	99.3%	
	PFDS	335-77-3	FR060925051	17.2	0.336	0.616	28.6-148%	88.9%	
	4:2 FTS	757124-72-4	FR060925051	20.6	0.0830	0.600	41.5-157%	110%	
	6:2 FTS	27619-97-2	FR060925051	19.4	0.302	0.610	44.5-160%	102%	
	8:2 FTS	39108-34-4	FR060925051	14.8	0.143	0.613	39.4-166%	77.3%	
Sulfonamidos	N-EtFOSA	4151-50-2	FR060925051	25.8	0.396	0.640	26.7-172%	129%	
	N-EtFOSAA	2991-50-6	FR060925051	20.0	0.260	0.640	42.8-156%	100%	
	N-EtFOSE	1691-99-2	FR060925051	126	0.980	2.88	38.9-161%	139%	
	N-MeFOSA	31506-32-8	FR060925051	24.4	0.264	0.640	26.4-183%	122%	
	N-MeFOSAA	2355-31-9	FR060925051	20.3	0.180	0.640	42-155%	102%	
	N-MeFOSE	24448-09-7	FR060925051	121	0.608	2.88	37.6-155%	134%	
	PFOSA	754-91-6	FR060925051	16.7	0.0898	0.640	39.1-158%	83.3%	
PFECAs	ADONA	919005-14-4	FR060925051	18.0	0.173	0.606	32.2-151%	90.1%	
	HFPO-DA	13252-13-6	FR060925051	19.1	0.0678	0.640	61.8-131%	95.5%	
PFESAs	11Cl-PF3OUdS	763051-92-9	FR060925051	17.8	0.302	0.603	21.8-141%	88.9%	
	9Cl-PF3ONS	756426-58-1	FR060925051	18.8	0.410	0.596	37.6-146%	93.9%	
ES	MPFBA		FR060925051				20-150%	91.9%	
	M5PFPeA		FR060925051				20-150%	201%	Q
	M3PFBS		FR060925051				20-150%	102%	
	M2-4:2 FTS		FR060925051				20-150%	181%	Q
	M5PFHxA		FR060925051				20-150%	92.6%	
	M3HFPO-DA		FR060925051				20-150%	58.9%	
	M4PFHpA		FR060925051				20-150%	97.5%	
	M3PFHxS		FR060925051				20-150%	94.7%	
	M2-6:2 FTS		FR060925051				20-150%	148%	
	M8PFOA		FR060925051				20-150%	91.5%	
	M9PFNA		FR060925051				20-150%	90.2%	
	M8PFOS		FR060925051				20-150%	88.0%	
	M2-8:2 FTS		FR060925051				20-150%	131%	
	M8FOSA-I		FR060925051				20-150%	77.5%	
	M6PFDA		FR060925051				20-150%	96.9%	
	d3-N-MeFOSAA		FR060925051				20-150%	128%	
	d5-N-EtFOSAA		FR060925051				20-150%	138%	
	M7PFUdA		FR060925051				20-150%	91.3%	
	MPFDoA		FR060925051				20-150%	86.2%	
	M2PFTeDA		FR060925051				20-150%	50.8%	
	d3-N-MeFOSA		FR060925051				10-200%	10.6%	
	d5-N-EtFOSA		FR060925051				10-200%	9.12%	Q
	d7-N-MeFOSE		FR060925051				10-200%	45.2%	
	d9-N-EtFOSE		FR060925051				10-200%	40.9%	

Enthalpy Analytical

Job No.: 0825-874-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	OPR_118727_PFAS		
Sampling Site			
Enthalpy ID	OPR_118727_PFAS	Prep Batch	EU118727
Matrix	aqueous	Analyst	jogres
Sampling Date		Instrument	Jetfire
Received Date		Sample Vol mL	0.1
Prep Date	2025-09-02 15:30	Extract Vol mL	0.2
AnalysisDate	2025-09-03 01:12	Split Factor	N/A
SampleType	Control	Method Code	EU-047-NPW
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	J020925-09030112	30700	700	1530	40-150%	153%	Q
ES	13C3-PFPrA		J020925-09030112				20-150%	112%	

Sample Custody

0825-874

Chain of Custody Record

ENTHALPY analytical

Enthalpy Ultratrace Job#: _____ **COC Page** 1 of 1

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

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

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

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

Client Special Instructions:

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

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

Sample ID	Date	Time	Sample Volume	Type	Matrix	Sample Containers: # of Bottles	# of Jars	# of Bags	# Other	Analyses: Method 1613	Method 8290	Method 1668A/B/C PCB	PFAS by LC/MS/MS	PAHs by HRGC/HRMS	Sample on Hold	Method 23	ALL PFAS	Notes:
082125-SO1	8/22/2025	1315PM	250 ml	G	NW	2											X	Please Add PFPrA and
082125-EO1	8/22/2025	1315PM	250 ml	G	DW	2											X	PFHpA To The Testing.

ORIGINAL
IF NOT RED,
DESTROY THIS COPY AFTER USE

Relinquished By:	Date:	Received By:	Date:	Time:	Sample Temperature Upon Receipt:
BILLY BENTON	8/22/2025		8/22/25	14:47	☑ Iced ☐ Ambient °C 4.8
					☐ Iced ☐ Ambient °C_____
					☐ Iced ☐ Ambient °C_____

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

JOB ID: _____ Date / Time: 8/22/25 14:47 Initials: J.A.J

OR

Client: Brunswick

Cooler 1 of 1

Temp °C: 4.8 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:	☐	☑
Sample seals:	☐	☑
Good condition:	☑	☐

Comment:

Cooler ____ of ____

Temp °C: ____ Thermometer ID: ____

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:	☐	☐
Sample seals:	☐	☐
Good condition:	☐	☐

Comment:

Cooler ____ of ____

Temp °C: ____ Thermometer ID: ____

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:	☐	☐
Sample seals:	☐	☐
Good condition:	☐	☐

Comment: