Brunswick County Public Utilities - NC

PO Box 249
Bolivia, NC 28422-0249

LELAND N.C.

Client Project# NORTHWEST WATER PLANT
Samples Received: 4/11/2025

Analytical Report
0425-821

PFAS by Isotope Dilution (non-potable water)

Report Issue Date: 5/27/2025

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 31 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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Table of Contents

Narrative Summary

Enthalpy Analytical Narrative Summary

Company	Brunswick County Public Utilities - NC
Job No.	0425-821-1
Client ID.	NORTHWEST WATER PLANT Site: LELAND N.C.

1. Custody

Meredith Curtis received the samples as part of a sampling group in two separate coolers at 2.7 °C and 0.1 °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
0425-821-001-1	041125-SO1	aqueous	2025-04-11
0425-821-001-1A	041125-SO1	aqueous	2025-04-11
0425-821-001-1C	041125-SO1	aqueous	2025-04-11
0425-821-002-1	041125-EO1	aqueous	2025-04-11
0425-821-002-1A	041125-EO1	aqueous	2025-04-11

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 Sciex Triple Quad 7500 (LC/MS/MS "Bumblebee") and using Waters Acquity UPLC equipped with Xevo TQ MS (LC/MS/MS "Frodo").

The samples were analyzed using more than one batch preparation and analytical sequence to meet method acceptance criteria.

Polar compounds PFPrA and TFA 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.

Enthalpy Analytical Narrative Summary

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The Standards that did not were:

• SID BA30 (PFMOPrA) The alternate supplier of the unlabeled standard solution used in the ICV does not contain select analytes of interest.

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:

• MB_19350_PFAS (d5-N-EtFOSA) - See Reporting Notes below.
• OPR_19350_PFAS (d3-N-MeFOSA, d5-N-EtFOSA) - See 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.

N-EtFOSA and N-MeFOSA are not reportable (NR) in sample 041125-SO1 due to non-detected (ND) surrogates. Results confirmed upon reinjection. With client approval, the data is reported as-is with no further action.

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.

- 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.: 0425-821-1 PFAS by Isotope Dilution (non-potable water)

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

Summary

	Compound	CAS	041125-SO1 ng/L	041125-EO1 ng/L
Acids	PFPrA	422-64-0	192 L	185 L
	PFBA	375-22-4	3.30	3.02
	PFPeA	2706-90-3	5.30	5.09
	PFHxA	307-24-4	4.99	4.85
	PFHpA	375-85-9	2.50	2.31
	PFOA	335-67-1	5.42	5.10
	PFNA	375-95-1	0.602	0.579
	PFDA	335-76-2	0.237 J	0.223 J
	PFUnDA	2058-94-8	ND U	ND U
	PFDoDA	307-55-1	ND U	ND U
	PFTrDA	72629-94-8	ND U	ND U
	PFTeDA	376-06-7	ND U	ND U
	PFHxDA	67905-19-5	ND U	ND U
Sulfonates	PFBS	375-73-5	3.39	3.12
	PFPeS	2706-91-4	0.527 J	0.555
	PFHxS	355-46-4	4.02	3.98
	PFHpS	375-92-8	0.195 L	0.165 L
	PFOS	1763-23-1	10.9	9.57
	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	0.135 L	0.121 L
	8:2 FTS	39108-34-4	ND U	ND U
	10:2 FTS	120226-60-0	ND U	ND U
Sulfonamidos	FBSA	30334-69-1	0.360 J	0.368 J
	N-EtFOSA	4151-50-2	NR	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	NR	ND U
	N-MeFOSAA	2355-31-9	ND U	ND U
	N-MeFOSE	24448-09-7	ND U	ND U
	PFOSA	754-91-6	ND U	ND U
PFECAs	ADONA	919005-14-4	ND U	ND U
	EVE Acid	69087-46-3	ND U	ND U
	HFPO-DA	13252-13-6	4.19	4.93
	Hydro-EVE Acid	773804-62-9	ND U	0.0375 L
	NFDHA	151772-58-6	ND U	ND U
	PEPA	267239-61-2	5.09	4.12
	PFECA-G	801212-59-9	ND U	ND U
	PFMOAA	674-13-5	15.4	20.0
	PFMOBA	863090-89-5	ND U	ND U
	PFMOPrA	377-73-1	ND U	ND U
	PFO2HxA	39492-88-1	5.07	5.18
	PFO3OA	39492-89-2	1.07	1.27
	PFO4DA	39492-90-5	ND U	ND U
	PFO5DA	39492-91-6	ND U	ND U
	PMPA	13140-29-9	14.0	12.1
	R-EVE	2416366-22-6	2.54	8.41
PFESAs	11Cl-PF3OUdS	763051-92-9	ND U	ND U
	9Cl-PF3ONS	756426-58-1	ND U	ND U
	Hydrolyzed PSDA	2416366-19-1	0.930	2.92
	Nafion Byproduct 1 (PS Acid)	29311-67-9	ND U	ND U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	0.759	0.587
	PFEESA	113507-82-7	ND U	ND U
	R-PSDA	2416366-18-0	4.49	5.87
	R-PSDCA	2416366-21-5	ND U	ND U
Other	TFA	76-05-1	5280	

Enthalpy Analytical

Job No.: 0425-821-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	0425-821-001-1	Prep Batch	EU19337	Sample Vol (mL)	0.1
Sample Name	041125-SO1	Prep Date	2025-04-30 11:11	Extract Vol (mL)	0.2
Matrix	aqueous	Analysis Date	2025-05-01 11:34	Split Factor	N/A
Sampling Date	2025-04-11 13:45	Analyst	bmay	Method Code	EU-047-NPW
Received Date	2025-04-11	Instrument	Bumblebee	Sample Type	Sample
		Bottle ID	A		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFPrA	422-64-0	B010525-05011134	192	700	1530			L
ES	13C3-PFPrA		B010525-05011134				20-150%	128%	

Enthalpy Analytical

Job No.: 0425-821-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	0425-821-001-1A	Prep Batch	EU19350	Sample Vol (mL)	283.12
Sample Name	041125-SO1	Prep Date	2025-05-07 09:35	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2025-05-08 19:48	Split Factor	N/A
Sampling Date	2025-04-11 13:45	Analyst	jogres	Method Code	EU-047-NPW
Received Date	2025-04-11	Instrument	Frodo	Sample Type	Sample
		Bottle ID	B		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	FR080525014	3.30	0.224	0.565			
	PFPeA	2706-90-3	FR080525014	5.30	0.162	0.565			
	PFHxA	307-24-4	FR080525014	4.99	0.189	0.565			
	PFHpA	375-85-9	FR080525014	2.50	0.198	0.565			
	PFOA	335-67-1	FR080525014	5.42	0.129	0.565			
	PFNA	375-95-1	FR080525014	0.602	0.128	0.565			
	PFDA	335-76-2	FR080525014	0.237	0.162	0.565			J
	PFUnDA	2058-94-8	FR080525014	ND	0.128	0.565			U
	PFDoDA	307-55-1	FR080525014	ND	0.230	0.565			U
	PFTrDA	72629-94-8	FR080525014	ND	0.187	0.565			U
	PFTeDA	376-06-7	FR080525014	ND	0.215	0.565			U
	PFHxDA	67905-19-5	FR080525014	ND	0.300	0.565			U
Sulfonates	PFBS	375-73-5	FR080525014	3.39	0.300	0.565			
	PFPeS	2706-91-4	FR080525014	0.527	0.116	0.532			J
	PFHxS	355-46-4	FR080525014	4.02	0.436	0.518			
	PFHpS	375-92-8	FR080525014	0.195	0.274	0.538			L
	PFOS	1763-23-1	FR080525014	10.9	0.298	0.523			
	PFNS	68259-12-1	FR080525014	ND	0.175	0.544			U
	PFDS	335-77-3	FR080525014	ND	0.297	0.544			U
	4:2 FTS	757124-72-4	FR080525014	ND	0.0733	0.529			U
	6:2 FTS	27619-97-2	FR080525014	0.135	0.267	0.538			L
	8:2 FTS	39108-34-4	FR080525014	ND	0.127	0.541			U
	10:2 FTS	120226-60-0	FR080525014	ND	0.433	0.565			U
Sulfonamidos	FBSA	30334-69-1	FR080525014	0.360	0.268	0.565			J
	N-EtFOSA	4151-50-2	FR080525014	NR	0.350	0.565			U
	N-EtFOSAA	2991-50-6	FR080525014	ND	0.230	0.565			U
	N-EtFOSE	1691-99-2	FR080525014	ND	0.865	2.54			U
	N-MeFOSA	31506-32-8	FR080525014	NR	0.233	0.565			U
	N-MeFOSAA	2355-31-9	FR080525014	ND	0.159	0.565			U
	N-MeFOSE	24448-09-7	FR080525014	ND	0.537	2.54			U
	PFOSA	754-91-6	FR080525014	ND	0.0793	0.565			U
PFECAs	ADONA	919005-14-4	FR080525014	ND	0.153	0.535			U
	EVE Acid	69087-46-3	FR080525014	ND	0.180	1.27			U
	HFPO-DA	13252-13-6	FR080525014	4.19	0.0599	0.565			
	Hydro-EVE Acid	773804-62-9	FR080525014	ND	0.185	0.565			U
	NFDHA	151772-58-6	FR080525014	ND	0.119	0.565			U
	PEPA	267239-61-2	FR080525014	5.09	0.106	0.565			
	PFECA-G	801212-59-9	FR080525014	ND	0.0754	0.565			U
	PFMOAA	674-13-5	FR080525014	15.4	0.286	0.565			
	PFMOBA	863090-89-5	FR080525014	ND	0.948	1.27			U
	PFMOPrA	377-73-1	FR080525014	ND	0.201	0.565			U
	PFO2HxA	39492-88-1	FR080525014	5.07	0.182	0.565			
	PFO3OA	39492-89-2	FR080525014	1.07	0.260	0.565			
	PFO4DA	39492-90-5	FR080525014	ND	0.447	2.83			U
	PFO5DA	39492-91-6	FR080525014	ND	0.452	2.83			U
	PMPA	13140-29-9	FR080525014	14.0	0.133	0.565			
	R-EVE	2416366-22-6	FR080525014	2.54	0.938	1.27			
PFESAs	11Cl-PF3OUdS	763051-92-9	FR080525014	ND	0.267	0.532			U
	9Cl-PF3ONS	756426-58-1	FR080525014	ND	0.362	0.526			U
	Hydrolyzed PSDA	2416366-19-1	FR080525014	0.930	0.376	0.565			
	Nafion Byproduct 1 (PS Acid)	29311-67-9	FR080525014	ND	0.302	0.565			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	FR080525014	0.759	0.468	0.565			
	PFEESA	113507-82-7	FR080525014	ND	0.170	0.565			U
	R-PSDA	2416366-18-0	FR080525014	4.49	2.49	2.49			
	R-PSDCA	2416366-21-5	FR080525014	ND	0.238	0.565			U
ES	MPFBA		FR080525014				20-150%	88.7%	
	M5PFPeA		FR080525014				20-150%	224%	Q
	M3PFBS		FR080525014				20-150%	278%	Q
	M2-4:2 FTS		FR080525014				20-150%	243%	Q
	M5PFHxA		FR080525014				20-150%	105%	
	M3HFPO-DA		FR080525014				20-150%	95.0%	
	M4PFHpA		FR080525014				20-150%	101%	
	M3PFHxS		FR080525014				20-150%	135%	

ES	M2-6:2 FTS		FR080525014				20-150%	145%	
	M8PFOA		FR080525014				20-150%	91.8%	
	M9PFNA		FR080525014				20-150%	67.0%	
	M8PFOS		FR080525014				20-150%	86.2%	
	M2-8:2 FTS		FR080525014				20-150%	69.7%	
	M8FOSA-I		FR080525014				20-150%	52.7%	
	M6PFDA		FR080525014				20-150%	82.7%	
	d3-N-MeFOSAA		FR080525014				20-150%	63.0%	
	d5-N-EtFOSAA		FR080525014				20-150%	46.6%	
	M7PFUdA		FR080525014				20-150%	38.2%	
	MPFDoA		FR080525014				20-150%	13.9%	Q
	M2PFTeDA		FR080525014				20-150%	1.02%	Q
	d3-N-MeFOSA		FR080525014				10-200%	0%	UQ
	d5-N-EtFOSA		FR080525014				10-200%	0%	UQ
	d7-N-MeFOSE		FR080525014				10-200%	7.00%	Q
	d9-N-EtFOSE		FR080525014				10-200%	5.41%	Q

Enthalpy Analytical

Job No.: 0425-821-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	0425-821-001-1C	Prep Batch	EU19406	Sample Vol (mL)	0.1
Sample Name	041125-SO1	Prep Date	2025-05-12 17:30	Extract Vol (mL)	0.2
Matrix	aqueous	Analysis Date	2025-05-12 19:25	Split Factor	N/A
Sampling Date	2025-04-11 13:45	Analyst	jogres	Method Code	EU-047-NPW
Received Date	2025-04-11	Instrument	Bumblebee	Sample Type	Sample
		Bottle ID	A		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Other	TFA	76-05-1	B120525-05121925	5280	700	752			
ES	13C2-TFA		B120525-05121925				20-150%	43.0%	

Enthalpy Analytical

Job No.: 0425-821-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	0425-821-002-1	Prep Batch	EU19337	Sample Vol (mL)	0.1
Sample Name	041125-EO1	Prep Date	2025-04-30 11:11	Extract Vol (mL)	0.2
Matrix	aqueous	Analysis Date	2025-05-01 11:45	Split Factor	N/A
Sampling Date	2025-04-11 13:45	Analyst	bmay	Method Code	EU-047-NPW
Received Date	2025-04-11	Instrument	Bumblebee	Sample Type	Sample
		Bottle ID	A		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFPrA	422-64-0	B010525-05011145	185	700	1530			L
ES	13C3-PFPrA		B010525-05011145				20-150%	128%	

Enthalpy Analytical

Job No.: 0425-821-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	0425-821-002-1A	Prep Batch	EU19350	Sample Vol (mL)	287.96
Sample Name	041125-EO1	Prep Date	2025-05-07 09:35	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2025-05-08 20:11	Split Factor	N/A
Sampling Date	2025-04-11 13:45	Analyst	jogres	Method Code	EU-047-NPW
Received Date	2025-04-11	Instrument	Frodo	Sample Type	Sample
		Bottle ID	B		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	FR080525015	3.02	0.221	0.556			
	PFPeA	2706-90-3	FR080525015	5.09	0.159	0.556			
	PFHxA	307-24-4	FR080525015	4.85	0.186	0.556			
	PFHpA	375-85-9	FR080525015	2.31	0.194	0.556			
	PFOA	335-67-1	FR080525015	5.10	0.127	0.556			
	PFNA	375-95-1	FR080525015	0.579	0.126	0.556			
	PFDA	335-76-2	FR080525015	0.223	0.159	0.556			J
	PFUnDA	2058-94-8	FR080525015	ND	0.126	0.556			U
	PFDoDA	307-55-1	FR080525015	ND	0.226	0.556			U
	PFTrDA	72629-94-8	FR080525015	ND	0.184	0.556			U
	PFTeDA	376-06-7	FR080525015	ND	0.212	0.556			U
	PFHxDA	67905-19-5	FR080525015	ND	0.295	0.556			U
Sulfonates	PFBS	375-73-5	FR080525015	3.12	0.295	0.556			
	PFPeS	2706-91-4	FR080525015	0.555	0.114	0.523			
	PFHxS	355-46-4	FR080525015	3.98	0.429	0.509			
	PFHpS	375-92-8	FR080525015	0.165	0.269	0.529			L
	PFOS	1763-23-1	FR080525015	9.57	0.293	0.515			
	PFNS	68259-12-1	FR080525015	ND	0.172	0.535			U
	PFDS	335-77-3	FR080525015	ND	0.292	0.535			U
	4:2 FTS	757124-72-4	FR080525015	ND	0.0721	0.521			U
	6:2 FTS	27619-97-2	FR080525015	0.121	0.262	0.529			L
	8:2 FTS	39108-34-4	FR080525015	ND	0.124	0.532			U
	10:2 FTS	120226-60-0	FR080525015	ND	0.425	0.556			U
Sulfonamidos	FBSA	30334-69-1	FR080525015	0.368	0.264	0.556			J
	N-EtFOSA	4151-50-2	FR080525015	ND	0.344	0.556			U
	N-EtFOSAA	2991-50-6	FR080525015	ND	0.226	0.556			U
	N-EtFOSE	1691-99-2	FR080525015	ND	0.851	2.50			U
	N-MeFOSA	31506-32-8	FR080525015	ND	0.229	0.556			U
	N-MeFOSAA	2355-31-9	FR080525015	ND	0.156	0.556			U
	N-MeFOSE	24448-09-7	FR080525015	ND	0.528	2.50			U
	PFOSA	754-91-6	FR080525015	ND	0.0780	0.556			U
PFECAs	ADONA	919005-14-4	FR080525015	ND	0.151	0.526			U
	EVE Acid	69087-46-3	FR080525015	ND	0.177	1.25			U
	HFPO-DA	13252-13-6	FR080525015	4.93	0.0589	0.556			
	Hydro-EVE Acid	773804-62-9	FR080525015	0.0375	0.182	0.556			L
	NFDHA	151772-58-6	FR080525015	ND	0.117	0.556			U
	PEPA	267239-61-2	FR080525015	4.12	0.104	0.556			
	PFECA-G	801212-59-9	FR080525015	ND	0.0741	0.556			U
	PFMOAA	674-13-5	FR080525015	20.0	0.281	0.556			
	PFMOBA	863090-89-5	FR080525015	ND	0.932	1.25			U
	PFMOPrA	377-73-1	FR080525015	ND	0.198	0.556			U
	PFO2HxA	39492-88-1	FR080525015	5.18	0.179	0.556			
	PFO3OA	39492-89-2	FR080525015	1.27	0.255	0.556			
	PFO4DA	39492-90-5	FR080525015	ND	0.439	2.78			U
	PFO5DA	39492-91-6	FR080525015	ND	0.445	2.78			U
	PMPA	13140-29-9	FR080525015	12.1	0.131	0.556			
	R-EVE	2416366-22-6	FR080525015	8.41	0.922	1.25			
PFESAs	11Cl-PF3OUdS	763051-92-9	FR080525015	ND	0.262	0.523			U
	9Cl-PF3ONS	756426-58-1	FR080525015	ND	0.356	0.518			U
	Hydrolyzed PSDA	2416366-19-1	FR080525015	2.92	0.370	0.556			
	Nafion Byproduct 1 (PS Acid)	29311-67-9	FR080525015	ND	0.297	0.556			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	FR080525015	0.587	0.460	0.556			
	PFEESA	113507-82-7	FR080525015	ND	0.167	0.556			U
	R-PSDA	2416366-18-0	FR080525015	5.87	2.45	2.45			
	R-PSDCA	2416366-21-5	FR080525015	ND	0.234	0.556			U
ES	MPFBA		FR080525015				20-150%	93.1%	
	M5PFPeA		FR080525015				20-150%	202%	Q
	M3PFBS		FR080525015				20-150%	253%	Q
	M2-4:2 FTS		FR080525015				20-150%	145%	
	M5PFHxA		FR080525015				20-150%	86.7%	
	M3HFPO-DA		FR080525015				20-150%	78.6%	
	M4PFHpA		FR080525015				20-150%	81.7%	
	M3PFHxS		FR080525015				20-150%	79.6%	

ES	M2-6:2 FTS		FR080525015				20-150%	79.8%	
	M8PFOA		FR080525015				20-150%	64.4%	
	M9PFNA		FR080525015				20-150%	48.2%	
	M8PFOS		FR080525015				20-150%	52.8%	
	M2-8:2 FTS		FR080525015				20-150%	55.8%	
	M8FOSA-I		FR080525015				20-150%	49.2%	
	M6PFDA		FR080525015				20-150%	57.1%	
	d3-N-MeFOSAA		FR080525015				20-150%	60.9%	
	d5-N-EtFOSAA		FR080525015				20-150%	59.3%	
	M7PFUdA		FR080525015				20-150%	57.2%	
	MPFDoA		FR080525015				20-150%	60.0%	
	M2PFTeDA		FR080525015				20-150%	40.3%	
	d3-N-MeFOSA		FR080525015				10-200%	3.86%	Q
	d5-N-EtFOSA		FR080525015				10-200%	3.74%	Q
	d7-N-MeFOSE		FR080525015				10-200%	26.8%	
	d9-N-EtFOSE		FR080525015				10-200%	26.8%	

QC Data

Enthalpy Analytical

Job No.: 0425-821-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	MB_19337_PFAS	Prep Batch	EU19337	Sample Vol (mL)	0.1
Sample Name	MB_19337_PFAS	Prep Date	2025-04-30 11:11	Extract Vol (mL)	0.2
Matrix	aqueous	Analysis Date	2025-05-01 11:10	Split Factor	N/A
Sampling Date		Analyst	bmay	Method Code	EU-047-NPW
Received Date		Instrument	Bumblebee	Sample Type	Blank
		Bottle ID	-		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFPrA	422-64-0	B010525-05011110	184	700	1530			L
ES	13C3-PFPrA		B010525-05011110				20-150%	125%	

Enthalpy Analytical

Job No.: 0425-821-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	MB_19350_PFAS	Prep Batch	EU19350	Sample Vol (mL)	250
Sample Name	MB_19350_PFAS	Prep Date	2025-05-07 09:35	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2025-05-08 18:17	Split Factor	N/A
Sampling Date		Analyst	jogres	Method Code	EU-047-NPW
Received Date		Instrument	Frodo	Sample Type	Blank
		Bottle ID	-		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	FR080525010	ND	0.254	0.640			U
	PFPeA	2706-90-3	FR080525010	ND	0.183	0.640			U
	PFHxA	307-24-4	FR080525010	ND	0.214	0.640			U
	PFHpA	375-85-9	FR080525010	ND	0.224	0.640			U
	PFOA	335-67-1	FR080525010	ND	0.146	0.640			U
	PFNA	375-95-1	FR080525010	ND	0.145	0.640			U
	PFDA	335-76-2	FR080525010	ND	0.183	0.640			U
	PFUnDA	2058-94-8	FR080525010	ND	0.145	0.640			U
	PFDoDA	307-55-1	FR080525010	ND	0.260	0.640			U
	PFTrDA	72629-94-8	FR080525010	ND	0.212	0.640			U
	PFTeDA	376-06-7	FR080525010	0.0121	0.244	0.640			L
	PFHxDA	67905-19-5	FR080525010	ND	0.340	0.640			U
Sulfonates	PFBS	375-73-5	FR080525010	ND	0.340	0.640			U
	PFPeS	2706-91-4	FR080525010	ND	0.131	0.603			U
	PFHxS	355-46-4	FR080525010	ND	0.494	0.586			U
	PFHpS	375-92-8	FR080525010	ND	0.310	0.610			U
	PFOS	1763-23-1	FR080525010	ND	0.338	0.593			U
	PFNS	68259-12-1	FR080525010	ND	0.199	0.616			U
	PFDS	335-77-3	FR080525010	ND	0.336	0.616			U
	4:2 FTS	757124-72-4	FR080525010	ND	0.0830	0.600			U
	6:2 FTS	27619-97-2	FR080525010	ND	0.302	0.610			U
	8:2 FTS	39108-34-4	FR080525010	ND	0.143	0.613			U
	10:2 FTS	120226-60-0	FR080525010	ND	0.490	0.640			U
Sulfonamidos	FBSA	30334-69-1	FR080525010	ND	0.304	0.640			U
	N-EtFOSA	4151-50-2	FR080525010	ND	0.396	0.640			U
	N-EtFOSAA	2991-50-6	FR080525010	ND	0.260	0.640			U
	N-EtFOSE	1691-99-2	FR080525010	ND	0.980	2.88			U
	N-MeFOSA	31506-32-8	FR080525010	ND	0.264	0.640			U
	N-MeFOSAA	2355-31-9	FR080525010	ND	0.180	0.640			U
	N-MeFOSE	24448-09-7	FR080525010	ND	0.608	2.88			U
	PFOSA	754-91-6	FR080525010	ND	0.0898	0.640			U
PFECAs	ADONA	919005-14-4	FR080525010	ND	0.173	0.606			U
	EVE Acid	69087-46-3	FR080525010	ND	0.204	1.44			U
	HFPO-DA	13252-13-6	FR080525010	ND	0.0678	0.640			U
	Hydro-EVE Acid	773804-62-9	FR080525010	ND	0.210	0.640			U
	NFDHA	151772-58-6	FR080525010	0.0101	0.135	0.640			L
	PEPA	267239-61-2	FR080525010	ND	0.120	0.640			U
	PFECA-G	801212-59-9	FR080525010	ND	0.0854	0.640			U
	PFMOAA	674-13-5	FR080525010	ND	0.324	0.640			U
	PFMOBA	863090-89-5	FR080525010	ND	1.07	1.44			U
	PFMOPrA	377-73-1	FR080525010	ND	0.228	0.640			U
	PFO2HxA	39492-88-1	FR080525010	ND	0.206	0.640			U
	PFO3OA	39492-89-2	FR080525010	ND	0.294	0.640			U
	PFO4DA	39492-90-5	FR080525010	ND	0.506	3.20			U
	PFO5DA	39492-91-6	FR080525010	ND	0.512	3.20			U
	PMPA	13140-29-9	FR080525010	ND	0.151	0.640			U
	R-EVE	2416366-22-6	FR080525010	ND	1.06	1.44			U
PFESAs	11Cl-PF3OUdS	763051-92-9	FR080525010	ND	0.302	0.603			U
	9Cl-PF3ONS	756426-58-1	FR080525010	ND	0.410	0.596			U
	Hydrolyzed PSDA	2416366-19-1	FR080525010	ND	0.426	0.640			U
	Nafion Byproduct 1 (PS Acid)	29311-67-9	FR080525010	ND	0.342	0.640			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	FR080525010	ND	0.530	0.640			U
	PFEESA	113507-82-7	FR080525010	ND	0.192	0.640			U
	R-PSDA	2416366-18-0	FR080525010	ND	2.82	2.82			U
	R-PSDCA	2416366-21-5	FR080525010	ND	0.270	0.640			U
ES	MPFBA		FR080525010				20-150%	85.5%	
	M5PFPeA		FR080525010				20-150%	82.7%	
	M3PFBS		FR080525010				20-150%	74.2%	
	M2-4:2 FTS		FR080525010				20-150%	96.0%	
	M5PFHxA		FR080525010				20-150%	79.6%	
	M3HFPO-DA		FR080525010				20-150%	75.2%	
	M4PFHpA		FR080525010				20-150%	78.0%	
	M3PFHxS		FR080525010				20-150%	80.8%	

ES	M2-6:2 FTS		FR080525010				20-150%	76.1%	
	M8PFOA		FR080525010				20-150%	71.6%	
	M9PFNA		FR080525010				20-150%	57.4%	
	M8PFOS		FR080525010				20-150%	59.4%	
	M2-8:2 FTS		FR080525010				20-150%	56.8%	
	M8FOSA-I		FR080525010				20-150%	52.0%	
	M6PFDA		FR080525010				20-150%	55.1%	
	d3-N-MeFOSAA		FR080525010				20-150%	53.6%	
	d5-N-EtFOSAA		FR080525010				20-150%	51.6%	
	M7PFUdA		FR080525010				20-150%	47.0%	
	MPFDoA		FR080525010				20-150%	49.6%	
	M2PFTeDA		FR080525010				20-150%	47.9%	
	d3-N-MeFOSA		FR080525010				10-200%	11.4%	
	d5-N-EtFOSA		FR080525010				10-200%	8.97%	Q
	d7-N-MeFOSE		FR080525010				10-200%	26.4%	
	d9-N-EtFOSE		FR080525010				10-200%	26.7%	

Enthalpy Analytical

Job No.: 0425-821-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	MB_19406_PFAS	Prep Batch	EU19406	Sample Vol (mL)	0.1
Sample Name	MB_19406_PFAS	Prep Date	2025-05-12 17:30	Extract Vol (mL)	0.2
Matrix	aqueous	Analysis Date	2025-05-12 19:02	Split Factor	N/A
Sampling Date		Analyst	jogres	Method Code	EU-047-NPW
Received Date		Instrument	Bumblebee	Sample Type	Blank
		Bottle ID	-		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Other	TFA	76-05-1	B120525-05121902	ND	700	752			U
ES	13C2-TFA		B120525-05121902				20-150%	53.9%	

Enthalpy Analytical

Job No.: 0425-821-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	OPR_19337_PFAS	Prep Batch	EU19337	Sample Vol (mL)	0.08
Sample Name	OPR_19337_PFAS	Prep Date	2025-04-30 11:11	Extract Vol (mL)	0.2
Matrix	aqueous	Analysis Date	2025-05-01 11:22	Split Factor	N/A
Sampling Date		Analyst	bmay	Method Code	EU-047-NPW
Received Date		Instrument	Bumblebee	Sample Type	Control
		Bottle ID	-		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFPrA	422-64-0	B010525-05011122	20000	875	1910	40-150%	80.0%	
ES	13C3-PFPrA		B010525-05011122				20-150%	123%	

Enthalpy Analytical

Job No.: 0425-821-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	OPR_19350_PFAS	Prep Batch	EU19350	Sample Vol (mL)	250
Sample Name	OPR_19350_PFAS	Prep Date	2025-05-07 09:35	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2025-05-08 18:40	Split Factor	N/A
Sampling Date		Analyst	jogres	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	FR080525011	21.9	0.254	0.640	47.9-144%	109%	
	PFPeA	2706-90-3	FR080525011	21.9	0.183	0.640	41.7-159%	109%	
	PFHxA	307-24-4	FR080525011	21.7	0.214	0.640	43.2-154%	109%	
	PFHpA	375-85-9	FR080525011	21.4	0.224	0.640	42.1-155%	107%	
	PFOA	335-67-1	FR080525011	22.1	0.146	0.640	51.1-148%	111%	
	PFNA	375-95-1	FR080525011	22.3	0.145	0.640	51.6-153%	111%	
	PFDA	335-76-2	FR080525011	22.4	0.183	0.640	44.5-156%	112%	
	PFUnDA	2058-94-8	FR080525011	22.9	0.145	0.640	40.3-156%	114%	
	PFDoDA	307-55-1	FR080525011	22.4	0.260	0.640	40.4-158%	112%	
	PFTrDA	72629-94-8	FR080525011	36.5	0.212	0.640	42.2-201%	183%	
	PFTeDA	376-06-7	FR080525011	23.2	0.244	0.640	43-162%	116%	
Sulfonates	PFBS	375-73-5	FR080525011	20.0	0.340	0.640	42.7-155%	113%	
	PFPeS	2706-91-4	FR080525011	20.3	0.131	0.603	40.3-152%	108%	
	PFHxS	355-46-4	FR080525011	19.6	0.494	0.586	45-148%	107%	
	PFHpS	375-92-8	FR080525011	22.1	0.310	0.610	39.8-166%	116%	
	PFOS	1763-23-1	FR080525011	21.1	0.338	0.593	59.2-132%	114%	
	PFNS	68259-12-1	FR080525011	21.4	0.199	0.616	38.1-153%	111%	
	PFDS	335-77-3	FR080525011	18.3	0.336	0.616	28.6-148%	95.1%	
	4:2 FTS	757124-72-4	FR080525011	21.0	0.0830	0.600	41.5-157%	112%	
	6:2 FTS	27619-97-2	FR080525011	21.6	0.302	0.610	44.5-160%	113%	
	8:2 FTS	39108-34-4	FR080525011	23.7	0.143	0.613	39.4-166%	123%	
Sulfonamidos	N-EtFOSA	4151-50-2	FR080525011	23.6	0.396	0.640	26.7-172%	118%	
	N-EtFOSAA	2991-50-6	FR080525011	23.4	0.260	0.640	42.8-156%	117%	
	N-EtFOSE	1691-99-2	FR080525011	92.4	0.980	2.88	38.9-161%	103%	
	N-MeFOSA	31506-32-8	FR080525011	21.2	0.264	0.640	26.4-183%	106%	
	N-MeFOSAA	2355-31-9	FR080525011	22.4	0.180	0.640	42-155%	112%	
	N-MeFOSE	24448-09-7	FR080525011	95.5	0.608	2.88	37.6-155%	106%	
	PFOSA	754-91-6	FR080525011	23.3	0.0898	0.640	39.1-158%	117%	
PFECAs	ADONA	919005-14-4	FR080525011	21.0	0.173	0.606	32.2-151%	105%	
	HFPO-DA	13252-13-6	FR080525011	21.6	0.0678	0.640	61.8-131%	108%	
PFESAs	11Cl-PF3OUdS	763051-92-9	FR080525011	17.9	0.302	0.603	21.8-141%	89.4%	
	9Cl-PF3ONS	756426-58-1	FR080525011	21.2	0.410	0.596	37.6-146%	106%	
ES	MPFBA		FR080525011				20-150%	89.3%	
	M5PFPeA		FR080525011				20-150%	90.0%	
	M3PFBS		FR080525011				20-150%	80.1%	
	M2-4:2 FTS		FR080525011				20-150%	106%	
	M5PFHxA		FR080525011				20-150%	90.2%	
	M3HFPO-DA		FR080525011				20-150%	88.4%	
	M4PFHpA		FR080525011				20-150%	91.5%	
	M3PFHxS		FR080525011				20-150%	97.2%	
	M2-6:2 FTS		FR080525011				20-150%	98.4%	
	M8PFOA		FR080525011				20-150%	91.2%	
	M9PFNA		FR080525011				20-150%	81.4%	
	M8PFOS		FR080525011				20-150%	87.7%	
	M2-8:2 FTS		FR080525011				20-150%	89.2%	
	M8FOSA-I		FR080525011				20-150%	67.5%	
	M6PFDA		FR080525011				20-150%	91.2%	
	d3-N-MeFOSAA		FR080525011				20-150%	88.8%	
	d5-N-EtFOSAA		FR080525011				20-150%	80.5%	
	M7PFUdA		FR080525011				20-150%	77.8%	
	MPFDoA		FR080525011				20-150%	68.7%	
	M2PFTeDA		FR080525011				20-150%	31.5%	
	d3-N-MeFOSA		FR080525011				10-200%	1.66%	Q
	d5-N-EtFOSA		FR080525011				10-200%	1.58%	Q
	d7-N-MeFOSE		FR080525011				10-200%	48.5%	
	d9-N-EtFOSE		FR080525011				10-200%	47.7%	

Enthalpy Analytical

Job No.: 0425-821-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	OPR_19406_PFAS	Prep Batch	EU19406	Sample Vol (mL)	0.1
Sample Name	OPR_19406_PFAS	Prep Date	2025-05-12 17:30	Extract Vol (mL)	0.2
Matrix	aqueous	Analysis Date	2025-05-12 19:13	Split Factor	N/A
Sampling Date		Analyst	jogres	Method Code	EU-047-NPW
Received Date		Instrument	Bumblebee	Sample Type	Control
		Bottle ID	-		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Other	TFA	76-05-1	B120525-05121913	25000	700	752	29.1-155%	125%	
ES	13C2-TFA		B120525-05121913				20-150%	42.9%	

Sample Custody

0425-821

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:
041125-SO1	4/11/2025	1345PM	250 ml	G	NW	2											X	Please Add PFPrA and
041125-EO1	4/11/2025	1345PM	250 ml	G	DW	2											X	PFHpA To The Testing.
																		PLEASE ADD TFA TESTING TO THE SO1

Relinquished By:	Date:	Received By:	Date:	Time:	Sample Temperature Upon Receipt:
BILLY BENTON	3/28/2025	Meredith Curtis	4/11/25	14:35	☒ Iced ☐ Ambient °C 2.7
					☐ Iced ☐ Ambient °C_____
					☐ Iced ☐ Ambient °C_____

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

JOB ID: 0425-821 Date / Time: 4/11/25 14:35 Initials: M.A.C.

OR

Client: Brunswick County Utilities

Cooler 1 of 2

Temp °C: 2.7 Thermometer ID: TIS

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 2 of 2

Temp °C: 0.1 Thermometer ID: TIS

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: