Brunswick County Public Utilities - NC

PO Box 249
Bolivia, NC 28422-0249

LELAND N.C.

Client Project# NORTHWEST WATER PLANT
Samples Received: 5/29/2025

Analytical Report
0525-1423

PFAS by Isotope Dilution (non-potable water)

Report Issue Date: 6/26/2025

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 28 pages. This report shall not be reproduced except in full without approval of the laboratory. This will provide assurance that parts of the report are not taken out of context.

Amendment(s):

Signature:

Alexandra Mejia, Quality Assurance Associate I

ENTHALPY ANALYTICAL

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Company	Brunswick County Public Utilities - NC
Job No.	0525-1423-1
Client ID.	NORTHWEST WATER PLANT Site: LELAND N.C.

1. Custody

Jayson-Shane Santos received the samples at 5.4 °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
0525-1423-001-1	052925-SO1	aqueous	2025-05-29
0525-1423-001-2	052925-SO1	aqueous	2025-05-29
0525-1423-002-1	052925-EO1	aqueous	2025-05-29
0525-1423-002-2	052925-EO1	aqueous	2025-05-29

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 Bumblebee and Pippin.

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.

Enthalpy Analytical Narrative Summary

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5. QC Notes

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

QC samples that did not meet method acceptance criteria were:

• MB_118160_PFAS (d3-N-MeFOSA, d5-N-EtFOSA)
• OPR_118160_PFAS (d3-N-MeFOSA, d5-N-EtFOSA)

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.

- 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.: 0525-1423-1 PFAS by Isotope Dilution (non-potable water)

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

Summary

	Compound	CAS	052925-SO1 ng/L	052925-EO1 ng/L
Acids	PFPrA	422-64-0	ND U	ND U
	PFBA	375-22-4	3.80	3.61
	PFPeA	2706-90-3	5.76	5.53
	PFHxA	307-24-4	5.70	5.82
	PFHpA	375-85-9	2.62	2.85
	PFOA	335-67-1	5.73	5.72
	PFNA	375-95-1	0.666	0.640
	PFDA	335-76-2	0.333 J	0.308 J
	PFUnDA	2058-94-8	0.0289 L	ND U
	PFDoDA	307-55-1	ND U	ND U
	PFTrDA	72629-94-8	ND U	ND U
	PFTeDA	376-06-7	ND U	ND U
	PFHxDA	67905-19-5	ND U	ND U
Sulfonates	PFBS	375-73-5	2.46	2.42
	PFPeS	2706-91-4	0.672	0.610
	PFHxS	355-46-4	3.39	3.21
	PFHpS	375-92-8	0.0574 L	0.0777 L
	PFOS	1763-23-1	10.7	10.5
	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	0.000443 L	ND U
	8:2 FTS	39108-34-4	ND U	ND U
	10:2 FTS	120226-60-0	ND U	ND U
Sulfonamidos	FBSA	30334-69-1	0.773	0.645
	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	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	3.24	3.01
	Hydro-EVE Acid	773804-62-9	0.0432 L	0.0751 L
	NFDHA	151772-58-6	ND U	ND U
	PEPA	267239-61-2	3.43	2.84
	PFECA-G	801212-59-9	ND U	ND U
	PFMOAA	674-13-5	31.7	27.2
	PFMOBA	863090-89-5	ND U	ND U
	PFMOPrA	377-73-1	ND U	ND U
	PFO2HxA	39492-88-1	3.14	2.77
	PFO3OA	39492-89-2	0.823	0.688
	PFO4DA	39492-90-5	0.120 L	0.131 L
	PFO5DA	39492-91-6	0.0296 L	ND U
	PMPA	13140-29-9	6.27	6.04
	R-EVE	2416366-22-6	4.38	6.26
PFESAs	11Cl-PF3OUdS	763051-92-9	ND U	ND U
	9Cl-PF3ONS	756426-58-1	ND U	ND U
	Hydrolyzed PSDA	2416366-19-1	1.80	1.93
	Nafion Byproduct 1 (PS Acid)	29311-67-9	ND U	ND U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	0.260 L	0.265 L
	NVHOS	1132933-86-8	ND U	ND U
	PFEESA	113507-82-7	ND U	ND U
	R-PSDA	2416366-18-0	3.65	4.54
	R-PSDCA	2416366-21-5	ND U	ND U

Enthalpy Analytical

Job No.: 0525-1423-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	052925-SO1		
Sampling Site			
Enthalpy ID	0525-1423-001-1	Prep Batch	EU118160
Matrix	aqueous	Analyst	jacksullivan
Sampling Date	2025-05-29 13:45	Instrument	Pippin
Received Date	2025-05-29	Sample Vol mL	288.86
Prep Date	2025-06-04 13:55	Extract Vol mL	0.4
AnalysisDate	2025-06-05 22:44	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	P050625021	3.80	0.220	0.554			
	PFPeA	2706-90-3	P050625021	5.76	0.158	0.554			
	PFHxA	307-24-4	P050625021	5.70	0.185	0.554			
	PFHpA	375-85-9	P050625021	2.62	0.194	0.554			
	PFOA	335-67-1	P050625021	5.73	0.127	0.554			
	PFNA	375-95-1	P050625021	0.666	0.125	0.554			
	PFDA	335-76-2	P050625021	0.333	0.158	0.554			J
	PFUnDA	2058-94-8	P050625021	0.0289	0.125	0.554			L
	PFDoDA	307-55-1	P050625021	ND	0.225	0.554			U
	PFTrDA	72629-94-8	P050625021	ND	0.183	0.554			U
	PFTeDA	376-06-7	P050625021	ND	0.211	0.554			U
	PFHxDA	67905-19-5	P050625021	ND	0.294	0.554			U
Sulfonates	PFBS	375-73-5	P050625021	2.46	0.294	0.554			
	PFPeS	2706-91-4	P050625021	0.672	0.114	0.522			
	PFHxS	355-46-4	P050625021	3.39	0.428	0.507			
	PFHpS	375-92-8	P050625021	0.0574	0.268	0.528			L
	PFOS	1763-23-1	P050625021	10.7	0.293	0.513			
	PFNS	68259-12-1	P050625021	ND	0.172	0.533			U
	PFDS	335-77-3	P050625021	ND	0.291	0.533			U
	4:2 FTS	757124-72-4	P050625021	ND	0.0718	0.519			U
	6:2 FTS	27619-97-2	P050625021	0.000443	0.261	0.528			L
	8:2 FTS	39108-34-4	P050625021	ND	0.124	0.531			U
	10:2 FTS	120226-60-0	P050625021	ND	0.424	0.554			U
Sulfonamidos	FBSA	30334-69-1	P050625021	0.773	0.263	0.554			
	N-EtFOSA	4151-50-2	P050625021	ND	0.343	0.554			U
	N-EtFOSAA	2991-50-6	P050625021	ND	0.225	0.554			U
	N-EtFOSE	1691-99-2	P050625021	ND	0.848	2.49			U
	N-MeFOSA	31506-32-8	P050625021	ND	0.228	0.554			U
	N-MeFOSAA	2355-31-9	P050625021	ND	0.156	0.554			U
	N-MeFOSE	24448-09-7	P050625021	ND	0.526	2.49			U
	PFOSA	754-91-6	P050625021	ND	0.0777	0.554			U
PFECAs	ADONA	919005-14-4	P050625021	ND	0.150	0.525			U
	EVE Acid	69087-46-3	P050625021	ND	0.177	1.25			U
	HFPO-DA	13252-13-6	P050625021	3.24	0.0587	0.554			
	Hydro-EVE Acid	773804-62-9	P050625021	0.0432	0.182	0.554			L
	NFDHA	151772-58-6	P060625043	ND	0.116	0.554			U
	PEPA	267239-61-2	P050625021	3.43	0.104	0.554			
	PFECA-G	801212-59-9	P050625021	ND	0.0739	0.554			U
	PFMOAA	674-13-5	P050625021	31.7	0.280	0.554			
	PFMOBA	863090-89-5	P050625021	ND	0.930	1.25			U
	PFMOPrA	377-73-1	P050625021	ND	0.197	0.554			U
	PFO2HxA	39492-88-1	P060625043	3.14	0.178	0.554			
	PFO3OA	39492-89-2	P050625021	0.823	0.254	0.554			
	PFO4DA	39492-90-5	P050625021	0.120	0.438	2.77			L
	PFO5DA	39492-91-6	P050625021	0.0296	0.443	2.77			L
	PMPA	13140-29-9	P050625021	6.27	0.131	0.554			
	R-EVE	2416366-22-6	P050625021	4.38	0.919	1.25			
PFESAs	11Cl-PF3OUdS	763051-92-9	P050625021	ND	0.261	0.522			U
	9Cl-PF3ONS	756426-58-1	P050625021	ND	0.355	0.516			U
	Hydrolyzed PSDA	2416366-19-1	P060625043	1.80	0.369	0.554			
	Nafion Byproduct 1 (PS Acid)	29311-67-9	P050625021	ND	0.296	0.554			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	P050625021	0.260	0.459	0.554			L
	NVHOS	1132933-86-8	P050625021	ND	0.0853	0.554			U
	PFEESA	113507-82-7	P050625021	ND	0.167	0.554			U
	R-PSDA	2416366-18-0	P050625021	3.65	2.44	2.44			
	R-PSDCA	2416366-21-5	P050625021	ND	0.234	0.554			U
ES	MPFBA		P050625021				20-150%	97.7%	
	M5PFPeA		P050625021				20-150%	183%	Q
	M3PFBS		P050625021				20-150%	373%	Q
	M2-4:2 FTS		P050625021				20-150%	84.8%	
	M5PFHxA		P050625021				20-150%	94.8%	
	M3HFPO-DA		P050625021				20-150%	83.8%	
	M4PFHpA		P050625021				20-150%	111%	

Enthalpy Analytical

Job No.: 0525-1423-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	052925-SO1		
Sampling Site			
Enthalpy ID	0525-1423-001-1	Prep Batch	EU118160
Matrix	aqueous	Analyst	jacksullivan
Sampling Date	2025-05-29 13:45	Instrument	Pippin
Received Date	2025-05-29	Sample Vol mL	288.86
Prep Date	2025-06-04 13:55	Extract Vol mL	0.4
AnalysisDate	2025-06-05 22:44	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
	M3PFHxS		P050625021				20-150%	98.3%	
	M2-6:2 FTS		P050625021				20-150%	84.6%	
	M8PFOA		P050625021				20-150%	96.5%	
	M9PFNA		P050625021				20-150%	93.8%	
	M8PFOS		P050625021				20-150%	94.9%	
	M2-8:2 FTS		P050625021				20-150%	69.3%	
	M8FOSA-I		P050625021				20-150%	72.7%	
	M6PFDA		P050625021				20-150%	99.6%	
	d3-N-MeFOSAA		P050625021				20-150%	46.8%	
	d5-N-EtFOSAA		P050625021				20-150%	42.5%	
	M7PFUdA		P050625021				20-150%	76.7%	
	MPFDoA		P050625021				20-150%	60.0%	
	M2PFTeDA		P050625021				20-150%	23.7%	
	d3-N-MeFOSA		P050625021				10-200%	7.90%	Q
	d5-N-EtFOSA		P050625021				10-200%	7.14%	Q
	d7-N-MeFOSE		P050625021				10-200%	38.6%	
	d9-N-EtFOSE		P050625021				10-200%	35.1%	

Enthalpy Analytical

Job No.: 0525-1423-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	052925-SO1		
Sampling Site			
Enthalpy ID	0525-1423-001-2	Prep Batch	EU118205
Matrix	aqueous	Analyst	bmay
Sampling Date	2025-05-29 13:45	Instrument	Bumblebee
Received Date	2025-05-29	Sample Vol mL	0.1
Prep Date	2025-06-11 16:40	Extract Vol mL	0.2
AnalysisDate	2025-06-11 18:44	Split Factor	N/A
SampleType	Sample	Method Code	EU-047-NPW
Bottle ID	B		

	Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFPrA	422-64-0	B110625-06111844	ND	700	1530			U
ES	13C3-PFPrA		B110625-06111844				20-150%	71.2%	

Enthalpy Analytical

Job No.: 0525-1423-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	052925-EO1		
Sampling Site			
Enthalpy ID	0525-1423-002-1	Prep Batch	EU118160
Matrix	aqueous	Analyst	jacksullivan
Sampling Date	2025-05-29 13:45	Instrument	Pippin
Received Date	2025-05-29	Sample Vol mL	283.1
Prep Date	2025-06-04 13:55	Extract Vol mL	0.4
AnalysisDate	2025-06-05 23:07	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	P050625022	3.61	0.224	0.565			
	PFPeA	2706-90-3	P050625022	5.53	0.162	0.565			
	PFHxA	307-24-4	P050625022	5.82	0.189	0.565			
	PFHpA	375-85-9	P050625022	2.85	0.198	0.565			
	PFOA	335-67-1	P050625022	5.72	0.129	0.565			
	PFNA	375-95-1	P050625022	0.640	0.128	0.565			
	PFDA	335-76-2	P050625022	0.308	0.162	0.565			J
	PFUnDA	2058-94-8	P050625022	ND	0.128	0.565			U
	PFDoDA	307-55-1	P050625022	ND	0.230	0.565			U
	PFTrDA	72629-94-8	P050625022	ND	0.187	0.565			U
	PFTeDA	376-06-7	P050625022	ND	0.215	0.565			U
	PFHxDA	67905-19-5	P050625022	ND	0.300	0.565			U
Sulfonates	PFBS	375-73-5	P050625022	2.42	0.300	0.565			
	PFPeS	2706-91-4	P050625022	0.610	0.116	0.532			
	PFHxS	355-46-4	P050625022	3.21	0.436	0.518			
	PFHpS	375-92-8	P050625022	0.0777	0.274	0.538			L
	PFOS	1763-23-1	P050625022	10.5	0.298	0.524			
	PFNS	68259-12-1	P050625022	ND	0.175	0.544			U
	PFDS	335-77-3	P050625022	ND	0.297	0.544			U
	4:2 FTS	757124-72-4	P050625022	ND	0.0733	0.529			U
	6:2 FTS	27619-97-2	P050625022	ND	0.267	0.538			U
	8:2 FTS	39108-34-4	P050625022	ND	0.127	0.541			U
	10:2 FTS	120226-60-0	P050625022	ND	0.433	0.565			U
Sulfonamidos	FBSA	30334-69-1	P050625022	0.645	0.268	0.565			
	N-EtFOSA	4151-50-2	P050625022	ND	0.350	0.565			U
	N-EtFOSAA	2991-50-6	P050625022	ND	0.230	0.565			U
	N-EtFOSE	1691-99-2	P050625022	ND	0.865	2.54			U
	N-MeFOSA	31506-32-8	P050625022	ND	0.233	0.565			U
	N-MeFOSAA	2355-31-9	P050625022	ND	0.159	0.565			U
	N-MeFOSE	24448-09-7	P050625022	ND	0.537	2.54			U
	PFOSA	754-91-6	P050625022	ND	0.0793	0.565			U
PFECAs	ADONA	919005-14-4	P050625022	ND	0.153	0.535			U
	EVE Acid	69087-46-3	P050625022	ND	0.180	1.27			U
	HFPO-DA	13252-13-6	P050625022	3.01	0.0599	0.565			
	Hydro-EVE Acid	773804-62-9	P050625022	0.0751	0.185	0.565			L
	NFDHA	151772-58-6	P060625044	ND	0.119	0.565			U
	PEPA	267239-61-2	P050625022	2.84	0.106	0.565			
	PFECA-G	801212-59-9	P050625022	ND	0.0754	0.565			U
	PFMOAA	674-13-5	P050625022	27.2	0.286	0.565			
	PFMOBA	863090-89-5	P050625022	ND	0.948	1.27			U
	PFMOPrA	377-73-1	P050625022	ND	0.201	0.565			U
	PFO2HxA	39492-88-1	P060625044	2.77	0.182	0.565			
	PFO3OA	39492-89-2	P050625022	0.688	0.260	0.565			
	PFO4DA	39492-90-5	P050625022	0.131	0.447	2.83			L
	PFO5DA	39492-91-6	P050625022	ND	0.452	2.83			U
	PMPA	13140-29-9	P050625022	6.04	0.133	0.565			
	R-EVE	2416366-22-6	P050625022	6.26	0.938	1.27			
PFESAs	11Cl-PF3OUdS	763051-92-9	P050625022	ND	0.267	0.532			U
	9Cl-PF3ONS	756426-58-1	P050625022	ND	0.362	0.527			U
	Hydrolyzed PSDA	2416366-19-1	P060625044	1.93	0.376	0.565			
	Nafion Byproduct 1 (PS Acid)	29311-67-9	P050625022	ND	0.302	0.565			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	P050625022	0.265	0.468	0.565			L
	NVHOS	1132933-86-8	P050625022	ND	0.0871	0.565			U
	PFEESA	113507-82-7	P050625022	ND	0.170	0.565			U
	R-PSDA	2416366-18-0	P050625022	4.54	2.49	2.49			
	R-PSDCA	2416366-21-5	P050625022	ND	0.238	0.565			U
ES	MPFBA		P050625022				20-150%	104%	
	M5PFPeA		P050625022				20-150%	164%	Q
	M3PFBS		P050625022				20-150%	351%	Q
	M2-4:2 FTS		P050625022				20-150%	85.9%	
	M5PFHxA		P050625022				20-150%	89.1%	
	M3HFPO-DA		P050625022				20-150%	77.1%	
	M4PFHpA		P050625022				20-150%	108%	

Enthalpy Analytical

Job No.: 0525-1423-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	052925-EO1		
Sampling Site			
Enthalpy ID	0525-1423-002-1	Prep Batch	EU118160
Matrix	aqueous	Analyst	jacksullivan
Sampling Date	2025-05-29 13:45	Instrument	Pippin
Received Date	2025-05-29	Sample Vol mL	283.1
Prep Date	2025-06-04 13:55	Extract Vol mL	0.4
AnalysisDate	2025-06-05 23:07	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
	M3PFHxS		P050625022				20-150%	107%	
	M2-6:2 FTS		P050625022				20-150%	105%	
	M8PFOA		P050625022				20-150%	99.9%	
	M9PFNA		P050625022				20-150%	92.3%	
	M8PFOS		P050625022				20-150%	99.1%	
	M2-8:2 FTS		P050625022				20-150%	76.9%	
	M8FOSA-I		P050625022				20-150%	82.1%	
	M6PFDA		P050625022				20-150%	96.9%	
	d3-N-MeFOSAA		P050625022				20-150%	49.7%	
	d5-N-EtFOSAA		P050625022				20-150%	47.3%	
	M7PFUdA		P050625022				20-150%	74.3%	
	MPFDoA		P050625022				20-150%	55.6%	
	M2PFTeDA		P050625022				20-150%	16.8%	Q
	d3-N-MeFOSA		P050625022				10-200%	5.94%	Q
	d5-N-EtFOSA		P050625022				10-200%	5.52%	Q
	d7-N-MeFOSE		P050625022				10-200%	54.1%	
	d9-N-EtFOSE		P050625022				10-200%	49.3%	

Enthalpy Analytical

Job No.: 0525-1423-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	052925-EO1		
Sampling Site			
Enthalpy ID	0525-1423-002-2	Prep Batch	EU118205
Matrix	aqueous	Analyst	bmay
Sampling Date	2025-05-29 13:45	Instrument	Bumblebee
Received Date	2025-05-29	Sample Vol mL	0.1
Prep Date	2025-06-11 16:40	Extract Vol mL	0.2
AnalysisDate	2025-06-11 18:55	Split Factor	N/A
SampleType	Sample	Method Code	EU-047-NPW
Bottle ID	B		

	Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFPrA	422-64-0	B110625-06111855	ND	700	1530			U
ES	13C3-PFPrA		B110625-06111855				20-150%	69.9%	

QC Data

ENTHALPY ANALYTICAL

Enthalpy Analytical

Job No.: 0525-1423-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	MB_118160_PFAS		
Sampling Site			
Enthalpy ID	MB_118160_PFAS	Prep Batch	EU118160
Matrix	aqueous	Analyst	jacksullivan
Sampling Date		Instrument	Pippin
Received Date		Sample Vol mL	250
Prep Date	2025-06-04 13:55	Extract Vol mL	0.4
AnalysisDate	2025-06-05 17:26	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	P050625007	ND	0.254	0.640			U
	PFPeA	2706-90-3	P050625007	ND	0.183	0.640			U
	PFHxA	307-24-4	P050625007	ND	0.214	0.640			U
	PFHpA	375-85-9	P050625007	ND	0.224	0.640			U
	PFOA	335-67-1	P050625007	ND	0.146	0.640			U
	PFNA	375-95-1	P050625007	ND	0.145	0.640			U
	PFDA	335-76-2	P050625007	ND	0.183	0.640			U
	PFUnDA	2058-94-8	P050625007	ND	0.145	0.640			U
	PFDoDA	307-55-1	P050625007	ND	0.260	0.640			U
	PFTrDA	72629-94-8	P050625007	ND	0.212	0.640			U
	PFTeDA	376-06-7	P050625007	ND	0.244	0.640			U
	PFHxDA	67905-19-5	P050625007	ND	0.340	0.640			U
Sulfonates	PFBS	375-73-5	P050625007	ND	0.340	0.640			U
	PFPeS	2706-91-4	P050625007	ND	0.131	0.603			U
	PFHxS	355-46-4	P050625007	ND	0.494	0.586			U
	PFHpS	375-92-8	P050625007	ND	0.310	0.610			U
	PFOS	1763-23-1	P050625007	ND	0.338	0.593			U
	PFNS	68259-12-1	P050625007	ND	0.199	0.616			U
	PFDS	335-77-3	P050625007	ND	0.336	0.616			U
	4:2 FTS	757124-72-4	P050625007	ND	0.0830	0.600			U
	6:2 FTS	27619-97-2	P050625007	ND	0.302	0.610			U
	8:2 FTS	39108-34-4	P050625007	ND	0.143	0.613			U
	10:2 FTS	120226-60-0	P050625007	ND	0.490	0.640			U
Sulfonamidos	FBSA	30334-69-1	P050625007	ND	0.304	0.640			U
	N-EtFOSA	4151-50-2	P050625007	ND	0.396	0.640			U
	N-EtFOSAA	2991-50-6	P050625007	ND	0.260	0.640			U
	N-EtFOSE	1691-99-2	P050625007	ND	0.980	2.88			U
	N-MeFOSA	31506-32-8	P050625007	ND	0.264	0.640			U
	N-MeFOSAA	2355-31-9	P050625007	ND	0.180	0.640			U
	N-MeFOSE	24448-09-7	P050625007	ND	0.608	2.88			U
	PFOSA	754-91-6	P050625007	ND	0.0898	0.640			U
PFECAs	ADONA	919005-14-4	P050625007	ND	0.173	0.606			U
	EVE Acid	69087-46-3	P050625007	ND	0.204	1.44			U
	HFPO-DA	13252-13-6	P050625007	ND	0.0678	0.640			U
	Hydro-EVE Acid	773804-62-9	P050625007	ND	0.210	0.640			U
	NFDHA	151772-58-6	P060625034	ND	0.135	0.640			U
	PEPA	267239-61-2	P050625007	ND	0.120	0.640			U
	PFECA-G	801212-59-9	P050625007	ND	0.0854	0.640			U
	PFMOAA	674-13-5	P050625007	ND	0.324	0.640			U
	PFMOBA	863090-89-5	P050625007	ND	1.07	1.44			U
	PFMOPrA	377-73-1	P050625007	ND	0.228	0.640			U
	PFO2HxA	39492-88-1	P060625034	ND	0.206	0.640			U
	PFO3OA	39492-89-2	P050625007	ND	0.294	0.640			U
	PFO4DA	39492-90-5	P050625007	ND	0.506	3.20			U
	PFO5DA	39492-91-6	P050625007	ND	0.512	3.20			U
	PMPA	13140-29-9	P050625007	ND	0.151	0.640			U
	R-EVE	2416366-22-6	P050625007	ND	1.06	1.44			U
PFESAs	11Cl-PF3OUdS	763051-92-9	P050625007	ND	0.302	0.603			U
	9Cl-PF3ONS	756426-58-1	P050625007	ND	0.410	0.596			U
	Hydrolyzed PSDA	2416366-19-1	P060625034	ND	0.426	0.640			U
	Nafion Byproduct 1 (PS Acid)	29311-67-9	P050625007	ND	0.342	0.640			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	P050625007	ND	0.530	0.640			U
	NVHOS	1132933-86-8	P050625007	ND	0.0986	0.640			U
	PFEESA	113507-82-7	P050625007	ND	0.192	0.640			U
	R-PSDA	2416366-18-0	P050625007	ND	2.82	2.82			U
	R-PSDCA	2416366-21-5	P050625007	ND	0.270	0.640			U
ES	MPFBA		P050625007				20-150%	94.0%	
	M5PFPeA		P050625007				20-150%	58.1%	
	M3PFBS		P050625007				20-150%	86.7%	
	M2-4:2 FTS		P050625007				20-150%	89.9%	
	M5PFHxA		P050625007				20-150%	101%	
	M3HFPO-DA		P050625007				20-150%	90.1%	
	M4PFHpA		P050625007				20-150%	97.2%	

Enthalpy Analytical

Job No.: 0525-1423-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	MB_118160_PFAS		
Sampling Site			
Enthalpy ID	MB_118160_PFAS	Prep Batch	EU118160
Matrix	aqueous	Analyst	jacksullivan
Sampling Date		Instrument	Pippin
Received Date		Sample Vol mL	250
Prep Date	2025-06-04 13:55	Extract Vol mL	0.4
AnalysisDate	2025-06-05 17:26	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
	M3PFHxS		P050625007				20-150%	87.0%	
	M2-6:2 FTS		P050625007				20-150%	69.0%	
	M8PFOA		P050625007				20-150%	86.9%	
	M9PFNA		P050625007				20-150%	82.6%	
	M8PFOS		P050625007				20-150%	82.4%	
	M2-8:2 FTS		P050625007				20-150%	58.3%	
	M8FOSA-I		P050625007				20-150%	59.6%	
	M6PFDA		P050625007				20-150%	83.9%	
	d3-N-MeFOSAA		P050625007				20-150%	40.3%	
	d5-N-EtFOSAA		P050625007				20-150%	38.3%	
	M7PFUdA		P050625007				20-150%	71.1%	
	MPFDoA		P050625007				20-150%	61.2%	
	M2PFTeDA		P050625007				20-150%	31.7%	
	d3-N-MeFOSA		P050625007				10-200%	2.11%	Q
	d5-N-EtFOSA		P050625007				10-200%	2.18%	Q
	d7-N-MeFOSE		P050625007				10-200%	32.9%	
	d9-N-EtFOSE		P050625007				10-200%	31.7%	

Enthalpy Analytical

Job No.: 0525-1423-1 PFAS by Isotope Dilution (non-potable water)

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

Details

Sample Name	MB_118205_PFAS		
Sampling Site			
Enthalpy ID	MB_118205_PFAS	Prep Batch	EU118205
Matrix	aqueous	Analyst	bmay
Sampling Date		Instrument	Bumblebee
Received Date		Sample Vol mL	0.1
Prep Date	2025-06-11 16:40	Extract Vol mL	0.2
AnalysisDate	2025-06-11 17:57	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	B110625-06111757	ND	700	1530			U
ES	13C3-PFPrA		B110625-06111757				20-150%	51.0%	

Enthalpy Analytical

Job No.: 0525-1423-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	OPR_118160_PFAS	Prep Batch	EU118160	Sample Vol (mL)	250
Sample Name	OPR_118160_PFAS	Prep Date	2025-06-04 13:55	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2025-06-05 17:49	Split Factor	N/A
Sampling Date		Analyst	jacksullivan	Method Code	EU-047-NPW
Received Date		Instrument	Pippin	Sample Type	Control
		Bottle ID	-		

	Compound	CAS	InjFileName	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	P050625008	20.1	0.254	0.640	47.9-144%	100%	
	PFPeA	2706-90-3	P050625008	19.9	0.183	0.640	41.7-159%	99.5%	
	PFHxA	307-24-4	P050625008	20.5	0.214	0.640	43.2-154%	103%	
	PFHpA	375-85-9	P050625008	19.5	0.224	0.640	42.1-155%	97.3%	
	PFOA	335-67-1	P050625008	19.9	0.146	0.640	51.1-148%	99.4%	
	PFNA	375-95-1	P050625008	20.5	0.145	0.640	51.6-153%	103%	
	PFDA	335-76-2	P050625008	19.0	0.183	0.640	44.5-156%	95.2%	
	PFUnDA	2058-94-8	P050625008	19.7	0.145	0.640	40.3-156%	98.5%	
	PFDoDA	307-55-1	P050625008	19.6	0.260	0.640	40.4-158%	97.8%	
	PFTrDA	72629-94-8	P050625008	36.1	0.212	0.640	42.2-201%	180%	
	PFTeDA	376-06-7	P050625008	20.4	0.244	0.640	43-162%	102%	
Sulfonates	PFBS	375-73-5	P050625008	16.2	0.340	0.640	42.7-155%	91.1%	
	PFPeS	2706-91-4	P050625008	19.5	0.131	0.603	40.3-152%	104%	
	PFHxS	355-46-4	P050625008	16.7	0.494	0.586	45-148%	91.3%	
	PFHpS	375-92-8	P050625008	19.0	0.310	0.610	39.8-166%	99.5%	
	PFOS	1763-23-1	P050625008	17.9	0.338	0.593	59.2-132%	96.2%	
	PFNS	68259-12-1	P050625008	17.9	0.199	0.616	38.1-153%	92.8%	
	PFDS	335-77-3	P050625008	15.2	0.336	0.616	28.6-148%	78.8%	
	4:2 FTS	757124-72-4	P050625008	15.9	0.0830	0.600	41.5-157%	84.7%	
	6:2 FTS	27619-97-2	P050625008	20.1	0.302	0.610	44.5-160%	106%	
	8:2 FTS	39108-34-4	P050625008	18.5	0.143	0.613	39.4-166%	96.1%	
Sulfonamidos	N-EtFOSA	4151-50-2	P050625008	22.9	0.396	0.640	26.7-172%	115%	
	N-EtFOSAA	2991-50-6	P050625008	23.3	0.260	0.640	42.8-156%	116%	
	N-EtFOSE	1691-99-2	P050625008	86.9	0.980	2.88	38.9-161%	96.6%	
	N-MeFOSA	31506-32-8	P050625008	20.2	0.264	0.640	26.4-183%	101%	
	N-MeFOSAA	2355-31-9	P050625008	19.9	0.180	0.640	42-155%	99.5%	
	N-MeFOSE	24448-09-7	P050625008	91.2	0.608	2.88	37.6-155%	101%	
	PFOSA	754-91-6	P050625008	17.4	0.0898	0.640	39.1-158%	86.8%	
PFECAs	ADONA	919005-14-4	P050625008	22.4	0.173	0.606	32.2-151%	112%	
	HFPO-DA	13252-13-6	P050625008	20.4	0.0678	0.640	61.8-131%	102%	
PFESAs	11Cl-PF3OUdS	763051-92-9	P050625008	16.9	0.302	0.603	21.8-141%	84.5%	
	9Cl-PF3ONS	756426-58-1	P050625008	19.2	0.410	0.596	37.6-146%	95.8%	
ES	MPFBA		P050625008				20-150%	99.0%	
	M5PFPeA		P050625008				20-150%	62.4%	
	M3PFBS		P050625008				20-150%	93.6%	
	M2-4:2 FTS		P050625008				20-150%	100%	
	M5PFHxA		P050625008				20-150%	110%	
	M3HFPO-DA		P050625008				20-150%	99.5%	
	M4PFHpA		P050625008				20-150%	112%	
	M3PFHxS		P050625008				20-150%	111%	
	M2-6:2 FTS		P050625008				20-150%	86.9%	
	M8PFOA		P050625008				20-150%	101%	
	M9PFNA		P050625008				20-150%	94.4%	
	M8PFOS		P050625008				20-150%	105%	
	M2-8:2 FTS		P050625008				20-150%	74.2%	
	M8FOSA-I		P050625008				20-150%	85.2%	
	M6PFDA		P050625008				20-150%	101%	
	d3-N-MeFOSAA		P050625008				20-150%	53.5%	
	d5-N-EtFOSAA		P050625008				20-150%	47.3%	
	M7PFUdA		P050625008				20-150%	84.7%	
	MPFDoA		P050625008				20-150%	68.5%	
	M2PFTeDA		P050625008				20-150%	29.7%	
	d3-N-MeFOSA		P050625008				10-200%	6.47%	Q
	d5-N-EtFOSA		P050625008				10-200%	5.99%	Q
	d7-N-MeFOSE		P050625008				10-200%	65.2%	
	d9-N-EtFOSE		P050625008				10-200%	58.2%	

Enthalpy Analytical

Job No.: 0525-1423-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	OPR_118205_PFAS	Prep Batch	EU118205	Sample Vol (mL)	0.1
Sample Name	OPR_118205_PFAS	Prep Date	2025-06-11 16:40	Extract Vol (mL)	0.2
Matrix	aqueous	Analysis Date	2025-06-11 18:09	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	B110625-06111809	20800	700	1530	40-150%	104%	
ES	13C3-PFPrA		B110625-06111809				20-150%	68.0%	

Sample Custody

ENTHALPY analytical

0525-1423

Chain of Custody Record

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 CindyJames@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 PCE	PFAS by LC/MS/MS	PAHs by HRGC/HRMS	Sample on Hold	Method 23	ALL PFAS	Notes:
052925-SO1	5/29/2025	1345PM	250 ml	G	NW	2														X	Please Add PFPrA and
052925-EO1	5/29/2025	1345PM	250 ml	G	DW	2														X	PFHpA To The Testing.

Relinquished By	Date	Received By	Date	Time	Sample Temperature Upon Receipt
BILLY BENTON	5/29/2025		5/29/25	14:35	☑ Iced ☐ Ambient °C 5.4
					☐ Iced ☐ Ambient °C_____
					☐ Iced ☐ Ambient °C_____

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

JOB ID: _____ OR Client: Brunswick County Public Utilities

Date / Time: 5/29/25 14:35 Initials: S.S.

Cooler 1 of 1

Temp °C: 5.4 Thermometer ID: T16

Received via
- FedEx ☐
- UPS ☐
- DHL ☐
- USPS ☐
- Courier ☑
- Other ☐

Check one		Check one			Yes	No
On ice:	☐	in a Box:	☐	Cooler seals:	☐	☑
Melted ice:	☐	in a Cooler:	☑	Sample seals:	☐	☑
Ambient:	☐	Cooler in Box:	☐	Good condition:	☑	☐

Comment:

Cooler ____ of ____

Temp °C: ____ Thermometer ID: ____

Received via
- FedEx ☐
- UPS ☐
- DHL ☐
- USPS ☐
- Courier ☐
- Other ☐

Check one		Check one			Yes	No
On ice:	☐	in a Box:	☐	Cooler seals:	☐	☐
Melted ice:	☐	in a Cooler:	☐	Sample seals:	☐	☐
Ambient:	☐	Cooler in Box:	☐	Good condition:	☐	☐

Comment:

Cooler ____ of ____

Temp °C: ____ Thermometer ID: ____

Received via
- FedEx ☐
- UPS ☐
- DHL ☐
- USPS ☐
- Courier ☐
- Other ☐

Check one		Check one			Yes	No
On ice:	☐	in a Box:	☐	Cooler seals:	☐	☐
Melted ice:	☐	in a Cooler:	☐	Sample seals:	☐	☐
Ambient:	☐	Cooler in Box:	☐	Good condition:	☐	☐

Comment: