

Brunswick County Public Utilities - NC

PO Box 249
Bolivia, NC 28422-0249

LELAND N.C.

Client Project# NORTHWEST WATER PLANT
Samples Received: 11/22/2024

Analytical Report 1124-867

PFAS by Isotope Dilution (non-potable water)

Report Issue Date: 12/26/2024

I certify that to the best of my knowledge all analytical data presented in this report have been checked for completeness, accuracy, errors and legibility in addition to having been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s). This analytical report was prepared in Portable Document Format (.PDF) and contains 29 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:



Laura Boivin, QA Associate II



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

Table of Contents

Case Narrative	3
General Reporting Notes	6
Results	11
Summary of Results	12
Detailed Results	13
QC Data	20
Blanks	21
Controls	25
Sample Custody	27
Chain of Custody	28

Narrative Summary



Enthalpy Analytical Narrative Summary

Company	Brunswick County Public Utilities - NC
Job No.	1124-867-1
Client ID.	NORTHWEST WATER PLANT Site: LELAND N.C.

1. Custody

Jayson-Shane Santos received the samples at 3.8 °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
1124-867-001-1	112224-SO1	aqueous	2024-11-22
1124-867-001-1A	112224-SO1	aqueous	2024-11-22
1124-867-002-1	112224-EO1	aqueous	2024-11-22
1124-867-002-1A	112224-EO1	aqueous	2024-11-22
1124-867-002-1B	112224-EO1	aqueous	2024-11-22

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
EU-047	Custom List	ENVI-Carb

3. Analysis

The samples were analyzed for PFPrA by direct injection using Sciex Triple Quad 7500 (LC/MS/MS "Bumblebee").

The samples were analyzed using Waters Acquity UPLC equipped with Xevo TQ MS (LC/MS/MS "Pippin").

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

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

Company	Brunswick County Public Utilities - NC
Job No.	1124-867-1
Client ID.	NORTHWEST WATER PLANT Site: LELAND N.C.

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_18637_PFAS (M2PFTeDA, d3-N-MeFOSA, d5-N-EtFOSA)
- MB_18683_PFAS (d3-N-MeFOSA, d5-N-EtFOSA)

Select surrogates (ES) deviated from method recovery criteria in the method blank (MB) and/or OPR. Target analytes are quantified based on their ratio to their labeled standard analogs. When detected at a signal-to-noise above 10:1 the ES peak area is used to quantify its respective target analyte using accepted isotope dilution principles. The data is reported without adverse impact.

- OPR_18637_PFAS (PFTTrDA) exceeds method control limits. This analyte was not detected >LOQ in the samples; therefore, the data is reportable without adverse impact.

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

6. Reporting Notes

The results presented in this report are representative of the samples as provided to the laboratory.

Some labeled extraction standards (ES) in the sample analyses recovered outside the 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 with no further action.

These analyses met the requirements of the TNI Standard. Any deviations from the requirements of the reference method or TNI Standard have been stated above.

Enthalpy Analytical, LLC in Wilmington NC is accredited by the Louisiana Department of Environmental Quality to the 2009 TNI Standard under certificate number 05075.



General Reporting Notes – Data Qualifiers

The following are general reporting notes that are applicable to all Enthalpy Analytical, LLC - Wilmington, NC data reports, unless specifically noted otherwise.

General Data Qualifiers

- Ac - Alternate calculation flag indicates the es recovery was calculated using the opening concal when either of the following situations is encountered in the data processing software: the ES recovery is over 400% or the JS is not detected.
- B – The analyte was found in the method blank, at a concentration that was at least 10% of the amount in the sample.
- Cxx – Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group ('xx') are shown with the number of the lowest IUPAC co-eluter.
- E – The reported concentration exceeds the calibration range (upper point of the calibration curve). For HRMS data, this condition does not imply additional measurement uncertainty. For LC-MS/MS data, these values should be considered as having measurement uncertainty higher than values within the calibration range.
- EDL – Estimated Detection Level: The EDL is unique to isotope dilution methods and reflects the conditions of analysis at the time of analysis, including the equipment used. Where the MDL is a static value, the EDL is a dynamic value.
- EMPC – Estimated Maximum Possible Concentration: EMPC is specific to Dioxin/Furan tests to indicate the determined ion-abundance ratio was outside the allowed theoretical range (usually due to being near the detection limit, although it can very rarely be caused by a co-eluting interference). The EMPC concentration is adjusted to reflect the value at the theoretical ion-abundance ratio.
- I/IR – The ion ratio between the primary and secondary ions was observed to be outside the method criteria. The analyte concentration may be inaccurate due to interference.
- J – The analyte has a concentration below the minimum calibration level (LOQ value) but greater than the LOD. These values should be considered as having measurement uncertainty higher than values within the calibration range
- L - For reports containing PFAS analytes only, this flag indicates that an analyte has a concentration below the Minimum Detection Limit (MDL) . The reported concentration is not recommended for regulatory use as the analyte signal may have a signal-to-noise ratio less than the criteria deemed necessary to be considered a detected analyte.
- LOD – Limit of Detection: For reports conforming to the DOD ELAP QSM, this is the QSM-defined LOD. For reports conforming to TNI requirements (but not DOD ELAP QSM requirements), this value is the minimum detection limit (MDL). The LOD is adjusted for sample weight or volume.

General Reporting Notes – Data Qualifiers

- LOQ – Limit of Quantitation: For reports conforming to the DOD ELAP QSM, this is the QSM-defined LOQ. For reports conforming to TNI requirements (but not DOD ELAP QSM requirements), this value is the reporting limit (RL). The LOQ is adjusted for sample weight or volume.
- <LOD() – Analyte was not found at a concentration high enough to be reported as detected. It is reported as less than the LOD, and the LOD is given in the parentheses.
- <LOQ() – Analyte was not found at a concentration high enough to be reported as above the QSM-defined LOQ or TNI defined Reporting Limit. It is reported as less than the LOQ, and the LOQ is given in the parentheses.
- ND – Indicates a non-detect.
- NR – Indicates a value that is not reportable due to issues observed in sample preparation or analysis.
- PR – The associated congener(s) is(are) poorly resolved.
- QI – Indicates the presence of a quantitative interference.
- RL – Reporting Limit. Lowest reportable value. The level is higher than the MDL.
- SI – Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
- U – The analyte was not detected.
- V / Q – The labeled standard recovery is not within method control limits.
- X – Indicates the result is from re-injection/repeat/second-column analysis.

Lab Identifiers/ Data Attributes

- AR – Indicates use of the archived portion of the sample extract.
- CU – Indicates a sample that required additional clean-up prior to HRMS injection/processing.
- D – Dilution Data. Result was obtained from the analysis of a dilution. The number that follows the “D” indicates the dilution factor.
- DE – Indicates a dilution performed with the addition of ES (Extraction Standard) solution.
- DUP – Designation for a duplicate sample.
- MS – Designation for a matrix spike.
- MSD – Designation for a matrix spike duplicate.



General Reporting Notes – Data Qualifiers

- R – Indicates a re-extraction of the sample.
- RJ – Indicates a reinjection of the sample extract.
- S – Indicates a sample split. The number that follows the “S” indicates the split factor.
- SAT – Indicates an analyte saturated the detector.

PFAS Compound Acronym List			
Acronym	CAS #	Compound Name	
* accredited for SOP EU047 / EPA method 1633 # Method 537.1 Accredited ^ Method 533 Accredited ~EPA 1633 extended list			
Target Analytes			
* , ^	PFBA	375-22-4	Perfluorobutanoic Acid
* , # , ^	PFPeA	2706-90-3	Perfluoropentanoic Acid
* , # , ^	PFHxA	307-24-4	Perfluorohexanoic Acid
* , # , ^	PFHpA	375-85-9	Perfluoroheptanoic Acid
* , # , ^	PFOA	335-67-1	Perfluorooctanoic Acid
* , # , ^	PFNA	375-95-1	Perfluorononanoic Acid
* , # , ^	PFDA	335-76-2	Perfluorodecanoic acid
* , # , ^	PFUnA (PFUnDA)	2058-94-8	Perfluoroundecanoic acid
* , #	PFDoA (PFDoDA)	307-55-1	Perfluorododecanoic acid
* , #	PFTriA (PFTriA)	72629-94-8	Perfluorotridecanoic acid
* , # , ^	PFTeDA (PFTA)	376-06-7	Perfluorotetradecanoic acid
* , ^	PFBS	375-73-5	Perfluorobutane sulfonic acid
* , # , ^	PFPeS	2706-91-4	Perfluoropentane sulfonic acid
* , ^	PFHxS	355-46-4	Perfluorohexane sulfonic acid
* , # , ^	PFHpS	375-92-8	Perfluoroheptane sulfonic acid
* , # , ^	PFOS	1763-23-1	Perfluorooctane sulfonic acid
* , #	PFNS	68259-12-1	Perfluorononane sulfonic acid
* , #	PFDS	335-77-3	Perfluorodecane sulfonic acid
* , ^	4:2 FTS	757124-72-4	4:2 fluorotelomer sulfonic acid
* , ^	6:2 FTS	27619-97-2	6:2 fluorotelomer sulfonic acid
* , ^	8:2 FTS	39108-34-4	8:2 fluorotelomer sulfonic acid
~	10:2 FTS	120226-60-0	Fluorotelomer sulfonate 10:2
~	FHxSA	41997-13-1	Perfluorohexanesulfonamide
* , #	PFOSA (FOSA)	754-91-6	Perfluorooctane sulfonamide
* , #	N-MeFOSAA	2355-31-9	N-methyl perfluorooctane sulfonamido acetic acid
* , #	N-MeFOSA	31506-32-8	N-methylperfluoro-1-octanesulfonamide
* , #	N-MeFOSE	24448-09-7	2-(N-methylperfluoro-1-octanesulfonamido)-ethanol
* , #	N-EtFOSAA	2991-50-6	N-ethyl perfluorooctane sulfonamido acetic acid
* , #	N-EtFOSA	4151-50-2	N-ethylperfluoro-1-octanesulfonamide
* , #	N-EtFOSE	1691-99-2	2-(N-methylperfluoro-1-octanesulfonamido)-ethanol
* , # , ^	HFPO-DA	13252-13-6	2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid (Gen-X)
* , # , ^	11Cl-PF3OUdS	763051-92-9	11-chloroheptafluoro-3-oxadecane-1-sulfonic acid
* , # , ^	9Cl-PF3ONS	756426-58-1	9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid
* , # , ^	ADONA	919005-14-4	4,8-dioxa-3H-perfluorononanoic acid
* , ^	PFEESA	113507-82-7	Perfluoro(2-ethoxyethane)sulphonic acid
* , ^	PFMOBA (PFMBA)	863090-89-5	Perfluoro-4-methoxybutanoic acid
* , ^	NFDHA	151772-58-6	Nonafluoro-3,6-dioxahexanoic acid
* , ^	PFMOPrA (PFMPA)	377-73-1	Perfluoro-3-methoxypropanoic acid
~	PFPrA	422-64-0	2,2,3,3,3-Pentafluoropropionic acid
~	PFPrS (PFPS)	423-41-6	Perfluoropropanesulfonic acid
~	PFMOAA	674-13-5	Perfluoro-2-methoxyacetic acid
~	PFO2HxA	39492-88-1	Perfluoro (3,5-dioxahexanoic) acid
~	PFO3OA	39492-89-2	Perfluoro (3,5,7-trioxaoctanoic) acid
~	PFO4DA	39492-90-5	Perfluoro (3,5,7,9-tetraoxadecanoic) acid
~	PFO5DA	39492-91-6	Perfluoro(3,5,7,9,11-pentaoxadodecanoic) acid
~	Nafion Byproduct 1 (PS Acid)	29311-67-9	Nafion Byproduct 1
~	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	Nafion Byproduct 2
~	PEPA	267239-61-2	Perfluoro-2-ethoxypropanoic acid
~	PMPA	13140-29-9	Perfluoro-2-methoxypropanoic acid

PFAS Compound Acronym List		
Acronym	CAS #	Compound Name
* accredited for SOP EU047 / EPA method 1633	# Method 537.1 Accredited	^ Method 533 Accredited ~EPA 1633 extended list
~ PFECA-G	801212-59-9	4-(Heptafluoroisopropoxy)hexafluorobutanoic acid
~ PFHxDA	67905-19-5	Perfluorohexadecanoic acid
~ R-PSDA (Nafion Byproduct 4)	2416366-18-0	Perfluoro-4-(2-sulfoethoxy)pentanoic acid
Hydrolyzed PSDA (Nafion Byproduct 5)	2416366-19-1	2-fluoro-2-[1,1,2,3,3,3-hexafluoro-2-(1,1,2-tetrafluoro-2-sulfoethoxy)propoxy]-acetic acid
~ R-PSDCA (Nafion Byproduct 6)	2416366-21-5	1,1,2,2-tetrafluoro-2-[1,2,2,3,3-pentafluoro-1-(trifluoromethyl)propoxy] ethanesulfonic acid
~ EVE Acid	69087-46-3	2,2,3,3-tetrafluoro-3-({1,1,1,2,3,3-hexafluoro-3-[(1,2,2-trifluoroethenyl)oxy]propan-2-yl)oxy}propionic acid
~ FBSA	30334-69-1	Perfluorobutylsulfonamide
~ MeFBSA	68298-12-4	1-Butanesulfonamide; (N-(Methyl)nonafluorobutanesulfonamide)
~ Hydro-EVE Acid	773804-62-9	2,2,3,3-Tetrafluoro-3-[[1,1,1,2,3,3-hexafluoro-3-(1,2,2,2-tetrafluoroethoxy)propan-2-yl]oxy}propanoic acid
~ R-EVE Acid	2416366-22-6	4-(2-carboxy-1,1,2,2-tetrafluoroethoxy)-2,2,3,3,4,5,5,5-octafluoro-pentanoic acid
~ NVHOS	1132933-86-8	Perfluoroethoxysulfonic acid
*~ PFDoS	79780-39-5	Perfluorododecane sulfonic acid
~ PFODA	16517-11-6	Perfluorooctadecanoic acid
* 3:3 FTCA	356-02-5	2H,2H,3H,3H-Perfluorohexanoic acid
* 5:3 FTCA	914637-49-3	2H,2H,3H,3H-Perfluorooctanoic acid
* 7:3 FTCA	812-70-4	2H,2H,3H,3H-Perfluorodecanoic acid
~ N-AP-FHxSA	50598-28-2	N-(3-(Dimethylamino)propyl)tridecafluoro-1-hexanesulfonamide
~ N-CMAmP-6:2 FOSA	34455-29-3	N-(Carboxymethyl)-N,N-dimethyl-3-(((3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)sulfonyl)amino)1-propanaminium
~ BPAF	1478-61-1	Bisphenol AF
~ HQ-115	90076-65-6	Bis(trifluoromethane)sulfonimide lithium salt

Results

Enthalpy Analytical

Job No.: 1124-867-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND N.C.

Summary

	Compound	CAS	112224-SO1 ng/L	112224-EO1 ng/L	
Acids	PFPtA	422-64-0	ND U	ND U	
	PFBA	375-22-4	3.92	4.10	
	PFPeA	2706-90-3	7.16	6.99	
	PFHxA	307-24-4	5.76	6.09	
	PFHpA	375-85-9	2.93	2.96	
	PFOA	335-67-1	5.60	5.63	
	PFNA	375-95-1	0.506 J	0.519 J	
	PFDA	335-76-2	0.121 L	0.117 L	
	PFUnDA	2058-94-8	ND U	ND U	
	PFDoDA	307-55-1	ND U	ND U	
	PFTtDA	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	3.76	4.18
		PFPeS	2706-91-4	0.853	0.710
		PFHxS	355-46-4	5.50	5.08
PFHpS		375-92-8	0.190 L	0.185 L	
PFOS		1763-23-1	10.8	10.6	
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	0.157 L	0.318 J	
8:2 FTS		39108-34-4	ND U	ND U	
10:2 FTS		120226-60-0	ND U	ND U	
Sulfonamidos	FBSA	30334-69-1	0.472 J	0.470 J	
	N-EtFOSA	4151-50-2	ND U	ND U	
	N-EtFOSAA	2991-50-6	ND U	ND U	
	N-EtFOSE	1691-99-2	ND U	ND U	
	N-MeFOSA	31506-32-8	ND U	ND U	
	N-MeFOSAA	2355-31-9	0.0142 L	ND U	
	N-MeFOSE	24448-09-7	ND U	ND U	
	PFOSA	754-91-6	4.39	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	4.17	4.64	
	Hydro-EVE Acid	773804-62-9	0.0920 L	0.109 L	
	NFDHA	151772-58-6	ND U	ND U	
	PEPA	267239-61-2	2.94	2.77	
	PFECA-G	801212-59-9	ND U	ND U	
	PFMOAA	674-13-5	20.2	21.7	
	PFMOBA	863090-89-5	ND U	ND U	
	PFMOPrA	377-73-1	ND U	ND U	
	PFO2HxA	39492-88-1	4.78	4.97	
	PFO3OA	39492-89-2	1.03	1.09	
	PFO4DA	39492-90-5	ND U	ND U	
	PFO5DA	39492-91-6	ND U	ND U	
	PMPA	13140-29-9	9.64	9.82	
	R-EVE	2416366-22-6	6.30	5.77	
	PFESAs	11Cl-PF3OUdS	763051-92-9	ND U	ND U
		9Cl-PF3ONS	756426-58-1	ND U	ND U
Hydrolyzed PSDA		2416366-19-1	2.70	3.04	
Nafion Byproduct 1 (PS Acid)		29311-67-9	ND U	ND U	
Nafion Byproduct 2 (Hydro-PS Acid)		749836-20-2	0.358 L	0.410 L	
NVHOS		1132933-86-8	ND U	ND U	
PFEESA		113507-82-7	ND U	ND U	
R-PSDA		2416366-18-0	3.88	3.26	
R-PSDCA		2416366-21-5	ND U	ND U	

Enthalpy Analytical

Job No.: 1124-867-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND N.C.

Details

Sample Name	112224-SO1		
Sampling Site			
Enthalpy ID	1124-867-001-1	Prep Batch	EU18622
Matrix	aqueous	Analyst	jogres
Sampling Date	2024-11-22 13:30	Instrument	Bumblebee
Received Date	2024-11-22	Sample Vol mL	0.1
Prep Date	2024-12-04 08:11	Extract Vol mL	0.2
AnalysisDate	2024-12-04 16:06	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	PFPfA	422-64-0	B041224-12041606	ND	700	1530			U
ES	13C3-PFPfA		B041224-12041606				20-150%	118%	

Enthalpy Analytical

Job No.: 1124-867-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND N.C.

Details

Sample Name	112224-SO1	Prep Batch	EU18637
Sampling Site		Analyst	jacksullivan
Enthalpy ID	1124-867-001-1A	Instrument	Pippin
Matrix	aqueous	Sample Vol mL	285.39
Sampling Date	2024-11-22 13:30	Extract Vol mL	0.4
Received Date	2024-11-22	Split Factor	N/A
Prep Date	2024-12-09 08:52	Method Code	EU-047-NPW
AnalysisDate	2024-12-10 01:04		
SampleType	Sample		
Bottle ID	A		

	Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags	
Acids	PFBA	375-22-4	P091224021	3.92	0.223	0.561				
	PFPeA	2706-90-3	P091224021	7.16	0.160	0.561				
	PFFhxA	307-24-4	P091224021	5.76	0.187	0.561				
	PFFHpA	375-85-9	P091224021	2.93	0.196	0.561				
	PFOA	335-67-1	P091224021	5.60	0.128	0.561				
	PFNA	375-95-1	P091224021	0.506	0.127	0.561			J	
	PFDA	335-76-2	P091224021	0.121	0.160	0.561			L	
	PFUnDA	2058-94-8	P091224021	ND	0.127	0.561			U	
	PFFDoDA	307-55-1	P091224021	ND	0.228	0.561			U	
	PFTTrDA	72629-94-8	P091224021	ND	0.186	0.561			U	
	PFTTeDA	376-06-7	P091224021	ND	0.214	0.561			U	
	PFFhxDA	67905-19-5	P091224021	ND	0.298	0.561			U	
	Sulfonates	PFBS	375-73-5	P091224021	3.76	0.298	0.561			
		PFPeS	2706-91-4	P091224021	0.853	0.115	0.528			
PFFhXS		355-46-4	P091224021	5.50	0.433	0.513				
PFFHpS		375-92-8	P091224021	0.190	0.272	0.534			L	
PFOS		1763-23-1	P091224021	10.8	0.296	0.519				
PFNS		68259-12-1	P091224021	ND	0.174	0.540			U	
PFDS		335-77-3	P091224021	ND	0.294	0.540			U	
4:2 FTS		757124-72-4	P091224021	ND	0.0727	0.525			U	
6:2 FTS		27619-97-2	P091224021	0.157	0.265	0.534			L	
8:2 FTS		39108-34-4	P091224021	ND	0.126	0.537			U	
10:2 FTS	120226-60-0	P091224021	ND	0.429	0.561			U		
Sulfonamidos	FBSA	30334-69-1	P091224021	0.472	0.266	0.561			J	
	N-EiFOSA	4151-50-2	P091224021	ND	0.347	0.561			U	
	N-EiFOSAA	2991-50-6	P091224021	ND	0.228	0.561			U	
	N-EiFOSE	1691-99-2	P091224021	ND	0.858	2.52			U	
	N-MeFOSA	31506-32-8	P091224021	ND	0.231	0.561			U	
	N-MeFOSAA	2355-31-9	P091224021	0.0142	0.158	0.561			L	
	N-MeFOSE	24448-09-7	P091224021	ND	0.533	2.52			U	
	PFOSA	754-91-6	P091224021	4.39	0.0787	0.561				
	ADONA	919005-14-4	P091224021	ND	0.152	0.531			U	
	EVE Acid	69087-46-3	P091224021	ND	0.179	1.26			U	
PFECAs	HFPO-DA	13252-13-6	P091224021	4.17	0.0594	0.561				
	Hydro-EVE Acid	773804-62-9	P091224021	0.0920	0.184	0.561			L	
	NFDHA	151772-58-6	P091224021	ND	0.118	0.561			U	
	PEPA	267239-61-2	P091224021	2.94	0.105	0.561				
	PFECA-G	801212-59-9	P091224021	ND	0.0748	0.561			U	
	PFMOAA	674-13-5	P091224021	20.2	0.284	0.561				
	PFMOBA	863090-89-5	P091224021	ND	0.941	1.26			U	
	PFMOPrA	377-73-1	P091224021	ND	0.200	0.561			U	
	PFO2HxA	39492-88-1	P091224021	4.78	0.180	0.561				
	PFO3OA	39492-89-2	P091224021	1.03	0.258	0.561				
	PFO4DA	39492-90-5	P091224021	ND	0.443	2.80			U	
	PFO5DA	39492-91-6	P091224021	ND	0.449	2.80			U	
	PMPA	13140-29-9	P091224021	9.64	0.132	0.561				
	R-EVE	2416366-22-6	P091224021	6.30	0.930	1.26				
	PFESAs	11CI-PF3OUdS	763051-92-9	P091224021	ND	0.265	0.528			U
		9CI-PF3ONS	756426-58-1	P091224021	ND	0.359	0.522			U
Hydrolyzed PSDA		2416366-19-1	P091224021	2.70	0.373	0.561				
Nafion Byproduct 1 (PS Acid)		29311-67-9	P091224021	ND	0.300	0.561			U	
Nafion Byproduct 2 (Hydro-PS Acid)		749836-20-2	P091224021	0.358	0.464	0.561			L	
NVHOS		1132933-86-8	P091224021	ND	0.0864	0.561			U	
PFEESA		113507-82-7	P091224021	ND	0.169	0.561			U	
R-PSDA		2416366-18-0	P091224021	3.88	2.47	2.47				
R-PSDCA		2416366-21-5	P091224021	ND	0.237	0.561			U	
ES		MPFBA		P091224021				20-150%	89.8%	
	M5PFPeA		P091224021				20-150%	180%	Q	
	M3PFBS		P091224021				20-150%	223%	Q	
	M2-4:2 FTS		P091224021				20-150%	128%		
	M5PFFhxA		P091224021				20-150%	81.1%		
	M3HFPO-DA		P091224021				20-150%	68.0%		
	M4PFFHpA		P091224021				20-150%	85.3%		

Enthalpy Analytical

Job No.: 1124-867-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND N.C.

Details

Sample Name	112224-SO1		
Sampling Site			
Enthalpy ID	1124-867-001-1A	Prep Batch	EU18637
Matrix	aqueous	Analyst	jacksullivan
Sampling Date	2024-11-22 13:30	Instrument	Pippin
Received Date	2024-11-22	Sample Vol mL	285.39
Prep Date	2024-12-09 08:52	Extract Vol mL	0.4
AnalysisDate	2024-12-10 01:04	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		P091224021				20-150%	106%	
M2-6:2 FTS		P091224021				20-150%	143%	
M8PFOA		P091224021				20-150%	95.8%	
M9PFNA		P091224021				20-150%	83.0%	
M8PFOS		P091224021				20-150%	85.8%	
M2-8:2 FTS		P091224021				20-150%	79.0%	
M8FOSA-I		P091224021				20-150%	67.5%	
M6PFDA		P091224021				20-150%	77.6%	
d3-N-MeFOSAA		P091224021				20-150%	80.3%	
d5-N-EtFOSAA		P091224021				20-150%	67.7%	
M7PFUdA		P091224021				20-150%	51.1%	
MPFDoA		P091224021				20-150%	25.6%	
M2PFTeDA		P091224021				20-150%	6.29%	Q
d3-N-MeFOSA		P091224021				10-200%	3.28%	Q
d5-N-EtFOSA		P091224021				10-200%	2.65%	Q
d7-N-MeFOSE		P091224021				10-200%	13.1%	
d9-N-EtFOSE		P091224021				10-200%	10.7%	

Enthalpy Analytical

Job No.: 1124-867-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND N.C.

Details

Sample Name	112224-EO1		
Sampling Site			
Enthalpy ID	1124-867-002-1	Prep Batch	EU18622
Matrix	aqueous	Analyst	jogres
Sampling Date	2024-11-22 13:30	Instrument	Bumblebee
Received Date	2024-11-22	Sample Vol mL	0.1
Prep Date	2024-12-04 08:11	Extract Vol mL	0.2
AnalysisDate	2024-12-04 16:18	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	PFPfA	422-64-0	B041224-12041618	ND	700	1530			U
ES	13C3-PFPfA		B041224-12041618				20-150%	127%	

Enthalpy Analytical

Job No.: 1124-867-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND N.C.

Details

Sample Name	112224-EO1	Prep Batch	EU18637
Sampling Site		Analyst	jacksullivan
Enthalpy ID	1124-867-002-1A	Instrument	Pippin
Matrix	aqueous	Sample Vol mL	283.94
Sampling Date	2024-11-22 13:30	Extract Vol mL	0.4
Received Date	2024-11-22	Split Factor	N/A
Prep Date	2024-12-09 08:52	Method Code	EU-047-NPW
AnalysisDate	2024-12-10 01:27		
SampleType	Sample		
Bottle ID	A		

	Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	P091224022	4.10	0.224	0.563			
	PFPeA	2706-90-3	P091224022	6.99	0.161	0.563			
	PFFhxA	307-24-4	P091224022	6.09	0.188	0.563			
	PFFHpA	375-85-9	P091224022	2.96	0.197	0.563			
	PFOA	335-67-1	P091224022	5.63	0.129	0.563			
	PFNA	375-95-1	P091224022	0.519	0.127	0.563			J
	PFDA	335-76-2	P091224022	0.117	0.161	0.563			L
	PFUnDA	2058-94-8	P091224022	ND	0.127	0.563			U
	PFFDoDA	307-55-1	P091224022	ND	0.229	0.563			U
	PFTTrDA	72629-94-8	P091224022	ND	0.187	0.563			U
	PFTeDA	376-06-7	P091224022	ND	0.215	0.563			U
	PFFhxDA	67905-19-5	P091224022	ND	0.299	0.563			U
	Sulfonates	PFBs	375-73-5	P091224022	4.18	0.299	0.563		
PFPeS		2706-91-4	P091224022	0.710	0.116	0.531			
PFFhXS		355-46-4	P091224022	5.08	0.435	0.516			
PFFHpS		375-92-8	P091224022	0.185	0.273	0.537			L
PFOs		1763-23-1	P091224022	10.6	0.298	0.522			
PFNS		68259-12-1	P091224022	ND	0.175	0.543			U
PFDS		335-77-3	P091224022	ND	0.296	0.543			U
4:2 FTS		757124-72-4	P091224022	ND	0.0731	0.528			U
6:2 FTS		27619-97-2	P091224022	0.318	0.266	0.537			J
8:2 FTS		39108-34-4	P091224022	ND	0.126	0.540			U
10:2 FTS	120226-60-0	P091224022	ND	0.431	0.563			U	
Sulfonamidos	FBSA	30334-69-1	P091224022	0.470	0.268	0.563			J
	N-EtFOSAA	2991-50-6	P091224022	ND	0.229	0.563			U
	N-EtFOSE	1691-99-2	P091224022	ND	0.863	2.54			U
	N-MeFOSAA	2355-31-9	P091224022	ND	0.158	0.563			U
	N-MeFOSE	24448-09-7	P091224022	ND	0.535	2.54			U
	PFOSA	754-91-6	P091224022	ND	0.0791	0.563			U
	ADONA	919005-14-4	P091224022	ND	0.153	0.534			U
PFECAs	EVE Acid	69087-46-3	P091224022	ND	0.180	1.27			U
	HFPO-DA	13252-13-6	P091224022	4.64	0.0597	0.563			
	Hydro-EVE Acid	773804-62-9	P091224022	0.109	0.185	0.563			L
	NFDHA	151772-58-6	P091224022	ND	0.119	0.563			U
	PEPA	267239-61-2	P091224022	2.77	0.106	0.563			
	PFECA-G	801212-59-9	P091224022	ND	0.0752	0.563			U
	PFMOAA	674-13-5	P091224022	21.7	0.285	0.563			
	PFMOBA	863090-89-5	P091224022	ND	0.946	1.27			U
	PFMOPrA	377-73-1	P091224022	ND	0.201	0.563			U
	PFO2HxA	39492-88-1	P091224022	4.97	0.181	0.563			
	PFO3OA	39492-89-2	P091224022	1.09	0.259	0.563			
	PFO4DA	39492-90-5	P091224022	ND	0.446	2.82			U
	PFO5DA	39492-91-6	P091224022	ND	0.451	2.82			U
	PMPA	13140-29-9	P091224022	9.82	0.133	0.563			
R-EVE	2416366-22-6	P091224022	5.77	0.935	1.27				
PFESAs	11Cl-PF3OUds	763051-92-9	P091224022	ND	0.266	0.531			U
	9Cl-PF3ONS	766426-58-1	P091224022	ND	0.361	0.525			U
	Hydrolyzed PSDA	2416366-19-1	P091224022	3.04	0.375	0.563			
	Nafion Byproduct 1 (PS Acid)	29311-67-9	P091224022	ND	0.301	0.563			U
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	P091224022	0.410	0.467	0.563			L
	NVHOS	1132933-86-8	P091224022	ND	0.0868	0.563			U
	PFEESA	113507-82-7	P091224022	ND	0.169	0.563			U
	R-PSDA	2416366-18-0	P091224022	3.26	2.48	2.48			
R-PSDCA	2416366-21-5	P091224022	ND	0.238	0.563			U	
ES	MPFBA		P091224022				20-150%	75.7%	
	M5PFPeA		P091224022				20-150%	132%	
	M3PFBS		P091224022				20-150%	169%	Q
	M2-4:2 FTS		P091224022				20-150%	103%	
	M5PFFhxA		P091224022				20-150%	64.3%	
	M3HFPO-DA		P091224022				20-150%	55.7%	
	M4PFFHpA		P091224022				20-150%	68.9%	
	M3PFFhXS		P091224022				20-150%	84.9%	
	M2-6:2 FTS		P091224022				20-150%	117%	

Enthalpy Analytical

Job No.: 1124-867-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND N.C.

Details

Sample Name	112224-EO1		
Sampling Site			
Enthalpy ID	1124-867-002-1A	Prep Batch	EU18637
Matrix	aqueous	Analyst	jacksullivan
Sampling Date	2024-11-22 13:30	Instrument	Pippin
Received Date	2024-11-22	Sample Vol mL	283.94
Prep Date	2024-12-09 08:52	Extract Vol mL	0.4
AnalysisDate	2024-12-10 01:27	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
M8PFOA		P091224022				20-150%	75.3%	
M9PFNA		P091224022				20-150%	63.1%	
M8PFOS		P091224022				20-150%	60.8%	
M2-8:2 FTS		P091224022				20-150%	66.8%	
M8FOSA-I		P091224022				20-150%	39.5%	
M6PFDA		P091224022				20-150%	51.0%	
d3-N-MeFOSAA		P091224022				20-150%	41.7%	
d5-N-EtFOSAA		P091224022				20-150%	37.3%	
M7PFUdA		P091224022				20-150%	36.0%	
MPPFD _o A		P091224022				20-150%	25.7%	
M2PFTeDA		P091224022				20-150%	9.59%	Q
d7-N-MeFOSE		P091224022				10-200%	17.4%	
d9-N-EtFOSE		P091224022				10-200%	10.8%	

Enthalpy Analytical

Job No.: 1124-867-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND N.C.

Details

Sample Name	112224-EO1		
Sampling Site			
Enthalpy ID	1124-867-002-1B	Prep Batch	eu18683
Matrix	aqueous	Analyst	jacksullivan
Sampling Date	2024-11-22 13:30	Instrument	Pippin
Received Date	2024-11-22	Sample Vol mL	289.86
Prep Date	2024-12-16 06:15	Extract Vol mL	0.4
AnalysisDate	2024-12-18 07:28	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
Sulfonamidos	N-EtFOSA	4151-50-2	P171224050	ND	0.342	0.552			U
	N-MeFOSA	31506-32-8	P171224050	ND	0.228	0.552			U
ES	d3-N-MeFOSA		P171224050				10-200%	0.256%	Q
	d5-N-EtFOSA		P171224050				10-200%	0.150%	Q

QC Data

Enthalpy Analytical

Job No.: 1124-867-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND N.C.

Details

Sample Name	MB_18622_PFAS		
Sampling Site			
Enthalpy ID	MB_18622_PFAS	Prep Batch	EU18622
Matrix	aqueous	Analyst	jogres
Sampling Date		Instrument	Bumblebee
Received Date		Sample Vol mL	0.1
Prep Date	2024-12-04 08:11	Extract Vol mL	0.2
AnalysisDate	2024-12-04 15:43	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	PFPfA	422-64-0	B041224-12041543	ND	700	1530			U
ES	13C3-PFPfA		B041224-12041543				20-150%	108%	

Enthalpy Analytical

Job No.: 1124-867-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND N.C.

Details

Sample Name	MB_18637_PFAS	Prep Batch	EU18637
Sampling Site		Analyst	jacksullivan
Enthalpy ID	MB_18637_PFAS	Instrument	Pippin
Matrix	aqueous	Sample Vol mL	250
Sampling Date		Extract Vol mL	0.4
Received Date		Split Factor	N/A
Prep Date	2024-12-09 08:52	Method Code	EU-047-NPW
AnalysisDate	2024-12-09 20:09		
SampleType	Blank		
Bottle ID	-		

	Compound	CAS	Injection File Name	Sample Concentration ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags	
Acids	PFBA	375-22-4	P091224008	ND	0.254	0.640			U	
	PFPeA	2706-90-3	P091224008	ND	0.183	0.640			U	
	PFFhxA	307-24-4	P091224008	ND	0.214	0.640			U	
	PFFHpA	375-85-9	P091224008	ND	0.224	0.640			U	
	PFOA	335-67-1	P091224008	ND	0.146	0.640			U	
	PFNA	375-95-1	P091224008	ND	0.145	0.640			U	
	PFDA	335-76-2	P091224008	ND	0.183	0.640			U	
	PFUnDA	2058-94-8	P091224008	ND	0.145	0.640			U	
	PFFDoDA	307-55-1	P091224008	ND	0.260	0.640			U	
	PFFTrDA	72629-94-8	P091224008	ND	0.212	0.640			U	
	PFFTeDA	376-06-7	P091224008	ND	0.244	0.640			U	
	PFFhxDA	67905-19-5	P091224008	ND	0.340	0.640			U	
	Sulfonates	PFBs	375-73-5	P091224008	ND	0.340	0.640			U
		PFPeS	2706-91-4	P091224008	ND	0.131	0.603			U
PFFhXS		355-46-4	P091224008	ND	0.494	0.586			U	
PFFHpS		375-92-8	P091224008	ND	0.310	0.610			U	
PFOs		1763-23-1	P091224008	ND	0.338	0.593			U	
PFNS		68259-12-1	P091224008	ND	0.199	0.616			U	
PFDs		335-77-3	P091224008	ND	0.336	0.616			U	
4:2 FTS		757124-72-4	P091224008	ND	0.0830	0.600			U	
6:2 FTS		27619-97-2	P091224008	0.0862	0.302	0.610			L	
8:2 FTS		39108-34-4	P091224008	ND	0.143	0.613			U	
10:2 FTS	120226-60-0	P091224008	ND	0.490	0.640			U		
Sulfonamidos	FBSA	30334-69-1	P091224008	ND	0.304	0.640			U	
	N-EiFOSA	4151-50-2	P091224008	ND	0.396	0.640			U	
	N-EiFOSAA	2991-50-6	P091224008	ND	0.260	0.640			U	
	N-EiFOSE	1691-99-2	P091224008	ND	0.980	2.88			U	
	N-MeFOSA	31506-32-8	P091224008	ND	0.264	0.640			U	
	N-MeFOSAA	2355-31-9	P091224008	ND	0.180	0.640			U	
	N-MeFOSE	24448-09-7	P091224008	ND	0.608	2.88			U	
	PFOsA	754-91-6	P091224008	ND	0.0898	0.640			U	
	PFECAs	ADONA	919005-14-4	P091224008	ND	0.173	0.606			U
		EVE Acid	69087-46-3	P091224008	ND	0.204	1.44			U
HFPO-DA		13252-13-6	P091224008	ND	0.0678	0.640			U	
Hydro-EVE Acid		773804-62-9	P091224008	ND	0.210	0.640			U	
NFDHA		151772-58-6	P091224008	ND	0.135	0.640			U	
PEPA		267239-61-2	P091224008	ND	0.120	0.640			U	
PFECA-G		801212-59-9	P091224008	ND	0.0854	0.640			U	
PfMOAA		674-13-5	P091224008	ND	0.324	0.640			U	
PfMOBA		863090-89-5	P091224008	ND	1.07	1.44			U	
PfMOPrA		377-73-1	P091224008	ND	0.228	0.640			U	
PFO2HxA		39492-88-1	P091224008	ND	0.206	0.640			U	
PFO3OA		39492-89-2	P091224008	ND	0.294	0.640			U	
PFO4DA		39492-90-5	P091224008	ND	0.506	3.20			U	
PFO5DA		39492-91-6	P091224008	ND	0.512	3.20			U	
PMPA		13140-29-9	P091224008	ND	0.151	0.640			U	
R-EVE		2416366-22-6	P091224008	ND	1.06	1.44			U	
PFESAs		11Cl-PF3OUdS	763051-92-9	P091224008	ND	0.302	0.603			U
	9Cl-PF3ONS	756426-58-1	P091224008	ND	0.410	0.596			U	
	Hydrolyzed PSDA	2416366-19-1	P091224008	ND	0.426	0.640			U	
	Nafion Byproduct 1 (PS Acid)	29311-67-9	P091224008	ND	0.342	0.640			U	
	Nafion Byproduct 2 (Hydro-PS Acid)	749836-20-2	P091224008	ND	0.530	0.640			U	
	NVHOS	1132933-86-8	P091224008	ND	0.0986	0.640			U	
	PFEESA	113507-82-7	P091224008	ND	0.192	0.640			U	
	R-PSDA	2416366-18-0	P091224008	ND	2.82	2.82			U	
	R-PSDCA	2416366-21-5	P091224008	ND	0.270	0.640			U	
	ES	MPFBA		P091224008				20-150%	80.7%	
M5PFPeA			P091224008				20-150%	79.8%		
M3PFBs			P091224008				20-150%	81.4%		
M2-4:2 FTS			P091224008				20-150%	109%		
M5PFFhxA			P091224008				20-150%	76.5%		
M3HFPO-DA			P091224008				20-150%	64.5%		
M4PFFHpA			P091224008				20-150%	69.9%		

Enthalpy Analytical

Job No.: 1124-867-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND N.C.

Details

Sample Name	MB_18637_PFAS		
Sampling Site			
Enthalpy ID	MB_18637_PFAS	Prep Batch	EU18637
Matrix	aqueous	Analyst	jacksullivan
Sampling Date		Instrument	Pippin
Received Date		Sample Vol mL	250
Prep Date	2024-12-09 08:52	Extract Vol mL	0.4
AnalysisDate	2024-12-09 20:09	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		P091224008				20-150%	74.9%	
M2-6:2 FTS		P091224008				20-150%	81.8%	
M8PFOA		P091224008				20-150%	55.7%	
M9PFNA		P091224008				20-150%	45.3%	
M8PFOS		P091224008				20-150%	48.7%	
M2-8:2 FTS		P091224008				20-150%	52.9%	
M8FOSA-I		P091224008				20-150%	42.1%	
M6PFDA		P091224008				20-150%	48.2%	
d3-N-MeFOSAA		P091224008				20-150%	44.3%	
d5-N-EtFOSAA		P091224008				20-150%	43.1%	
M7PFUdA		P091224008				20-150%	40.9%	
MPFDoA		P091224008				20-150%	33.0%	
M2PFTeDA		P091224008				20-150%	12.8%	Q
d3-N-MeFOSA		P091224008				10-200%	2.68%	Q
d5-N-EtFOSA		P091224008				10-200%	2.15%	Q
d7-N-MeFOSE		P091224008				10-200%	21.0%	
d9-N-EtFOSE		P091224008				10-200%	17.4%	

Enthalpy Analytical

Job No.: 1124-867-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND N.C.

Details

Sample Name	MB_18683_PFAS		
Sampling Site			
Enthalpy ID	MB_18683_PFAS	Prep Batch	eu18683
Matrix	aqueous	Analyst	jacksullivan
Sampling Date		Instrument	Pippin
Received Date		Sample Vol mL	250
Prep Date	2024-12-16 06:15	Extract Vol mL	0.4
AnalysisDate	2024-12-17 23:32	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
Sulfonamidos	N-EtFOSA	4151-50-2	P171224029	ND	0.396	0.640			U
	N-MeFOSA	31506-32-8	P171224029	ND	0.264	0.640			U
ES	d3-N-MeFOSA		P171224029				10-200%	4.38%	Q
	d5-N-EtFOSA		P171224029				10-200%	3.18%	Q

Enthalpy Analytical

Job No.: 1124-867-1 PFAS by Isotope Dilution (non-potable water)
 Brunswick County Public Utilities - NC NORTHWEST WATER PLANT LELAND N.C.

Details

Sample Name	OPR_18622_PFAS		
Sampling Site			
Enthalpy ID	OPR_18622_PFAS	Prep Batch	EU18622
Matrix	aqueous	Analyst	jogres
Sampling Date		Instrument	Bumblebee
Received Date		Sample Vol mL	0.08
Prep Date	2024-12-04 08:11	Extract Vol mL	0.2
AnalysisDate	2024-12-04 15:55	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	B041224-12041555	25500	875	1910	40-150%	102%	
ES	13C3-PFPrA		B041224-12041555				20-150%	112%	

Enthalpy Analytical

Job No.: 1124-867-1 PFAS by Isotope Dilution (non-potable water)

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

Enthalpy ID	OPR_18637_PFAS	Prep Batch	EU18637	Sample Vol (mL)	250
Sample Name	OPR_18637_PFAS	Prep Date	2024-12-09 08:52	Extract Vol (mL)	0.4
Matrix	aqueous	Analysis Date	2024-12-09 20:32	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	P091224009	19.3	0.254	0.640	69.1-122%	96.3%	
	PFPeA	2706-90-3	P091224009	18.3	0.183	0.640	68.5-121%	91.7%	
	PFHxA	307-24-4	P091224009	19.2	0.214	0.640	68.3-121%	95.9%	
	PFHpA	375-85-9	P091224009	20.2	0.224	0.640	62.4-128%	101%	
	PFOA	335-67-1	P091224009	19.5	0.146	0.640	66.3-124%	97.3%	
	PFNA	375-95-1	P091224009	18.6	0.145	0.640	70.5-120%	92.8%	
	PFDA	335-76-2	P091224009	18.1	0.183	0.640	68.9-117%	90.7%	
	PFUnDA	2058-94-8	P091224009	18.9	0.145	0.640	58.1-132%	94.3%	
	PFDoDA	307-55-1	P091224009	19.0	0.260	0.640	52.1-140%	95.0%	
	PFTrDA	72629-94-8	P091224009	30.2	0.212	0.640	65-144%	151%	Q
	PFTeDA	376-06-7	P091224009	20.4	0.244	0.640	36.1-161%	102%	
Sulfonates	PFBS	375-73-5	P091224009	17.4	0.340	0.640	67.5-111.6%	97.9%	
	PFPeS	2706-91-4	P091224009	17.8	0.131	0.603	51.8-142%	94.4%	
	PFHxS	355-46-4	P091224009	18.1	0.494	0.586	59.6-128%	98.9%	
	PFHpS	375-92-8	P091224009	15.9	0.310	0.610	46.9-157%	83.6%	
	PFOS	1763-23-1	P091224009	16.2	0.338	0.593	59.2-132%	87.1%	
	PFNS	68259-12-1	P091224009	21.1	0.199	0.616	53.9-133%	110%	
	PFDS	335-77-3	P091224009	21.3	0.336	0.616	38.1-142%	111%	
	4:2 FTS	757124-72-4	P091224009	19.3	0.0830	0.600	61.9-131%	103%	
	6:2 FTS	27619-97-2	P091224009	17.7	0.302	0.610	62.3-129%	93.0%	
8:2 FTS	39108-34-4	P091224009	18.4	0.143	0.613	37.5-159%	95.9%		
Sulfonamidos	N-EtFOSAA	2991-50-6	P091224009	18.6	0.260	0.640	61.5-133%	92.9%	
	N-MeFOSAA	2355-31-9	P091224009	19.0	0.180	0.640	57.3-138%	95.2%	
	PFOSA	754-91-6	P091224009	18.5	0.0898	0.640	49.1-143%	92.6%	
PFECAs	HFPO-DA	13252-13-6	P091224009	18.7	0.0678	0.640	57.2-130%	93.6%	
ES	MPFBA		P091224009				20-150%	81.6%	
	M5PFPeA		P091224009				20-150%	80.2%	
	M3PFBS		P091224009				20-150%	79.3%	
	M2-4:2 FTS		P091224009				20-150%	100%	
	M5PFHxA		P091224009				20-150%	71.1%	
	M3HFPO-DA		P091224009				20-150%	60.9%	
	M4PFHpA		P091224009				20-150%	60.2%	
	M3PFHxS		P091224009				20-150%	66.1%	
	M2-6:2 FTS		P091224009				20-150%	75.4%	
	M8PFOA		P091224009				20-150%	45.7%	
	M9PFNA		P091224009				20-150%	45.8%	
	M8PFOS		P091224009				20-150%	54.5%	
	M2-8:2 FTS		P091224009				20-150%	73.2%	
	M8FOSA-I		P091224009				20-150%	44.8%	
	M6PFDA		P091224009				20-150%	66.4%	
	d3-N-MeFOSAA		P091224009				20-150%	64.8%	
	d5-N-EtFOSAA		P091224009				20-150%	66.6%	
	M7PFUDa		P091224009				20-150%	67.1%	
	MPFDoA		P091224009				20-150%	61.4%	
	M2PFTeDA		P091224009				20-150%	29.0%	

Sample Custody

JOB ID: 1124-867

Date / Time: 11/22/24 14:41

Initials: S.S.

OR

Client: Brunswick County Public Utilities

Cooler (1) of (1)

Temp °C: 3.8

Thermometer ID: T15

Received via

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

Check one

On ice:

Melted ice:

Ambient:

Check one

in a Box:

in a Cooler:

Cooler in Box:

	Yes	No
Cooler seals:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sample seals:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Good condition:	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Comment:

Empty comment box

Temp °C: []

Thermometer ID: []

Cooler [] of []

Received via

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

Check one

On ice:

Melted ice:

Ambient:

Check one

in a Box:

in a Cooler:

Cooler in Box:

	Yes	No
Cooler seals:	<input type="checkbox"/>	<input type="checkbox"/>
Sample seals:	<input type="checkbox"/>	<input type="checkbox"/>
Good condition:	<input type="checkbox"/>	<input type="checkbox"/>

Comment:

Empty comment box

Temp °C: []

Thermometer ID: []

Cooler [] of []

Received via

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

Check one

On ice:

Melted ice:

Ambient:

Check one

in a Box:

in a Cooler:

Cooler in Box:

	Yes	No
Cooler seals:	<input type="checkbox"/>	<input type="checkbox"/>
Sample seals:	<input type="checkbox"/>	<input type="checkbox"/>
Good condition:	<input type="checkbox"/>	<input type="checkbox"/>

Comment:

Empty comment box