

# Brunswick County Public Utilities - NC

PO Box 249  
Bolivia, NC 28422-0249

## 211 Water Plant Leland, N.C.

Samples Received: 5/22/2023

### Analytical Report 0523-837

#### PFAS by Isotope Dilution PFAS

Report Issue Date: 6/23/2023

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 33 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.

Signature:



Laura Boivin, QA Associate II

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# Summary of Results

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC

Client Project: N/A Site: 211 Water Plant Leland, N.C.

### Summary

|              | Compound                           | CAS          | 052223-6A<br>ng/L | 052223-5<br>ng/L | 052223-1<br>ng/L | 052223-2<br>ng/L |
|--------------|------------------------------------|--------------|-------------------|------------------|------------------|------------------|
| Acids        | PFBA                               | 375-22-4     | ND U              | ND U             | 0.735            | ND U             |
|              | PFPeA                              | 2706-90-3    | ND U              | ND U             | ND U             | ND U             |
|              | PFHxA                              | 307-24-4     | ND U              | ND U             | ND U             | ND U             |
|              | PFHpA                              | 375-85-9     | ND U              | ND U             | ND U             | ND U             |
|              | PFOA                               | 335-67-1     | ND U              | ND U             | 0.0739 L         | ND U             |
|              | PFNA                               | 375-95-1     | ND U              | ND U             | ND U             | ND U             |
|              | PFDA                               | 335-76-2     | ND U              | ND U             | ND U             | ND U             |
|              | PFUnDA                             | 2058-94-8    | ND U              | ND U             | ND U             | ND U             |
|              | PFDoDA                             | 307-55-1     | ND U              | ND U             | ND U             | ND U             |
|              | PFTTrDA                            | 72629-94-8   | ND U              | ND U             | ND U             | ND U             |
|              | PFTeDA                             | 376-06-7     | ND U              | ND U             | ND U             | ND U             |
|              | PFHxDA                             | 67905-19-5   | ND U              | ND U             | ND U             | ND U             |
| Sulfonates   | PFBS                               | 375-73-5     | ND U              | ND U             | ND U             | ND U             |
|              | PFPeS                              | 2706-91-4    | ND U              | ND U             | ND U             | ND U             |
|              | PFHxS                              | 355-46-4     | ND U              | ND U             | ND U             | ND U             |
|              | PFHpS                              | 375-92-8     | ND U              | ND U             | ND U             | ND U             |
|              | PFOS                               | 1763-23-1    | ND U              | ND U             | ND U             | ND U             |
|              | PFNS                               | 68259-12-1   | ND U              | ND U             | ND U             | ND U             |
|              | PFDS                               | 335-77-3     | ND U              | ND U             | ND U             | ND U             |
|              | 4:2 FTS                            | 757124-72-4  | ND U              | ND U             | ND U             | ND U             |
|              | 6:2 FTS                            | 27619-97-2   | ND U              | ND U             | ND U             | ND U             |
|              | 8:2 FTS                            | 39108-34-4   | ND U              | 0.00492 L        | ND U             | ND U             |
| Sulfonamidos | 10:2 FTS                           | 120226-60-0  | ND U              | ND U             | ND U             | ND U             |
|              | FBSA                               | 30334-69-1   | ND U              | ND U             | ND U             | ND U             |
|              | N-EtFOSA                           | 4151-50-2    | ND U              | ND U             | ND U             | ND U             |
|              | N-EtFOSAA                          | 2991-50-6    | ND U              | ND U             | ND U             | ND U             |
|              | N-EtFOSE                           | 1691-99-2    | ND U              | ND U             | ND U             | ND U             |
|              | N-MeFOSA                           | 31506-32-8   | ND U              | ND U             | ND U             | ND U             |
|              | N-MeFOSAA                          | 2355-31-9    | ND U              | ND U             | ND U             | ND U             |
|              | N-MeFOSE                           | 24448-09-7   | ND U              | ND U             | ND U             | ND U             |
| Other        | PFOSA                              | 754-91-6     | 0.0651 LB         | 0.0263 LB        | 0.0274 LB        | 0.0352 LB        |
|              | Nafion Byproduct 1 (PS Acid)       | 29311-67-9   | ND U              | ND U             | ND U             | ND U             |
|              | Nafion Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND U              | ND U             | ND U             | ND U             |
| PFECAs       | ADONA                              | 919005-14-4  | ND U              | ND U             | ND U             | ND U             |
|              | EVE Acid                           | 69087-46-3   | ND U              | ND U             | ND U             | ND U             |
|              | HFPO-DA                            | 13252-13-6   | 0.0122 L          | 0.0129 L         | 0.110 J          | 0.0372 L         |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND U              | ND U             | ND U             | ND U             |
|              | NFDHA                              | 151772-58-6  | ND U              | ND U             | ND U             | ND U             |
|              | PEPA                               | 267239-61-2  | ND U              | ND U             | ND U             | ND U             |
|              | PFECA-G                            | 801212-59-9  | ND U              | ND U             | ND U             | ND U             |
|              | PFMOAA                             | 674-13-5     | 0.395 J           | 0.485 J          | 1.11             | ND U             |
|              | PFMOBA                             | 863090-89-5  | ND U              | ND U             | ND U             | ND U             |
|              | PFMOPrA                            | 377-73-1     | ND U              | ND U             | ND U             | ND U             |
|              | PFO2HxA                            | 39492-88-1   | ND U              | ND U             | ND U             | ND U             |
|              | PFO3OA                             | 39492-89-2   | ND U              | ND U             | ND U             | ND U             |
|              | PFO4DA                             | 39492-90-5   | ND U              | ND U             | ND U             | ND U             |
|              | PFO5DA                             | 39492-91-6   | ND U              | ND U             | ND U             | ND U             |
|              | PMPA                               | 13140-29-9   | ND U              | ND U             | 0.571            | ND U             |
|              | R-EVE                              | 2416366-22-6 | ND U              | ND U             | ND U             | ND U             |
| PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9  | ND U              | ND U             | ND U             | ND U             |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND U              | ND U             | ND U             | ND U             |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND U              | ND U             | ND U             | ND U             |
|              | NVHOS                              | 1132933-86-8 | ND U              | ND U             | ND U             | ND U             |
|              | PFEESA                             | 113507-82-7  | ND U              | ND U             | ND U             | ND U             |
|              | R-PSDA                             | 2416366-18-0 | ND U              | ND U             | ND U             | ND U             |
|              | R-PSDCA                            | 241636-21-5  | ND U              | ND U             | ND U             | ND U             |

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC

Client Project: N/A Site: 211 Water Plant Leland, N.C.

### Summary

|              | Compound                           | CAS          | 052223-16<br>ng/L | 052223-17<br>ng/L | 052223-18<br>ng/L | 052223-19<br>ng/L |
|--------------|------------------------------------|--------------|-------------------|-------------------|-------------------|-------------------|
| Acids        | PFBA                               | 375-22-4     | ND U              | ND U              | ND U              | 0.339 J           |
|              | PFPeA                              | 2706-90-3    | ND U              | ND U              | ND U              | ND U              |
|              | PFHxA                              | 307-24-4     | ND U              | ND U              | ND U              | ND U              |
|              | PFHpA                              | 375-85-9     | ND U              | ND U              | ND U              | ND U              |
|              | PFOA                               | 335-67-1     | ND U              | ND U              | ND U              | 0.0374 L          |
|              | PFNA                               | 375-95-1     | ND U              | ND U              | ND U              | ND U              |
|              | PFDA                               | 335-76-2     | ND U              | ND U              | ND U              | ND U              |
|              | PFUnDA                             | 2058-94-8    | ND U              | ND U              | ND U              | ND U              |
|              | PFDoDA                             | 307-55-1     | ND U              | ND U              | ND U              | ND U              |
|              | PFTTrDA                            | 72629-94-8   | ND U              | ND U              | ND U              | ND U              |
|              | PFTeDA                             | 376-06-7     | ND U              | ND U              | ND U              | ND U              |
|              | PFHxDA                             | 67905-19-5   | ND U              | ND U              | ND U              | ND U              |
| Sulfonates   | PFBS                               | 375-73-5     | ND U              | ND U              | ND U              | ND U              |
|              | PFPeS                              | 2706-91-4    | ND U              | ND U              | ND U              | ND U              |
|              | PFHxS                              | 355-46-4     | ND U              | ND U              | ND U              | ND U              |
|              | PFHpS                              | 375-92-8     | ND U              | ND U              | ND U              | ND U              |
|              | PFOS                               | 1763-23-1    | ND U              | ND U              | ND U              | ND U              |
|              | PFNS                               | 68259-12-1   | ND U              | ND U              | ND U              | ND U              |
|              | PFDS                               | 335-77-3     | ND U              | ND U              | ND U              | ND U              |
|              | 4:2 FTS                            | 757124-72-4  | ND U              | ND U              | ND U              | ND U              |
|              | 6:2 FTS                            | 27619-97-2   | ND U              | ND U              | ND U              | ND U              |
|              | 8:2 FTS                            | 39108-34-4   | ND U              | ND U              | ND U              | ND U              |
| Sulfonamidos | 10:2 FTS                           | 120226-60-0  | ND U              | ND U              | ND U              | ND U              |
|              | FBSA                               | 30334-69-1   | ND U              | ND U              | ND U              | ND U              |
|              | N-EtFOSA                           | 4151-50-2    | ND U              | ND U              | ND U              | ND U              |
|              | N-EtFOSAA                          | 2991-50-6    | ND U              | ND U              | ND U              | ND U              |
|              | N-EtFOSE                           | 1691-99-2    | ND U              | ND U              | ND U              | ND U              |
|              | N-MeFOSA                           | 31506-32-8   | ND U              | ND U              | ND U              | ND U              |
|              | N-MeFOSAA                          | 2355-31-9    | ND U              | ND U              | ND U              | ND U              |
|              | N-MeFOSE                           | 24448-09-7   | ND U              | ND U              | ND U              | ND U              |
| Other        | PFOSA                              | 754-91-6     | 0.0213 LB         | 0.0471 LB         | 0.0665 LB         | 0.00903 LB        |
|              | Nafion Byproduct 1 (PS Acid)       | 29311-67-9   | ND U              | ND U              | ND U              | ND U              |
|              | Nafion Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND U              | ND U              | ND U              | ND U              |
| PFECAs       | ADONA                              | 919005-14-4  | ND U              | ND U              | ND U              | ND U              |
|              | EVE Acid                           | 69087-46-3   | ND U              | ND U              | ND U              | ND U              |
|              | HFPO-DA                            | 13252-13-6   | 0.0651 J          | ND U              | ND U              | 0.0110 L          |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND U              | ND U              | ND U              | ND U              |
|              | NFDHA                              | 151772-58-6  | ND U              | ND U              | ND U              | ND U              |
|              | PEPA                               | 267239-61-2  | ND U              | ND U              | ND U              | ND U              |
|              | PFECA-G                            | 801212-59-9  | ND U              | ND U              | ND U              | ND U              |
|              | PFMOAA                             | 674-13-5     | 0.0825 L          | ND U              | ND U              | ND U              |
|              | PFMOBA                             | 863090-89-5  | ND U              | ND U              | ND U              | ND U              |
|              | PFMOPrA                            | 377-73-1     | ND U              | ND U              | ND U              | ND U              |
|              | PFO2HxA                            | 39492-88-1   | ND U              | ND U              | ND U              | ND U              |
|              | PFO3OA                             | 39492-89-2   | ND U              | ND U              | ND U              | ND U              |
|              | PFO4DA                             | 39492-90-5   | ND U              | ND U              | ND U              | ND U              |
|              | PFO5DA                             | 39492-91-6   | ND U              | ND U              | ND U              | ND U              |
|              | PMPA                               | 13140-29-9   | 0.436 J           | ND U              | ND U              | ND U              |
|              | R-EVE                              | 2416366-22-6 | ND U              | ND U              | ND U              | ND U              |
| PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9  | ND U              | ND U              | ND U              | ND U              |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND U              | ND U              | ND U              | ND U              |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND U              | ND U              | ND U              | ND U              |
|              | NVHOS                              | 1132933-86-8 | ND U              | ND U              | ND U              | ND U              |
|              | PFEESA                             | 113507-82-7  | ND U              | ND U              | ND U              | ND U              |
|              | R-PSDA                             | 2416366-18-0 | ND U              | ND U              | ND U              | ND U              |
|              | R-PSDCA                            | 241636-21-5  | ND U              | ND U              | ND U              | ND U              |

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC

Client Project: N/A Site: 211 Water Plant Leland, N.C.

### Summary

|              | Compound                           | CAS          | 052223-15<br>ng/L | 052223-8<br>ng/L | 052223-12<br>ng/L | 052223-11<br>ng/L |
|--------------|------------------------------------|--------------|-------------------|------------------|-------------------|-------------------|
| Acids        | PFBA                               | 375-22-4     | ND U              | ND U             | 0.945             | 0.936             |
|              | PFPeA                              | 2706-90-3    | ND U              | ND U             | ND U              | ND U              |
|              | PFHxA                              | 307-24-4     | ND U              | ND U             | ND U              | ND U              |
|              | PFHpA                              | 375-85-9     | ND U              | ND U             | 0.0914 L          | 0.0412 L          |
|              | PFOA                               | 335-67-1     | 0.0317 L          | ND U             | 0.105 L           | 0.0640 L          |
|              | PFNA                               | 375-95-1     | ND U              | ND U             | ND U              | ND U              |
|              | PFDA                               | 335-76-2     | ND U              | ND U             | ND U              | ND U              |
|              | PFUnDA                             | 2058-94-8    | ND U              | ND U             | ND U              | ND U              |
|              | PFDoDA                             | 307-55-1     | ND U              | ND U             | ND U              | ND U              |
|              | PFTTrDA                            | 72629-94-8   | ND U              | ND U             | ND U              | ND U              |
|              | PFTeDA                             | 376-06-7     | ND U              | ND U             | ND U              | ND U              |
|              | PFHxDA                             | 67905-19-5   | ND U              | ND U             | ND U              | ND U              |
| Sulfonates   | PFBS                               | 375-73-5     | ND U              | ND U             | ND U              | ND U              |
|              | PFPeS                              | 2706-91-4    | ND U              | ND U             | ND U              | ND U              |
|              | PFHxS                              | 355-46-4     | ND U              | ND U             | 0.503 J           | 0.118 L           |
|              | PFHpS                              | 375-92-8     | ND U              | ND U             | ND U              | ND U              |
|              | PFOS                               | 1763-23-1    | ND U              | ND U             | 1.28              | 0.0113 L          |
|              | PFNS                               | 68259-12-1   | ND U              | ND U             | ND U              | ND U              |
|              | PFDS                               | 335-77-3     | ND U              | ND U             | ND U              | ND U              |
|              | 4:2 FTS                            | 757124-72-4  | ND U              | ND U             | ND U              | ND U              |
|              | 6:2 FTS                            | 27619-97-2   | ND U              | ND U             | ND U              | ND U              |
|              | 8:2 FTS                            | 39108-34-4   | ND U              | ND U             | ND U              | ND U              |
| Sulfonamidos | 10:2 FTS                           | 120226-60-0  | ND U              | ND U             | ND U              | ND U              |
|              | FBSA                               | 30334-69-1   | ND U              | ND U             | ND U              | ND U              |
|              | N-EtFOSA                           | 4151-50-2    | ND U              | ND U             | ND U              | ND U              |
|              | N-EtFOSAA                          | 2991-50-6    | ND U              | ND U             | ND U              | ND U              |
|              | N-EtFOSE                           | 1691-99-2    | ND U              | ND U             | ND U              | ND U              |
|              | N-MeFOSA                           | 31506-32-8   | ND U              | ND U             | ND U              | ND U              |
|              | N-MeFOSAA                          | 2355-31-9    | ND U              | ND U             | ND U              | ND U              |
|              | N-MeFOSE                           | 24448-09-7   | ND U              | ND U             | ND U              | ND U              |
| Other        | PFOSA                              | 754-91-6     | ND U              | ND U             | 0.0447 LB         | ND U              |
|              | Nafion Byproduct 1 (PS Acid)       | 29311-67-9   | ND U              | ND U             | ND U              | ND U              |
|              | Nafion Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND U              | ND U             | ND U              | ND U              |
| PFECAs       | ADONA                              | 919005-14-4  | ND U              | ND U             | ND U              | ND U              |
|              | EVE Acid                           | 69087-46-3   | ND U              | ND U             | ND U              | ND U              |
|              | HFPO-DA                            | 13252-13-6   | 0.0986 J          | 0.0511 L         | 0.453 J           | 0.0847 J          |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND U              | ND U             | ND U              | ND U              |
|              | NFDHA                              | 151772-58-6  | ND U              | ND U             | ND U              | ND U              |
|              | PEPA                               | 267239-61-2  | ND U              | ND U             | ND U              | ND U              |
|              | PFECA-G                            | 801212-59-9  | ND U              | ND U             | ND U              | ND U              |
|              | PFMOAA                             | 674-13-5     | 0.405 J           | 0.336 J          | 12.8              | 3.77              |
|              | PFMOBA                             | 863090-89-5  | ND U              | ND U             | ND U              | ND U              |
|              | PFMOPra                            | 377-73-1     | ND U              | ND U             | ND U              | ND U              |
|              | PFO2HxA                            | 39492-88-1   | ND U              | ND U             | 0.578             | 0.193 J           |
|              | PFO3OA                             | 39492-89-2   | ND U              | ND U             | ND U              | ND U              |
|              | PFO4DA                             | 39492-90-5   | ND U              | ND U             | ND U              | ND U              |
|              | PFO5DA                             | 39492-91-6   | ND U              | ND U             | ND U              | ND U              |
|              | PMPA                               | 13140-29-9   | 0.643             | 0.0332 L         | 0.512 J           | 0.442 J           |
|              | R-EVE                              | 2416366-22-6 | ND U              | ND U             | ND U              | ND U              |
| PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9  | ND U              | ND U             | ND U              | ND U              |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND U              | ND U             | ND U              | ND U              |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND U              | ND U             | ND U              | ND U              |
|              | NVHOS                              | 1132933-86-8 | ND U              | ND U             | ND U              | ND U              |
|              | PFEESA                             | 113507-82-7  | ND U              | ND U             | ND U              | ND U              |
|              | R-PSDA                             | 2416366-18-0 | ND U              | ND U             | ND U              | ND U              |
|              | R-PSDCA                            | 241636-21-5  | ND U              | ND U             | ND U              | ND U              |

# Detailed Results

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: 211 Water Plant Leland, N.C.

|               |                  |               |                  |                  |        |
|---------------|------------------|---------------|------------------|------------------|--------|
| Enthalpy ID   | 0523-837-001-1   | Prep Batch    | EU15349          | Sample Vol (mL)  | 283.96 |
| Sample Name   | 052223-6A        | Prep Date     | 2023-05-31 14:52 | Extract Vol (mL) | 0.4    |
| Matrix        | AQ               | Analysis Date | 2023-06-01 18:18 | Split Factor     | N/A    |
| Sampling Date | 2023-05-22 09:30 | Analyst       | bahager          | Method Code      | WM-026 |
| Received Date | 2023-05-22       | Instrument    | Pippin           | Sample Type      | Sample |

|              | Compound                           | CAS          | Formatted Result<br>ng/L | LOD<br>ng/L | LOQ<br>ng/L | Recovery Limits | Recovery | Flags |
|--------------|------------------------------------|--------------|--------------------------|-------------|-------------|-----------------|----------|-------|
| Acids        | PFBA                               | 375-22-4     | ND                       | 0.224       | 0.563       |                 |          | U     |
|              | PFPeA                              | 2706-90-3    | ND                       | 0.161       | 0.563       |                 |          | U     |
|              | PFHxA                              | 307-24-4     | ND                       | 0.188       | 0.563       |                 |          | U     |
|              | PFHpA                              | 375-85-9     | ND                       | 0.197       | 0.563       |                 |          | U     |
|              | PFOA                               | 335-67-1     | ND                       | 0.129       | 0.563       |                 |          | U     |
|              | PFNA                               | 375-95-1     | ND                       | 0.127       | 0.563       |                 |          | U     |
|              | PFDA                               | 335-76-2     | ND                       | 0.161       | 0.563       |                 |          | U     |
|              | PFUnDA                             | 2058-94-8    | ND                       | 0.127       | 0.563       |                 |          | U     |
|              | PFDoDA                             | 307-55-1     | ND                       | 0.229       | 0.563       |                 |          | U     |
|              | PFTdA                              | 72629-94-8   | ND                       | 0.187       | 0.563       |                 |          | U     |
|              | PFTeDA                             | 376-06-7     | ND                       | 0.215       | 0.563       |                 |          | U     |
|              | PFHxDA                             | 67905-19-5   | ND                       | 0.299       | 0.563       |                 |          | U     |
| Sulfonates   | PFBS                               | 375-73-5     | ND                       | 0.299       | 0.563       |                 |          | U     |
|              | PFPeS                              | 2706-91-4    | ND                       | 0.116       | 0.531       |                 |          | U     |
|              | PFHxS                              | 355-46-4     | ND                       | 0.435       | 0.516       |                 |          | U     |
|              | PFHpS                              | 375-92-8     | ND                       | 0.273       | 0.537       |                 |          | U     |
|              | PFOS                               | 1763-23-1    | ND                       | 0.298       | 0.522       |                 |          | U     |
|              | PFNS                               | 68259-12-1   | ND                       | 0.175       | 0.543       |                 |          | U     |
|              | PFDS                               | 335-77-3     | ND                       | 0.296       | 0.543       |                 |          | U     |
|              | 4:2 FTS                            | 757124-72-4  | ND                       | 0.0731      | 0.528       |                 |          | U     |
|              | 6:2 FTS                            | 27619-97-2   | ND                       | 0.266       | 0.537       |                 |          | U     |
|              | 8:2 FTS                            | 39108-34-4   | ND                       | 0.126       | 0.540       |                 |          | U     |
|              | 10:2 FTS                           | 120226-60-0  | ND                       | 0.431       | 0.563       |                 |          | U     |
| Sulfonamides | FBSA                               | 30334-69-1   | ND                       | 0.268       | 0.563       |                 |          | U     |
|              | N-EFOSA                            | 4151-50-2    | ND                       | 0.349       | 0.563       |                 |          | U     |
|              | N-EFOSAA                           | 2991-50-6    | ND                       | 0.229       | 0.563       |                 |          | U     |
|              | N-EFOSE                            | 1691-99-2    | ND                       | 0.863       | 2.54        |                 |          | U     |
|              | N-MeFOSA                           | 31506-32-8   | ND                       | 0.232       | 0.563       |                 |          | U     |
|              | N-MeFOSAA                          | 2355-31-9    | ND                       | 0.158       | 0.563       |                 |          | U     |
|              | N-MeFOSE                           | 24448-09-7   | ND                       | 0.535       | 2.54        |                 |          | U     |
|              | PFOSA                              | 754-91-6     | 0.0651                   | 0.0791      | 0.563       |                 |          | LB    |
| Other        | Nation Byproduct 1 (PS Acid)       | 29311-67-9   | ND                       | 0.301       | 0.563       |                 |          | U     |
|              | Nation Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND                       | 0.467       | 0.563       |                 |          | U     |
| PFECAs       | ADONA                              | 919005-14-4  | ND                       | 0.153       | 0.534       |                 |          | U     |
|              | EVE Acid                           | 69087-46-3   | ND                       | 0.180       | 1.27        |                 |          | U     |
|              | HFPO-DA                            | 13252-13-6   | 0.0122                   | 0.0697      | 0.563       |                 |          | L     |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND                       | 0.185       | 0.563       |                 |          | U     |
|              | NFDHA                              | 151772-58-6  | ND                       | 0.119       | 0.563       |                 |          | U     |
|              | PEPA                               | 267239-61-2  | ND                       | 0.106       | 0.563       |                 |          | U     |
|              | PFECA-G                            | 801212-59-9  | ND                       | 0.0752      | 0.563       |                 |          | U     |
|              | PFMOAA                             | 674-13-5     | 0.395                    | 0.285       | 0.563       |                 |          | J     |
|              | PFMOBA                             | 863090-89-5  | ND                       | 0.946       | 1.27        |                 |          | U     |
|              | PFMOPrA                            | 377-73-1     | ND                       | 0.201       | 0.563       |                 |          | U     |
|              | PFO2HxA                            | 39492-88-1   | ND                       | 0.181       | 0.563       |                 |          | U     |
|              | PFO3OA                             | 39492-89-2   | ND                       | 0.259       | 0.563       |                 |          | U     |
|              | PFO4DA                             | 39492-90-5   | ND                       | 0.445       | 2.82        |                 |          | U     |
|              | PFO5DA                             | 39492-91-6   | ND                       | 0.451       | 2.82        |                 |          | U     |
|              | PMPA                               | 13140-29-9   | ND                       | 0.133       | 0.563       |                 |          | U     |
|              | R-EVE                              | 2416366-22-6 | ND                       | 0.935       | 1.27        |                 |          | U     |
| PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9  | ND                       | 0.266       | 0.531       |                 |          | U     |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND                       | 0.361       | 0.525       |                 |          | U     |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND                       | 0.375       | 0.563       |                 |          | U     |
|              | NVHOS                              | 1132933-86-8 | ND                       | 0.0868      | 0.563       |                 |          | U     |
|              | PFEESA                             | 113507-82-7  | ND                       | 0.169       | 0.563       |                 |          | U     |
|              | R-PSDA                             | 2416366-18-0 | ND                       | 2.48        | 2.48        |                 |          | U     |
| ES           | R-PSDCA                            | 241636-21-5  | ND                       | 0.238       | 0.563       |                 |          | U     |
|              | MPFBA                              |              |                          |             |             | 20-150%         | 87.5%    |       |
|              | MSPFPeA                            |              |                          |             |             | 20-150%         | 175.0%   | Q     |
|              | M3PFBS                             |              |                          |             |             | 20-150%         | 221.7%   | Q     |
|              | M2-4:2 FTS                         |              |                          |             |             | 20-150%         | 244.4%   | Q     |
|              | MSPFHxA                            |              |                          |             |             | 20-150%         | 92.0%    |       |
|              | M3HFPO-DA                          |              |                          |             |             | 20-150%         | 92.3%    |       |
|              | M4PFHpA                            |              |                          |             |             | 20-150%         | 108.2%   |       |
|              | M3PFHxS                            |              |                          |             |             | 20-150%         | 87.5%    |       |
|              | M2-6:2 FTS                         |              |                          |             |             | 20-150%         | 98.7%    |       |
|              | M8PFOA                             |              |                          |             |             | 20-150%         | 93.2%    |       |
|              | M8PFNA                             |              |                          |             |             | 20-150%         | 87.2%    |       |
|              | M8PFOS                             |              |                          |             |             | 20-150%         | 82.0%    |       |
|              | M2-8:2 FTS                         |              |                          |             |             | 20-150%         | 76.1%    |       |
|              | M8FOSA-I                           |              |                          |             |             | 20-150%         | 69.8%    |       |
|              | M8PFDA                             |              |                          |             |             | 20-150%         | 85.7%    |       |
|              | d3-N-MeFOSAA                       |              |                          |             |             | 20-150%         | 100.6%   |       |
|              | d5-N-EFOSAA                        |              |                          |             |             | 20-150%         | 99.0%    |       |
|              | M7PFUDa                            |              |                          |             |             | 20-150%         | 81.1%    |       |
|              | MPFDoA                             |              |                          |             |             | 20-150%         | 57.1%    |       |
|              | M2PFTeDA                           |              |                          |             |             | 20-150%         | 22.6%    |       |
|              | d3-N-MeFOSA                        |              |                          |             |             | 10-200%         | 2.3%     | Q     |
|              | d5-N-EFOSA                         |              |                          |             |             | 10-200%         | 2.2%     | Q     |
|              | d7-N-MeFOSE                        |              |                          |             |             | 10-200%         | 69.5%    |       |
|              | d9-N-EFOSE                         |              |                          |             |             | 10-200%         | 63.5%    |       |

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: 211 Water Plant Leland, N.C.

|               |                  |               |                  |                  |        |
|---------------|------------------|---------------|------------------|------------------|--------|
| Enthalpy ID   | 0523-837-002-1   | Prep Batch    | EU15349          | Sample Vol (mL)  | 282.39 |
| Sample Name   | 052223-5         | Prep Date     | 2023-05-31 14:52 | Extract Vol (mL) | 0.4    |
| Matrix        | AQ               | Analysis Date | 2023-06-01 18:41 | Split Factor     | N/A    |
| Sampling Date | 2023-05-22 09:40 | Analyst       | bahager          | Method Code      | WM-026 |
| Received Date | 2023-05-22       | Instrument    | Pippin           | Sample Type      | Sample |

|              | Compound                           | CAS          | Formatted Result<br>ng/L | LOD<br>ng/L | LOQ<br>ng/L | Recovery Limits | Recovery | Flags |
|--------------|------------------------------------|--------------|--------------------------|-------------|-------------|-----------------|----------|-------|
| Acids        | PFBA                               | 375-22-4     | ND                       | 0.225       | 0.567       |                 |          | U     |
|              | PFPeA                              | 2706-90-3    | ND                       | 0.162       | 0.567       |                 |          | U     |
|              | PFHxA                              | 307-24-4     | ND                       | 0.189       | 0.567       |                 |          | U     |
|              | PFHpA                              | 375-85-9     | ND                       | 0.198       | 0.567       |                 |          | U     |
|              | PFOA                               | 335-67-1     | ND                       | 0.130       | 0.567       |                 |          | U     |
|              | PFNA                               | 375-95-1     | ND                       | 0.128       | 0.567       |                 |          | U     |
|              | PFDA                               | 335-76-2     | ND                       | 0.162       | 0.567       |                 |          | U     |
|              | PFUnDA                             | 2058-94-8    | ND                       | 0.128       | 0.567       |                 |          | U     |
|              | PFDoDA                             | 307-55-1     | ND                       | 0.230       | 0.567       |                 |          | U     |
|              | PFTdA                              | 72629-94-8   | ND                       | 0.188       | 0.567       |                 |          | U     |
|              | PFTeDA                             | 376-06-7     | ND                       | 0.216       | 0.567       |                 |          | U     |
|              | PFHxDA                             | 67905-19-5   | ND                       | 0.301       | 0.567       |                 |          | U     |
| Sulfonates   | PFBS                               | 375-73-5     | ND                       | 0.301       | 0.567       |                 |          | U     |
|              | PFPeS                              | 2706-91-4    | ND                       | 0.116       | 0.534       |                 |          | U     |
|              | PFHxS                              | 355-46-4     | ND                       | 0.437       | 0.519       |                 |          | U     |
|              | PFHpS                              | 375-92-8     | ND                       | 0.274       | 0.540       |                 |          | U     |
|              | PFOS                               | 1763-23-1    | ND                       | 0.299       | 0.525       |                 |          | U     |
|              | PFNS                               | 68259-12-1   | ND                       | 0.176       | 0.546       |                 |          | U     |
|              | PFDS                               | 335-77-3     | ND                       | 0.297       | 0.546       |                 |          | U     |
|              | 4:2 FTS                            | 757124-72-4  | ND                       | 0.0735      | 0.531       |                 |          | U     |
|              | 6:2 FTS                            | 27619-97-2   | ND                       | 0.267       | 0.540       |                 |          | U     |
|              | 8:2 FTS                            | 39108-34-4   | 0.00492                  | 0.127       | 0.543       |                 |          | L     |
|              | 10:2 FTS                           | 120226-60-0  | ND                       | 0.434       | 0.567       |                 |          | U     |
| Sulfonamides | FBSA                               | 30334-69-1   | ND                       | 0.269       | 0.567       |                 |          | U     |
|              | N-EFOSA                            | 4151-50-2    | ND                       | 0.351       | 0.567       |                 |          | U     |
|              | N-EFOSAA                           | 2991-50-6    | ND                       | 0.230       | 0.567       |                 |          | U     |
|              | N-EFOSE                            | 1691-99-2    | ND                       | 0.868       | 2.55        |                 |          | U     |
|              | N-MeFOSA                           | 31506-32-8   | ND                       | 0.234       | 0.567       |                 |          | U     |
|              | N-MeFOSAA                          | 2355-31-9    | ND                       | 0.159       | 0.567       |                 |          | U     |
|              | N-MeFOSE                           | 24448-09-7   | ND                       | 0.538       | 2.55        |                 |          | U     |
|              | PFOSA                              | 754-91-6     | 0.0263                   | 0.0795      | 0.567       |                 |          | LB    |
| Other        | Nation Byproduct 1 (PS Acid)       | 29311-67-9   | ND                       | 0.303       | 0.567       |                 |          | U     |
|              | Nation Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND                       | 0.469       | 0.567       |                 |          | U     |
| PFECAs       | ADONA                              | 919005-14-4  | ND                       | 0.154       | 0.537       |                 |          | U     |
|              | EVE Acid                           | 69087-46-3   | ND                       | 0.181       | 1.27        |                 |          | U     |
|              | HFPO-DA                            | 13252-13-6   | 0.0129                   | 0.0600      | 0.567       |                 |          | L     |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND                       | 0.186       | 0.567       |                 |          | U     |
|              | NFDHA                              | 151772-58-6  | ND                       | 0.119       | 0.567       |                 |          | U     |
|              | PEPA                               | 267239-61-2  | ND                       | 0.106       | 0.567       |                 |          | U     |
|              | PFECA-G                            | 801212-59-9  | ND                       | 0.0756      | 0.567       |                 |          | U     |
|              | PFMOAA                             | 674-13-5     | 0.485                    | 0.287       | 0.567       |                 |          | J     |
|              | PFMOBA                             | 863090-89-5  | ND                       | 0.951       | 1.27        |                 |          | U     |
|              | PFMOPrA                            | 377-73-1     | ND                       | 0.202       | 0.567       |                 |          | U     |
|              | PFO2HxA                            | 39492-88-1   | ND                       | 0.182       | 0.567       |                 |          | U     |
|              | PFO3OA                             | 39492-89-2   | ND                       | 0.260       | 0.567       |                 |          | U     |
|              | PFO4DA                             | 39492-90-5   | ND                       | 0.448       | 2.83        |                 |          | U     |
|              | PFO5DA                             | 39492-91-6   | ND                       | 0.453       | 2.83        |                 |          | U     |
|              | PMPA                               | 13140-29-9   | ND                       | 0.134       | 0.567       |                 |          | U     |
|              | R-EVE                              | 2416366-22-6 | ND                       | 0.940       | 1.27        |                 |          | U     |
| PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9  | ND                       | 0.267       | 0.534       |                 |          | U     |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND                       | 0.363       | 0.528       |                 |          | U     |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND                       | 0.377       | 0.567       |                 |          | U     |
|              | NVHOS                              | 1132933-86-8 | ND                       | 0.0873      | 0.567       |                 |          | U     |
|              | PFEESA                             | 113507-82-7  | ND                       | 0.170       | 0.567       |                 |          | U     |
|              | R-PSDA                             | 2416366-18-0 | ND                       | 2.50        | 2.50        |                 |          | U     |
| ES           | R-PSDCA                            | 241636-21-5  | ND                       | 0.239       | 0.567       |                 |          | U     |
|              | MPFBA                              |              |                          |             |             | 20-150%         | 89.3%    |       |
|              | MSPFPeA                            |              |                          |             |             | 20-150%         | 161.6%   | Q     |
|              | M3PFBS                             |              |                          |             |             | 20-150%         | 197.9%   | Q     |
|              | M2-4:2 FTS                         |              |                          |             |             | 20-150%         | 239.3%   | Q     |
|              | MSPFHxA                            |              |                          |             |             | 20-150%         | 91.1%    |       |
|              | M3HFPO-DA                          |              |                          |             |             | 20-150%         | 86.0%    |       |
|              | M4PFHpA                            |              |                          |             |             | 20-150%         | 97.3%    |       |
|              | M3PFHxS                            |              |                          |             |             | 20-150%         | 94.2%    |       |
|              | M2-6:2 FTS                         |              |                          |             |             | 20-150%         | 89.1%    |       |
|              | M8PFOA                             |              |                          |             |             | 20-150%         | 85.4%    |       |
|              | M8PFNA                             |              |                          |             |             | 20-150%         | 79.6%    |       |
|              | M8PFOS                             |              |                          |             |             | 20-150%         | 86.7%    |       |
|              | M2-8:2 FTS                         |              |                          |             |             | 20-150%         | 78.3%    |       |
|              | M8FOSA-I                           |              |                          |             |             | 20-150%         | 68.8%    |       |
|              | M8PFDA                             |              |                          |             |             | 20-150%         | 80.1%    |       |
|              | d3-N-MeFOSAA                       |              |                          |             |             | 20-150%         | 83.1%    |       |
|              | d5-N-EFOSAA                        |              |                          |             |             | 20-150%         | 83.3%    |       |
|              | M7PFUdA                            |              |                          |             |             | 20-150%         | 70.3%    |       |
|              | MPFDOA                             |              |                          |             |             | 20-150%         | 42.1%    |       |
|              | M2PFTeDA                           |              |                          |             |             | 20-150%         | 19.0%    | Q     |
|              | d3-N-MeFOSA                        |              |                          |             |             | 10-200%         | 4.2%     | Q     |
|              | d5-N-EFOSA                         |              |                          |             |             | 10-200%         | 3.8%     | Q     |
|              | d7-N-MeFOSE                        |              |                          |             |             | 10-200%         | 48.4%    |       |
|              | d9-N-EFOSE                         |              |                          |             |             | 10-200%         | 47.3%    |       |

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: 211 Water Plant Leland, N.C.

|               |                  |               |                  |                  |        |
|---------------|------------------|---------------|------------------|------------------|--------|
| Enthalpy ID   | 0523-837-003-1   | Prep Batch    | EU15349          | Sample Vol (mL)  | 290.32 |
| Sample Name   | 052223-1         | Prep Date     | 2023-05-31 14:52 | Extract Vol (mL) | 0.4    |
| Matrix        | AQ               | Analysis Date | 2023-06-01 19:04 | Split Factor     | N/A    |
| Sampling Date | 2023-05-22 10:00 | Analyst       | bahager          | Method Code      | WM-026 |
| Received Date | 2023-05-22       | Instrument    | Pippin           | Sample Type      | Sample |

|              | Compound                           | CAS          | Formatted Result<br>ng/L | LOD<br>ng/L | LOQ<br>ng/L | Recovery Limits | Recovery | Flags |
|--------------|------------------------------------|--------------|--------------------------|-------------|-------------|-----------------|----------|-------|
| Acids        | PFBA                               | 375-22-4     | 0.735                    | 0.219       | 0.551       |                 |          |       |
|              | PFPeA                              | 2706-90-3    | ND                       | 0.158       | 0.551       |                 |          | U     |
|              | PFHxA                              | 307-24-4     | ND                       | 0.184       | 0.551       |                 |          | U     |
|              | PFHpA                              | 375-85-9     | ND                       | 0.193       | 0.551       |                 |          | U     |
|              | PFOA                               | 335-67-1     | 0.0739                   | 0.126       | 0.551       |                 |          | L     |
|              | PFNA                               | 375-95-1     | ND                       | 0.125       | 0.551       |                 |          | U     |
|              | PFDA                               | 335-76-2     | ND                       | 0.158       | 0.551       |                 |          | U     |
|              | PFUnDA                             | 2058-94-8    | ND                       | 0.125       | 0.551       |                 |          | U     |
|              | PFDoDA                             | 307-55-1     | ND                       | 0.224       | 0.551       |                 |          | U     |
|              | PFTeDA                             | 72629-94-8   | ND                       | 0.183       | 0.551       |                 |          | U     |
|              | PFTeDA                             | 376-06-7     | ND                       | 0.210       | 0.551       |                 |          | U     |
|              | PFHxDA                             | 67905-19-5   | ND                       | 0.293       | 0.551       |                 |          | U     |
| Sulfonates   | PFBS                               | 375-73-5     | ND                       | 0.293       | 0.551       |                 |          | U     |
|              | PFPeS                              | 2706-91-4    | ND                       | 0.113       | 0.519       |                 |          | U     |
|              | PFHxS                              | 355-46-4     | ND                       | 0.425       | 0.505       |                 |          | U     |
|              | PFHpS                              | 375-92-8     | ND                       | 0.267       | 0.525       |                 |          | U     |
|              | PFOS                               | 1763-23-1    | ND                       | 0.291       | 0.511       |                 |          | U     |
|              | PFNS                               | 68259-12-1   | ND                       | 0.171       | 0.531       |                 |          | U     |
|              | PFDS                               | 335-77-3     | ND                       | 0.289       | 0.531       |                 |          | U     |
|              | 4:2 FTS                            | 757124-72-4  | ND                       | 0.0715      | 0.516       |                 |          | U     |
|              | 6:2 FTS                            | 27619-97-2   | ND                       | 0.260       | 0.525       |                 |          | U     |
|              | 8:2 FTS                            | 39108-34-4   | ND                       | 0.123       | 0.528       |                 |          | U     |
|              | 10:2 FTS                           | 120226-60-0  | ND                       | 0.422       | 0.551       |                 |          | U     |
| Sulfonamides | FBSA                               | 30334-69-1   | ND                       | 0.262       | 0.551       |                 |          | U     |
|              | N-EFOSA                            | 4151-50-2    | ND                       | 0.341       | 0.551       |                 |          | U     |
|              | N-EFOSAA                           | 2991-50-6    | ND                       | 0.224       | 0.551       |                 |          | U     |
|              | N-EFOSE                            | 1691-99-2    | ND                       | 0.844       | 2.48        |                 |          | U     |
|              | N-MeFOSA                           | 31506-32-8   | ND                       | 0.227       | 0.551       |                 |          | U     |
|              | N-MeFOSAA                          | 2355-31-9    | ND                       | 0.155       | 0.551       |                 |          | U     |
|              | N-MeFOSE                           | 24448-09-7   | ND                       | 0.524       | 2.48        |                 |          | U     |
|              | PFOSA                              | 754-91-6     | 0.0274                   | 0.0773      | 0.551       |                 |          | LB    |
| Other        | Nation Byproduct 1 (PS Acid)       | 29311-67-9   | ND                       | 0.295       | 0.551       |                 |          | U     |
|              | Nation Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND                       | 0.456       | 0.551       |                 |          | U     |
| PFECAs       | ADONA                              | 919005-14-4  | ND                       | 0.149       | 0.522       |                 |          | U     |
|              | EVE Acid                           | 69087-46-3   | ND                       | 0.176       | 1.24        |                 |          | U     |
|              | HFPO-DA                            | 13252-13-6   | 0.110                    | 0.0584      | 0.551       |                 |          | J     |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND                       | 0.181       | 0.551       |                 |          | U     |
|              | NFDHA                              | 151772-58-6  | ND                       | 0.116       | 0.551       |                 |          | U     |
|              | PEPA                               | 267239-61-2  | ND                       | 0.103       | 0.551       |                 |          | U     |
|              | PFECA-G                            | 801212-59-9  | ND                       | 0.0735      | 0.551       |                 |          | U     |
|              | PFMOAA                             | 674-13-5     | 1.11                     | 0.279       | 0.551       |                 |          |       |
|              | PFMOBA                             | 863090-89-5  | ND                       | 0.925       | 1.24        |                 |          | U     |
|              | PFMOPrA                            | 377-73-1     | ND                       | 0.196       | 0.551       |                 |          | U     |
|              | PFO2HxA                            | 39492-88-1   | ND                       | 0.177       | 0.551       |                 |          | U     |
|              | PFO3OA                             | 39492-89-2   | ND                       | 0.253       | 0.551       |                 |          | U     |
|              | PFO4DA                             | 39492-90-5   | ND                       | 0.436       | 2.76        |                 |          | U     |
|              | PFO5DA                             | 39492-91-6   | ND                       | 0.441       | 2.76        |                 |          | U     |
|              | PMPA                               | 13140-29-9   | 0.571                    | 0.130       | 0.551       |                 |          |       |
|              | R-EVE                              | 2416366-22-6 | ND                       | 0.915       | 1.24        |                 |          | U     |
| PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9  | ND                       | 0.260       | 0.519       |                 |          | U     |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND                       | 0.353       | 0.513       |                 |          | U     |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND                       | 0.367       | 0.551       |                 |          | U     |
|              | NVHOS                              | 1132933-86-8 | ND                       | 0.0849      | 0.551       |                 |          | U     |
|              | PFEESA                             | 113507-82-7  | ND                       | 0.166       | 0.551       |                 |          | U     |
|              | R-PSDA                             | 2416366-18-0 | ND                       | 2.43        | 2.43        |                 |          | U     |
| ES           | R-PSDCA                            | 2416366-21-5 | ND                       | 0.233       | 0.551       |                 |          | U     |
|              | MPFBA                              |              |                          |             |             | 20-150%         | 89.8%    |       |
|              | MSPFPeA                            |              |                          |             |             | 20-150%         | 204.7%   | Q     |
|              | M3PFBS                             |              |                          |             |             | 20-150%         | 286.3%   | Q     |
|              | M2-4:2 FTS                         |              |                          |             |             | 20-150%         | 222.9%   | Q     |
|              | MSPFHxA                            |              |                          |             |             | 20-150%         | 93.3%    |       |
|              | M3HFPO-DA                          |              |                          |             |             | 20-150%         | 88.5%    |       |
|              | M4PFHpA                            |              |                          |             |             | 20-150%         | 106.4%   |       |
|              | M3PFHxS                            |              |                          |             |             | 20-150%         | 85.8%    |       |
|              | M2-6:2 FTS                         |              |                          |             |             | 20-150%         | 84.4%    |       |
|              | M8PFOA                             |              |                          |             |             | 20-150%         | 83.4%    |       |
|              | M8PFNA                             |              |                          |             |             | 20-150%         | 80.1%    |       |
|              | M8PFOS                             |              |                          |             |             | 20-150%         | 71.5%    |       |
|              | M2-8:2 FTS                         |              |                          |             |             | 20-150%         | 68.4%    |       |
|              | M8FOSA-I                           |              |                          |             |             | 20-150%         | 43.4%    |       |
|              | M8PFDA                             |              |                          |             |             | 20-150%         | 73.9%    |       |
|              | d3-N-MeFOSAA                       |              |                          |             |             | 20-150%         | 76.6%    |       |
|              | d5-N-EFOSAA                        |              |                          |             |             | 20-150%         | 76.2%    |       |
|              | M7PFUdA                            |              |                          |             |             | 20-150%         | 60.8%    |       |
|              | MPFDoA                             |              |                          |             |             | 20-150%         | 39.2%    |       |
|              | M2PFTeDA                           |              |                          |             |             | 20-150%         | 23.8%    |       |
|              | d3-N-MeFOSA                        |              |                          |             |             | 10-200%         | 0.9%     | Q     |
|              | d5-N-EFOSA                         |              |                          |             |             | 10-200%         | 0.7%     | Q     |
|              | d7-N-MeFOSE                        |              |                          |             |             | 10-200%         | 32.1%    |       |
|              | d9-N-EFOSE                         |              |                          |             |             | 10-200%         | 32.6%    |       |

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: 211 Water Plant Leland, N.C.

|               |                  |               |                  |                  |        |
|---------------|------------------|---------------|------------------|------------------|--------|
| Enthalpy ID   | 0523-837-004-1   | Prep Batch    | EU15349          | Sample Vol (mL)  | 283.42 |
| Sample Name   | 052223-2         | Prep Date     | 2023-05-31 14:52 | Extract Vol (mL) | 0.4    |
| Matrix        | AQ               | Analysis Date | 2023-06-01 19:27 | Split Factor     | N/A    |
| Sampling Date | 2023-05-22 10:05 | Analyst       | bahager          | Method Code      | WM-026 |
| Received Date | 2023-05-22       | Instrument    | Pippin           | Sample Type      | Sample |

|              | Compound                           | CAS          | Formatted Result<br>ng/L | LOD<br>ng/L | LOQ<br>ng/L | Recovery Limits | Recovery | Flags |
|--------------|------------------------------------|--------------|--------------------------|-------------|-------------|-----------------|----------|-------|
| Acids        | PFBA                               | 375-22-4     | ND                       | 0.224       | 0.565       |                 |          | U     |
|              | PFPeA                              | 2706-90-3    | ND                       | 0.161       | 0.565       |                 |          | U     |
|              | PFHxA                              | 307-24-4     | ND                       | 0.189       | 0.565       |                 |          | U     |
|              | PFHpA                              | 375-85-9     | ND                       | 0.198       | 0.565       |                 |          | U     |
|              | PFOA                               | 335-67-1     | ND                       | 0.129       | 0.565       |                 |          | U     |
|              | PFNA                               | 375-95-1     | ND                       | 0.128       | 0.565       |                 |          | U     |
|              | PFDA                               | 335-76-2     | ND                       | 0.161       | 0.565       |                 |          | U     |
|              | PFUnDA                             | 2058-94-8    | ND                       | 0.128       | 0.565       |                 |          | U     |
|              | PFDoDA                             | 307-55-1     | ND                       | 0.229       | 0.565       |                 |          | U     |
|              | PFTdA                              | 72629-94-8   | ND                       | 0.187       | 0.565       |                 |          | U     |
|              | PFTeDA                             | 376-06-7     | ND                       | 0.215       | 0.565       |                 |          | U     |
|              | PFHxDA                             | 67905-19-5   | ND                       | 0.300       | 0.565       |                 |          | U     |
| Sulfonates   | PFBS                               | 375-73-5     | ND                       | 0.300       | 0.565       |                 |          | U     |
|              | PFPeS                              | 2706-91-4    | ND                       | 0.116       | 0.532       |                 |          | U     |
|              | PFHxS                              | 355-46-4     | ND                       | 0.436       | 0.517       |                 |          | U     |
|              | PFHpS                              | 375-92-8     | ND                       | 0.273       | 0.538       |                 |          | U     |
|              | PFOS                               | 1763-23-1    | ND                       | 0.298       | 0.523       |                 |          | U     |
|              | PFNS                               | 68259-12-1   | ND                       | 0.175       | 0.544       |                 |          | U     |
|              | PFDS                               | 335-77-3     | ND                       | 0.296       | 0.544       |                 |          | U     |
|              | 4:2 FTS                            | 757124-72-4  | ND                       | 0.0732      | 0.529       |                 |          | U     |
|              | 6:2 FTS                            | 27619-97-2   | ND                       | 0.266       | 0.538       |                 |          | U     |
|              | 8:2 FTS                            | 39108-34-4   | ND                       | 0.126       | 0.541       |                 |          | U     |
|              | 10:2 FTS                           | 120226-60-0  | ND                       | 0.432       | 0.565       |                 |          | U     |
|              | FBSA                               | 30334-69-1   | ND                       | 0.268       | 0.565       |                 |          | U     |
| Sulfonamides | N-EFOSA                            | 4151-50-2    | ND                       | 0.349       | 0.565       |                 |          | U     |
|              | N-EFOSAA                           | 2991-50-6    | ND                       | 0.229       | 0.565       |                 |          | U     |
|              | N-EFOSE                            | 1691-99-2    | ND                       | 0.864       | 2.54        |                 |          | U     |
|              | N-MeFOSA                           | 31506-32-8   | ND                       | 0.233       | 0.565       |                 |          | U     |
|              | N-MeFOSAA                          | 2355-31-9    | ND                       | 0.159       | 0.565       |                 |          | U     |
|              | N-MeFOSE                           | 24448-09-7   | ND                       | 0.536       | 2.54        |                 |          | U     |
|              | PFOSA                              | 754-91-6     | 0.0352                   | 0.0792      | 0.565       |                 |          | LB    |
| Other        | Nation Byproduct 1 (PS Acid)       | 29311-67-9   | ND                       | 0.302       | 0.565       |                 |          | U     |
|              | Nation Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND                       | 0.468       | 0.565       |                 |          | U     |
| PFECAs       | ADONA                              | 919005-14-4  | ND                       | 0.153       | 0.535       |                 |          | U     |
|              | EVE Acid                           | 69087-46-3   | ND                       | 0.180       | 1.27        |                 |          | U     |
|              | HFPO-DA                            | 13252-13-6   | 0.0372                   | 0.0598      | 0.565       |                 |          | L     |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND                       | 0.185       | 0.565       |                 |          | U     |
|              | NFDHA                              | 151772-58-6  | ND                       | 0.119       | 0.565       |                 |          | U     |
|              | PEPA                               | 267239-61-2  | ND                       | 0.106       | 0.565       |                 |          | U     |
|              | PFECA-G                            | 801212-59-9  | ND                       | 0.0753      | 0.565       |                 |          | U     |
|              | PFMOAA                             | 674-13-5     | ND                       | 0.286       | 0.565       |                 |          | U     |
|              | PFMOBA                             | 863090-89-5  | ND                       | 0.947       | 1.27        |                 |          | U     |
|              | PFMOPrA                            | 377-73-1     | ND                       | 0.201       | 0.565       |                 |          | U     |
|              | PFO2HxA                            | 39492-88-1   | ND                       | 0.182       | 0.565       |                 |          | U     |
|              | PFO3OA                             | 39492-89-2   | ND                       | 0.259       | 0.565       |                 |          | U     |
|              | PFO4DA                             | 39492-90-5   | ND                       | 0.446       | 2.82        |                 |          | U     |
|              | PFO5DA                             | 39492-91-6   | ND                       | 0.452       | 2.82        |                 |          | U     |
|              | PMPA                               | 13140-29-9   | ND                       | 0.133       | 0.565       |                 |          | U     |
|              | R-EVE                              | 2416366-22-6 | ND                       | 0.937       | 1.27        |                 |          | U     |
| PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9  | ND                       | 0.266       | 0.532       |                 |          | U     |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND                       | 0.362       | 0.526       |                 |          | U     |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND                       | 0.376       | 0.565       |                 |          | U     |
|              | NVHOS                              | 1132933-86-8 | ND                       | 0.0870      | 0.565       |                 |          | U     |
|              | PFEESA                             | 113507-82-7  | ND                       | 0.170       | 0.565       |                 |          | U     |
|              | R-PSDA                             | 2416366-18-0 | ND                       | 2.49        | 2.49        |                 |          | U     |
| ES           | R-PSDCA                            | 241636-21-5  | ND                       | 0.238       | 0.565       |                 |          | U     |
|              | MPFBA                              |              |                          |             |             | 20-150%         | 87.7%    |       |
|              | MSPFPeA                            |              |                          |             |             | 20-150%         | 178.7%   | Q     |
|              | M3PFBS                             |              |                          |             |             | 20-150%         | 228.5%   | Q     |
|              | M2-4:2 FTS                         |              |                          |             |             | 20-150%         | 265.9%   | Q     |
|              | MSPFHxA                            |              |                          |             |             | 20-150%         | 85.8%    |       |
|              | M3HFPO-DA                          |              |                          |             |             | 20-150%         | 87.4%    |       |
|              | M4PFHpA                            |              |                          |             |             | 20-150%         | 100.3%   |       |
|              | M3PFHxS                            |              |                          |             |             | 20-150%         | 97.2%    |       |
|              | M2-6:2 FTS                         |              |                          |             |             | 20-150%         | 91.1%    |       |
|              | M8PFOA                             |              |                          |             |             | 20-150%         | 81.7%    |       |
|              | M8PFNA                             |              |                          |             |             | 20-150%         | 72.0%    |       |
|              | M8PFOS                             |              |                          |             |             | 20-150%         | 73.2%    |       |
|              | M2-8:2 FTS                         |              |                          |             |             | 20-150%         | 71.6%    |       |
|              | M8FOSA-I                           |              |                          |             |             | 20-150%         | 54.5%    |       |
|              | M8PFDA                             |              |                          |             |             | 20-150%         | 72.3%    |       |
|              | d3-N-MeFOSAA                       |              |                          |             |             | 20-150%         | 87.8%    |       |
|              | d5-N-EFOSAA                        |              |                          |             |             | 20-150%         | 87.3%    |       |
|              | M7PFUDa                            |              |                          |             |             | 20-150%         | 59.2%    |       |
|              | MPFDoA                             |              |                          |             |             | 20-150%         | 38.9%    |       |
|              | M2PFTeDA                           |              |                          |             |             | 20-150%         | 17.9%    | Q     |
|              | d3-N-MeFOSA                        |              |                          |             |             | 10-200%         | 2.3%     | Q     |
|              | d5-N-EFOSA                         |              |                          |             |             | 10-200%         | 1.7%     | Q     |
|              | d7-N-MeFOSE                        |              |                          |             |             | 10-200%         | 43.3%    |       |
|              | d9-N-EFOSE                         |              |                          |             |             | 10-200%         | 45.7%    |       |

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: 211 Water Plant Leland, N.C.

|               |                  |               |                  |                  |        |
|---------------|------------------|---------------|------------------|------------------|--------|
| Enthalpy ID   | 0523-837-005-1   | Prep Batch    | EU15349          | Sample Vol (mL)  | 284.88 |
| Sample Name   | 052223-16        | Prep Date     | 2023-05-31 14:52 | Extract Vol (mL) | 0.4    |
| Matrix        | AQ               | Analysis Date | 2023-06-01 19:49 | Split Factor     | N/A    |
| Sampling Date | 2023-05-22 10:10 | Analyst       | bahager          | Method Code      | WM-026 |
| Received Date | 2023-05-22       | Instrument    | Pippin           | Sample Type      | Sample |

|              | Compound                           | CAS          | Formatted Result<br>ng/L | LOD<br>ng/L | LOQ<br>ng/L | Recovery Limits | Recovery | Flags |
|--------------|------------------------------------|--------------|--------------------------|-------------|-------------|-----------------|----------|-------|
| Acids        | PFBA                               | 375-22-4     | ND                       | 0.223       | 0.562       |                 |          | U     |
|              | PFPeA                              | 2706-90-3    | ND                       | 0.161       | 0.562       |                 |          | U     |
|              | PFHxA                              | 307-24-4     | ND                       | 0.188       | 0.562       |                 |          | U     |
|              | PFHpA                              | 375-85-9     | ND                       | 0.197       | 0.562       |                 |          | U     |
|              | PFOA                               | 335-67-1     | ND                       | 0.128       | 0.562       |                 |          | U     |
|              | PFNA                               | 375-95-1     | ND                       | 0.127       | 0.562       |                 |          | U     |
|              | PFDA                               | 335-76-2     | ND                       | 0.161       | 0.562       |                 |          | U     |
|              | PFUnDA                             | 2058-94-8    | ND                       | 0.127       | 0.562       |                 |          | U     |
|              | PFDoDA                             | 307-55-1     | ND                       | 0.228       | 0.562       |                 |          | U     |
|              | PFTdA                              | 72629-94-8   | ND                       | 0.186       | 0.562       |                 |          | U     |
|              | PFTeDA                             | 376-06-7     | ND                       | 0.214       | 0.562       |                 |          | U     |
|              | PFHxDA                             | 67905-19-5   | ND                       | 0.298       | 0.562       |                 |          | U     |
| Sulfonates   | PFBS                               | 375-73-5     | ND                       | 0.298       | 0.562       |                 |          | U     |
|              | PFPeS                              | 2706-91-4    | ND                       | 0.115       | 0.529       |                 |          | U     |
|              | PFHxS                              | 355-46-4     | ND                       | 0.434       | 0.514       |                 |          | U     |
|              | PFHpS                              | 375-92-8     | ND                       | 0.272       | 0.535       |                 |          | U     |
|              | PFOS                               | 1763-23-1    | ND                       | 0.297       | 0.520       |                 |          | U     |
|              | PFNS                               | 68259-12-1   | ND                       | 0.174       | 0.541       |                 |          | U     |
|              | PFDS                               | 335-77-3     | ND                       | 0.295       | 0.541       |                 |          | U     |
|              | 4:2 FTS                            | 757124-72-4  | ND                       | 0.0728      | 0.526       |                 |          | U     |
|              | 6:2 FTS                            | 27619-97-2   | ND                       | 0.265       | 0.535       |                 |          | U     |
|              | 8:2 FTS                            | 39108-34-4   | ND                       | 0.126       | 0.538       |                 |          | U     |
|              | 10:2 FTS                           | 120226-60-0  | ND                       | 0.430       | 0.562       |                 |          | U     |
| Sulfonamides | FBSA                               | 30334-69-1   | ND                       | 0.267       | 0.562       |                 |          | U     |
|              | N-EFOSA                            | 4151-50-2    | ND                       | 0.348       | 0.562       |                 |          | U     |
|              | N-EFOSAA                           | 2991-50-6    | ND                       | 0.228       | 0.562       |                 |          | U     |
|              | N-EFOSE                            | 1691-99-2    | ND                       | 0.860       | 2.53        |                 |          | U     |
|              | N-MeFOSA                           | 31506-32-8   | ND                       | 0.232       | 0.562       |                 |          | U     |
|              | N-MeFOSAA                          | 2355-31-9    | ND                       | 0.158       | 0.562       |                 |          | U     |
|              | N-MeFOSE                           | 24448-09-7   | ND                       | 0.534       | 2.53        |                 |          | U     |
|              | PFOSA                              | 754-91-6     | 0.0213                   | 0.0788      | 0.562       |                 |          | LB    |
| Other        | Nation Byproduct 1 (PS Acid)       | 29311-67-9   | ND                       | 0.300       | 0.562       |                 |          | U     |
|              | Nation Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND                       | 0.465       | 0.562       |                 |          | U     |
| PFECAs       | ADONA                              | 919005-14-4  | ND                       | 0.152       | 0.532       |                 |          | U     |
|              | EVE Acid                           | 69087-46-3   | ND                       | 0.179       | 1.26        |                 |          | U     |
|              | HFPO-DA                            | 13252-13-6   | 0.0651                   | 0.0595      | 0.562       |                 |          | J     |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND                       | 0.184       | 0.562       |                 |          | U     |
|              | NFDHA                              | 151772-58-6  | ND                       | 0.118       | 0.562       |                 |          | U     |
|              | PEPA                               | 267239-61-2  | ND                       | 0.105       | 0.562       |                 |          | U     |
|              | PFECA-G                            | 801212-59-9  | ND                       | 0.0749      | 0.562       |                 |          | U     |
|              | PFMOAA                             | 674-13-5     | 0.0825                   | 0.284       | 0.562       |                 |          | L     |
|              | PFMOBA                             | 863090-89-5  | ND                       | 0.943       | 1.26        |                 |          | U     |
|              | PFMOPrA                            | 377-73-1     | ND                       | 0.200       | 0.562       |                 |          | U     |
|              | PFO2HxA                            | 39492-88-1   | ND                       | 0.181       | 0.562       |                 |          | U     |
|              | PFO3OA                             | 39492-89-2   | ND                       | 0.258       | 0.562       |                 |          | U     |
|              | PFO4DA                             | 39492-90-5   | ND                       | 0.444       | 2.81        |                 |          | U     |
|              | PFO5DA                             | 39492-91-6   | ND                       | 0.449       | 2.81        |                 |          | U     |
|              | PMPA                               | 13140-29-9   | 0.436                    | 0.132       | 0.562       |                 |          | J     |
|              | R-EVE                              | 2416366-22-6 | ND                       | 0.932       | 1.26        |                 |          | U     |
| PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9  | ND                       | 0.265       | 0.529       |                 |          | U     |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND                       | 0.360       | 0.523       |                 |          | U     |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND                       | 0.374       | 0.562       |                 |          | U     |
|              | NVHOS                              | 1132933-86-8 | ND                       | 0.0865      | 0.562       |                 |          | U     |
|              | PFEESA                             | 113507-82-7  | ND                       | 0.169       | 0.562       |                 |          | U     |
|              | R-PSDA                             | 2416366-18-0 | ND                       | 2.47        | 2.47        |                 |          | U     |
| ES           | R-PSDCA                            | 241636-21-5  | ND                       | 0.237       | 0.562       |                 |          | U     |
|              | MPFBA                              |              |                          |             |             | 20-150%         | 81.3%    |       |
|              | MSPFPeA                            |              |                          |             |             | 20-150%         | 229.9%   | Q     |
|              | M3PFBS                             |              |                          |             |             | 20-150%         | 279.2%   | Q     |
|              | M2-4:2 FTS                         |              |                          |             |             | 20-150%         | 189.5%   | Q     |
|              | MSPFHxA                            |              |                          |             |             | 20-150%         | 99.7%    |       |
|              | M3HFPO-DA                          |              |                          |             |             | 20-150%         | 94.8%    |       |
|              | M4PFHpA                            |              |                          |             |             | 20-150%         | 102.6%   |       |
|              | M3PFHxS                            |              |                          |             |             | 20-150%         | 90.4%    |       |
|              | M2-6:2 FTS                         |              |                          |             |             | 20-150%         | 61.1%    |       |
|              | M8PFOA                             |              |                          |             |             | 20-150%         | 82.2%    |       |
|              | M8PFNA                             |              |                          |             |             | 20-150%         | 73.9%    |       |
|              | M8PFOS                             |              |                          |             |             | 20-150%         | 71.6%    |       |
|              | M2-8:2 FTS                         |              |                          |             |             | 20-150%         | 71.0%    |       |
|              | M8FOSA-I                           |              |                          |             |             | 20-150%         | 53.3%    |       |
|              | M8PFDA                             |              |                          |             |             | 20-150%         | 74.5%    |       |
|              | d3-N-MeFOSAA                       |              |                          |             |             | 20-150%         | 80.3%    |       |
|              | d5-N-EFOSAA                        |              |                          |             |             | 20-150%         | 84.1%    |       |
|              | M7PFUdA                            |              |                          |             |             | 20-150%         | 65.0%    |       |
|              | MPFDOA                             |              |                          |             |             | 20-150%         | 45.2%    |       |
|              | M2PFTeDA                           |              |                          |             |             | 20-150%         | 22.3%    |       |
|              | d3-N-MeFOSA                        |              |                          |             |             | 10-200%         | 2.0%     | Q     |
|              | d5-N-EFOSA                         |              |                          |             |             | 10-200%         | 1.9%     | Q     |
|              | d7-N-MeFOSE                        |              |                          |             |             | 10-200%         | 44.1%    |       |
|              | d9-N-EFOSE                         |              |                          |             |             | 10-200%         | 38.4%    |       |

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: 211 Water Plant Leland, N.C.

|               |                  |               |                  |                  |        |
|---------------|------------------|---------------|------------------|------------------|--------|
| Enthalpy ID   | 0523-837-006-1   | Prep Batch    | EU15349          | Sample Vol (mL)  | 288.74 |
| Sample Name   | 052223-17        | Prep Date     | 2023-05-31 14:52 | Extract Vol (mL) | 0.4    |
| Matrix        | AQ               | Analysis Date | 2023-06-01 20:12 | Split Factor     | N/A    |
| Sampling Date | 2023-05-22 10:15 | Analyst       | bahager          | Method Code      | WM-026 |
| Received Date | 2023-05-22       | Instrument    | Pippin           | Sample Type      | Sample |

|              | Compound                           | CAS          | Formatted Result<br>ng/L | LOD<br>ng/L | LOQ<br>ng/L | Recovery Limits | Recovery | Flags |
|--------------|------------------------------------|--------------|--------------------------|-------------|-------------|-----------------|----------|-------|
| Acids        | PFBA                               | 375-22-4     | ND                       | 0.220       | 0.554       |                 |          | U     |
|              | PFPeA                              | 2706-90-3    | ND                       | 0.158       | 0.554       |                 |          | U     |
|              | PFHxA                              | 307-24-4     | ND                       | 0.185       | 0.554       |                 |          | U     |
|              | PFHpA                              | 375-85-9     | ND                       | 0.194       | 0.554       |                 |          | U     |
|              | PFOA                               | 335-67-1     | ND                       | 0.127       | 0.554       |                 |          | U     |
|              | PFNA                               | 375-95-1     | ND                       | 0.125       | 0.554       |                 |          | U     |
|              | PFDA                               | 335-76-2     | ND                       | 0.158       | 0.554       |                 |          | U     |
|              | PFUnDA                             | 2058-94-8    | ND                       | 0.125       | 0.554       |                 |          | U     |
|              | PFDoDA                             | 307-55-1     | ND                       | 0.225       | 0.554       |                 |          | U     |
|              | PFTdA                              | 72629-94-8   | ND                       | 0.184       | 0.554       |                 |          | U     |
|              | PFTeDA                             | 376-06-7     | ND                       | 0.211       | 0.554       |                 |          | U     |
|              | PFHxDA                             | 67905-19-5   | ND                       | 0.294       | 0.554       |                 |          | U     |
| Sulfonates   | PFBS                               | 375-73-5     | ND                       | 0.294       | 0.554       |                 |          | U     |
|              | PFPeS                              | 2706-91-4    | ND                       | 0.114       | 0.522       |                 |          | U     |
|              | PFHxS                              | 355-46-4     | ND                       | 0.428       | 0.507       |                 |          | U     |
|              | PFHpS                              | 375-92-8     | ND                       | 0.268       | 0.528       |                 |          | U     |
|              | PFOS                               | 1763-23-1    | ND                       | 0.293       | 0.513       |                 |          | U     |
|              | PFNS                               | 68259-12-1   | ND                       | 0.172       | 0.534       |                 |          | U     |
|              | PFDS                               | 335-77-3     | ND                       | 0.291       | 0.534       |                 |          | U     |
|              | 4:2 FTS                            | 757124-72-4  | ND                       | 0.0719      | 0.519       |                 |          | U     |
|              | 6:2 FTS                            | 27619-97-2   | ND                       | 0.261       | 0.528       |                 |          | U     |
|              | 8:2 FTS                            | 39108-34-4   | ND                       | 0.124       | 0.531       |                 |          | U     |
|              | 10:2 FTS                           | 120226-60-0  | ND                       | 0.424       | 0.554       |                 |          | U     |
| Sulfonamides | FBSA                               | 30334-69-1   | ND                       | 0.263       | 0.554       |                 |          | U     |
|              | N-EFOSA                            | 4151-50-2    | ND                       | 0.343       | 0.554       |                 |          | U     |
|              | N-EFOSAA                           | 2991-50-6    | ND                       | 0.225       | 0.554       |                 |          | U     |
|              | N-EFOSE                            | 1691-99-2    | ND                       | 0.849       | 2.49        |                 |          | U     |
|              | N-MeFOSA                           | 31506-32-8   | ND                       | 0.229       | 0.554       |                 |          | U     |
|              | N-MeFOSAA                          | 2355-31-9    | ND                       | 0.156       | 0.554       |                 |          | U     |
|              | N-MeFOSE                           | 24448-09-7   | ND                       | 0.526       | 2.49        |                 |          | U     |
|              | PFOSA                              | 754-91-6     | 0.0471                   | 0.0778      | 0.554       |                 |          | LB    |
| Other        | Nation Byproduct 1 (PS Acid)       | 29311-67-9   | ND                       | 0.296       | 0.554       |                 |          | U     |
|              | Nation Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND                       | 0.459       | 0.554       |                 |          | U     |
| PFECAs       | ADONA                              | 919005-14-4  | ND                       | 0.150       | 0.525       |                 |          | U     |
|              | EVE Acid                           | 69087-46-3   | ND                       | 0.177       | 1.25        |                 |          | U     |
|              | HFPO-DA                            | 13252-13-6   | ND                       | 0.0587      | 0.554       |                 |          | U     |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND                       | 0.182       | 0.554       |                 |          | U     |
|              | NFDHA                              | 151772-58-6  | ND                       | 0.117       | 0.554       |                 |          | U     |
|              | PEPA                               | 267239-61-2  | ND                       | 0.104       | 0.554       |                 |          | U     |
|              | PFECA-G                            | 801212-59-9  | ND                       | 0.0739      | 0.554       |                 |          | U     |
|              | PFMOAA                             | 674-13-5     | ND                       | 0.281       | 0.554       |                 |          | U     |
|              | PFMOBA                             | 863090-89-5  | ND                       | 0.930       | 1.25        |                 |          | U     |
|              | PFMOPrA                            | 377-73-1     | ND                       | 0.197       | 0.554       |                 |          | U     |
|              | PFO2HxA                            | 39492-88-1   | ND                       | 0.178       | 0.554       |                 |          | U     |
|              | PFO3OA                             | 39492-89-2   | ND                       | 0.255       | 0.554       |                 |          | U     |
|              | PFO4DA                             | 39492-90-5   | ND                       | 0.438       | 2.77        |                 |          | U     |
|              | PFO5DA                             | 39492-91-6   | ND                       | 0.443       | 2.77        |                 |          | U     |
|              | PMPA                               | 13140-29-9   | ND                       | 0.131       | 0.554       |                 |          | U     |
|              | R-EVE                              | 2416366-22-6 | ND                       | 0.920       | 1.25        |                 |          | U     |
| PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9  | ND                       | 0.261       | 0.522       |                 |          | U     |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND                       | 0.355       | 0.516       |                 |          | U     |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND                       | 0.369       | 0.554       |                 |          | U     |
|              | NVHOS                              | 1132933-86-8 | ND                       | 0.0854      | 0.554       |                 |          | U     |
|              | PFEESA                             | 113507-82-7  | ND                       | 0.167       | 0.554       |                 |          | U     |
|              | R-PSDA                             | 2416366-18-0 | ND                       | 2.44        | 2.44        |                 |          | U     |
| ES           | R-PSDCA                            | 2416366-21-5 | ND                       | 0.234       | 0.554       |                 |          | U     |
|              | MPFBA                              |              |                          |             |             | 20-150%         | 75.6%    |       |
|              | M5PFPeA                            |              |                          |             |             | 20-150%         | 149.8%   |       |
|              | M3PFBS                             |              |                          |             |             | 20-150%         | 172.4%   | Q     |
|              | M2-4:2 FTS                         |              |                          |             |             | 20-150%         | 148.3%   |       |
|              | M5PFHxA                            |              |                          |             |             | 20-150%         | 92.1%    |       |
|              | M3HFPO-DA                          |              |                          |             |             | 20-150%         | 86.9%    |       |
|              | M4PFHpA                            |              |                          |             |             | 20-150%         | 85.3%    |       |
|              | M3PFHxS                            |              |                          |             |             | 20-150%         | 67.3%    |       |
|              | M2-6:2 FTS                         |              |                          |             |             | 20-150%         | 49.1%    |       |
|              | M8PFOA                             |              |                          |             |             | 20-150%         | 67.9%    |       |
|              | M8PFNA                             |              |                          |             |             | 20-150%         | 57.2%    |       |
|              | M8PFOS                             |              |                          |             |             | 20-150%         | 53.0%    |       |
|              | M2-8:2 FTS                         |              |                          |             |             | 20-150%         | 43.4%    |       |
|              | M8FOSA-I                           |              |                          |             |             | 20-150%         | 43.3%    |       |
|              | M8PFDA                             |              |                          |             |             | 20-150%         | 55.3%    |       |
|              | d3-N-MeFOSAA                       |              |                          |             |             | 20-150%         | 65.7%    |       |
|              | d5-N-EFOSAA                        |              |                          |             |             | 20-150%         | 72.7%    |       |
|              | M7PFUDa                            |              |                          |             |             | 20-150%         | 54.9%    |       |
|              | MPFDoA                             |              |                          |             |             | 20-150%         | 44.5%    |       |
|              | M2PFTeDA                           |              |                          |             |             | 20-150%         | 29.8%    |       |
|              | d3-N-MeFOSA                        |              |                          |             |             | 10-200%         | 4.4%     | Q     |
|              | d5-N-EFOSA                         |              |                          |             |             | 10-200%         | 3.3%     | Q     |
|              | d7-N-MeFOSE                        |              |                          |             |             | 10-200%         | 34.3%    |       |
|              | d9-N-EFOSE                         |              |                          |             |             | 10-200%         | 28.8%    |       |

# Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: 211 Water Plant Leland, N.C.

|               |                  |               |                  |                  |        |
|---------------|------------------|---------------|------------------|------------------|--------|
| Enthalpy ID   | 0523-837-007-1   | Prep Batch    | EU15349          | Sample Vol (mL)  | 282.26 |
| Sample Name   | 052223-18        | Prep Date     | 2023-05-31 14:52 | Extract Vol (mL) | 0.4    |
| Matrix        | AQ               | Analysis Date | 2023-06-01 20:35 | Split Factor     | N/A    |
| Sampling Date | 2023-05-22 10:20 | Analyst       | bahager          | Method Code      | WM-026 |
| Received Date | 2023-05-22       | Instrument    | Pippin           | Sample Type      | Sample |

|              | Compound                           | CAS          | Formatted Result<br>ng/L | LOD<br>ng/L | LOQ<br>ng/L | Recovery Limits | Recovery | Flags |
|--------------|------------------------------------|--------------|--------------------------|-------------|-------------|-----------------|----------|-------|
| Acids        | PFBA                               | 375-22-4     | ND                       | 0.225       | 0.567       |                 |          | U     |
|              | PFPeA                              | 2706-90-3    | ND                       | 0.162       | 0.567       |                 |          | U     |
|              | PFHxA                              | 307-24-4     | ND                       | 0.190       | 0.567       |                 |          | U     |
|              | PFHpA                              | 375-85-9     | ND                       | 0.198       | 0.567       |                 |          | U     |
|              | PFOA                               | 335-67-1     | ND                       | 0.130       | 0.567       |                 |          | U     |
|              | PFNA                               | 375-95-1     | ND                       | 0.128       | 0.567       |                 |          | U     |
|              | PFDA                               | 335-76-2     | ND                       | 0.162       | 0.567       |                 |          | U     |
|              | PFUnDA                             | 2058-94-8    | ND                       | 0.128       | 0.567       |                 |          | U     |
|              | PFDoDA                             | 307-55-1     | ND                       | 0.230       | 0.567       |                 |          | U     |
|              | PFTdA                              | 72629-94-8   | ND                       | 0.188       | 0.567       |                 |          | U     |
|              | PFTeDA                             | 376-06-7     | ND                       | 0.216       | 0.567       |                 |          | U     |
|              | PFHxDA                             | 67905-19-5   | ND                       | 0.301       | 0.567       |                 |          | U     |
|              | PFBS                               | 375-73-5     | ND                       | 0.301       | 0.567       |                 |          | U     |
|              | PFPeS                              | 2706-91-4    | ND                       | 0.116       | 0.534       |                 |          | U     |
| Sulfonates   | PFHxS                              | 355-46-4     | ND                       | 0.438       | 0.519       |                 |          | U     |
|              | PFHpS                              | 375-92-8     | ND                       | 0.275       | 0.540       |                 |          | U     |
|              | PFOS                               | 1763-23-1    | ND                       | 0.299       | 0.525       |                 |          | U     |
|              | PFNS                               | 68259-12-1   | ND                       | 0.176       | 0.546       |                 |          | U     |
|              | PFDS                               | 335-77-3     | ND                       | 0.298       | 0.546       |                 |          | U     |
|              | 4:2 FTS                            | 757124-72-4  | ND                       | 0.0735      | 0.531       |                 |          | U     |
|              | 6:2 FTS                            | 27619-97-2   | ND                       | 0.267       | 0.540       |                 |          | U     |
|              | 8:2 FTS                            | 39108-34-4   | ND                       | 0.127       | 0.543       |                 |          | U     |
|              | 10:2 FTS                           | 120226-60-0  | ND                       | 0.434       | 0.567       |                 |          | U     |
|              | FBSA                               | 30334-69-1   | ND                       | 0.269       | 0.567       |                 |          | U     |
|              | N-EFOSA                            | 4151-50-2    | ND                       | 0.351       | 0.567       |                 |          | U     |
|              | N-EFOSAA                           | 2991-50-6    | ND                       | 0.230       | 0.567       |                 |          | U     |
|              | N-EFOSE                            | 1691-99-2    | ND                       | 0.868       | 2.55        |                 |          | U     |
|              | N-MeFOSA                           | 31506-32-8   | ND                       | 0.234       | 0.567       |                 |          | U     |
| Sulfonamides | N-MeFOSAA                          | 2355-31-9    | ND                       | 0.159       | 0.567       |                 |          | U     |
|              | N-MeFOSE                           | 24448-09-7   | ND                       | 0.539       | 2.55        |                 |          | U     |
|              | PFOSA                              | 754-91-6     | 0.0665                   | 0.0795      | 0.567       |                 |          | LB    |
|              | Nation Byproduct 1 (PS Acid)       | 29311-67-9   | ND                       | 0.303       | 0.567       |                 |          | U     |
|              | Nation Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND                       | 0.469       | 0.567       |                 |          | U     |
|              | ADONA                              | 919005-14-4  | ND                       | 0.154       | 0.537       |                 |          | U     |
|              | EVE Acid                           | 69087-46-3   | ND                       | 0.181       | 1.28        |                 |          | U     |
|              | HFPO-DA                            | 13252-13-6   | ND                       | 0.0601      | 0.567       |                 |          | U     |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND                       | 0.186       | 0.567       |                 |          | U     |
|              | NFDHA                              | 151772-58-6  | ND                       | 0.119       | 0.567       |                 |          | U     |
|              | PEPA                               | 267239-61-2  | ND                       | 0.106       | 0.567       |                 |          | U     |
|              | PFECA-G                            | 801212-59-9  | ND                       | 0.0756      | 0.567       |                 |          | U     |
|              | PFMOAA                             | 674-13-5     | ND                       | 0.287       | 0.567       |                 |          | U     |
|              | PFMOBA                             | 863090-89-5  | ND                       | 0.951       | 1.28        |                 |          | U     |
| PFECAs       | PFMOPrA                            | 377-73-1     | ND                       | 0.202       | 0.567       |                 |          | U     |
|              | PFO2HxA                            | 39492-88-1   | ND                       | 0.182       | 0.567       |                 |          | U     |
|              | PFO3OA                             | 39492-89-2   | ND                       | 0.260       | 0.567       |                 |          | U     |
|              | PFO4DA                             | 39492-90-5   | ND                       | 0.448       | 2.83        |                 |          | U     |
|              | PFO5DA                             | 39492-91-6   | ND                       | 0.453       | 2.83        |                 |          | U     |
|              | PMPA                               | 13140-29-9   | ND                       | 0.134       | 0.567       |                 |          | U     |
|              | R-EVE                              | 2416366-22-6 | ND                       | 0.941       | 1.28        |                 |          | U     |
|              | PFESAs                             | 11Cl-PF3OUdS | 763051-92-9              | ND          | 0.267       | 0.534           |          | U     |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND                       | 0.363       | 0.528       |                 |          | U     |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND                       | 0.377       | 0.567       |                 |          | U     |
|              | NVHOS                              | 1132933-86-8 | ND                       | 0.0873      | 0.567       |                 |          | U     |
|              | PFEESA                             | 113507-82-7  | ND                       | 0.170       | 0.567       |                 |          | U     |
|              | R-PSDA                             | 2416366-18-0 | ND                       | 2.50        | 2.50        |                 |          | U     |
|              | R-PSDCA                            | 241636-21-5  | ND                       | 0.239       | 0.567       |                 |          | U     |
| ES           | MPFBA                              |              |                          |             |             | 20-150%         | 80.1%    |       |
|              | MSPFPeA                            |              |                          |             |             | 20-150%         | 163.0%   | Q     |
|              | M3PFBS                             |              |                          |             |             | 20-150%         | 228.8%   | Q     |
|              | M2-4:2 FTS                         |              |                          |             |             | 20-150%         | 224.9%   | Q     |
|              | MSPFHxA                            |              |                          |             |             | 20-150%         | 85.2%    |       |
|              | M3HFPO-DA                          |              |                          |             |             | 20-150%         | 80.5%    |       |
|              | M4PFHpA                            |              |                          |             |             | 20-150%         | 96.3%    |       |
|              | M3PFHxS                            |              |                          |             |             | 20-150%         | 85.7%    |       |
|              | M2-6:2 FTS                         |              |                          |             |             | 20-150%         | 94.5%    |       |
|              | M8PFOA                             |              |                          |             |             | 20-150%         | 82.7%    |       |
|              | M8PFNA                             |              |                          |             |             | 20-150%         | 80.1%    |       |
|              | M8PFOS                             |              |                          |             |             | 20-150%         | 74.5%    |       |
|              | M2-8:2 FTS                         |              |                          |             |             | 20-150%         | 75.5%    |       |
|              | M8FOSA-I                           |              |                          |             |             | 20-150%         | 47.7%    |       |
|              | M8PFDA                             |              |                          |             |             | 20-150%         | 75.1%    |       |
|              | d3-N-MeFOSAA                       |              |                          |             |             | 20-150%         | 82.9%    |       |
|              | d5-N-EFOSAA                        |              |                          |             |             | 20-150%         | 81.0%    |       |
|              | M7PFUDa                            |              |                          |             |             | 20-150%         | 67.4%    |       |
|              | MPFDoA                             |              |                          |             |             | 20-150%         | 47.3%    |       |
|              | M2PFTeDA                           |              |                          |             |             | 20-150%         | 35.5%    |       |
|              | d3-N-MeFOSA                        |              |                          |             |             | 10-200%         | 1.1%     | Q     |
|              | d5-N-EFOSA                         |              |                          |             |             | 10-200%         | 0.9%     | Q     |
|              | d7-N-MeFOSE                        |              |                          |             |             | 10-200%         | 33.2%    |       |
|              | d9-N-EFOSE                         |              |                          |             |             | 10-200%         | 35.1%    |       |

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: 211 Water Plant Leland, N.C.

|               |                  |               |                  |                  |        |
|---------------|------------------|---------------|------------------|------------------|--------|
| Enthalpy ID   | 0523-837-008-1   | Prep Batch    | EU15349          | Sample Vol (mL)  | 292.53 |
| Sample Name   | 052223-19        | Prep Date     | 2023-05-31 14:52 | Extract Vol (mL) | 0.4    |
| Matrix        | AQ               | Analysis Date | 2023-06-01 20:58 | Split Factor     | N/A    |
| Sampling Date | 2023-05-22 10:30 | Analyst       | bahager          | Method Code      | WM-026 |
| Received Date | 2023-05-22       | Instrument    | Pippin           | Sample Type      | Sample |

|              | Compound                           | CAS          | Formatted Result<br>ng/L | LOD<br>ng/L | LOQ<br>ng/L | Recovery Limits | Recovery | Flags |
|--------------|------------------------------------|--------------|--------------------------|-------------|-------------|-----------------|----------|-------|
| Acids        | PFBA                               | 375-22-4     | 0.339                    | 0.217       | 0.547       |                 |          | J     |
|              | PFPeA                              | 2706-90-3    | ND                       | 0.156       | 0.547       |                 |          | U     |
|              | PFHxA                              | 307-24-4     | ND                       | 0.183       | 0.547       |                 |          | U     |
|              | PFHpA                              | 375-85-9     | ND                       | 0.191       | 0.547       |                 |          | U     |
|              | PFOA                               | 335-67-1     | 0.0374                   | 0.125       | 0.547       |                 |          | L     |
|              | PFNA                               | 375-95-1     | ND                       | 0.124       | 0.547       |                 |          | U     |
|              | PFDA                               | 335-76-2     | ND                       | 0.156       | 0.547       |                 |          | U     |
|              | PFUnDA                             | 2058-94-8    | ND                       | 0.124       | 0.547       |                 |          | U     |
|              | PFDoDA                             | 307-55-1     | ND                       | 0.222       | 0.547       |                 |          | U     |
|              | PFTdA                              | 72629-94-8   | ND                       | 0.181       | 0.547       |                 |          | U     |
|              | PFTeDA                             | 376-06-7     | ND                       | 0.209       | 0.547       |                 |          | U     |
|              | PFHxDA                             | 67905-19-5   | ND                       | 0.291       | 0.547       |                 |          | U     |
| Sulfonates   | PFBS                               | 375-73-5     | ND                       | 0.291       | 0.547       |                 |          | U     |
|              | PFPeS                              | 2706-91-4    | ND                       | 0.112       | 0.515       |                 |          | U     |
|              | PFHxS                              | 355-46-4     | ND                       | 0.422       | 0.501       |                 |          | U     |
|              | PFHpS                              | 375-92-8     | ND                       | 0.265       | 0.521       |                 |          | U     |
|              | PFOS                               | 1763-23-1    | ND                       | 0.289       | 0.507       |                 |          | U     |
|              | PFNS                               | 68259-12-1   | ND                       | 0.170       | 0.527       |                 |          | U     |
|              | PFDS                               | 335-77-3     | ND                       | 0.287       | 0.527       |                 |          | U     |
|              | 4:2 FTS                            | 757124-72-4  | ND                       | 0.0709      | 0.512       |                 |          | U     |
|              | 6:2 FTS                            | 27619-97-2   | ND                       | 0.258       | 0.521       |                 |          | U     |
|              | 8:2 FTS                            | 39108-34-4   | ND                       | 0.123       | 0.524       |                 |          | U     |
|              | 10:2 FTS                           | 120226-60-0  | ND                       | 0.419       | 0.547       |                 |          | U     |
|              | FBSA                               | 30334-69-1   | ND                       | 0.260       | 0.547       |                 |          | U     |
| Sulfonamides | N-EFOSA                            | 4151-50-2    | ND                       | 0.338       | 0.547       |                 |          | U     |
|              | N-EFOSAA                           | 2991-50-6    | ND                       | 0.222       | 0.547       |                 |          | U     |
|              | N-EFOSE                            | 1691-99-2    | ND                       | 0.838       | 2.46        |                 |          | U     |
|              | N-MeFOSA                           | 31506-32-8   | ND                       | 0.226       | 0.547       |                 |          | U     |
|              | N-MeFOSAA                          | 2355-31-9    | ND                       | 0.154       | 0.547       |                 |          | U     |
|              | N-MeFOSE                           | 24448-09-7   | ND                       | 0.520       | 2.46        |                 |          | U     |
|              | PFOSA                              | 754-91-6     | 0.00903                  | 0.0767      | 0.547       |                 |          | LB    |
| Other        | Nation Byproduct 1 (PS Acid)       | 29311-67-9   | ND                       | 0.292       | 0.547       |                 |          | U     |
|              | Nation Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND                       | 0.453       | 0.547       |                 |          | U     |
| PFECAs       | ADONA                              | 919005-14-4  | ND                       | 0.148       | 0.518       |                 |          | U     |
|              | EVE Acid                           | 69087-46-3   | ND                       | 0.174       | 1.23        |                 |          | U     |
|              | HFPO-DA                            | 13252-13-6   | 0.0110                   | 0.0579      | 0.547       |                 |          | L     |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND                       | 0.179       | 0.547       |                 |          | U     |
|              | NFDHA                              | 151772-58-6  | ND                       | 0.115       | 0.547       |                 |          | U     |
|              | PEPA                               | 267239-61-2  | ND                       | 0.103       | 0.547       |                 |          | U     |
|              | PFECA-G                            | 801212-59-9  | ND                       | 0.0730      | 0.547       |                 |          | U     |
|              | PFMOAA                             | 674-13-5     | ND                       | 0.277       | 0.547       |                 |          | U     |
|              | PFMOBA                             | 863090-89-5  | ND                       | 0.918       | 1.23        |                 |          | U     |
|              | PFMOPrA                            | 377-73-1     | ND                       | 0.195       | 0.547       |                 |          | U     |
|              | PFO2HxA                            | 39492-88-1   | ND                       | 0.176       | 0.547       |                 |          | U     |
|              | PFO3OA                             | 39492-89-2   | ND                       | 0.251       | 0.547       |                 |          | U     |
|              | PFO4DA                             | 39492-90-5   | ND                       | 0.432       | 2.73        |                 |          | U     |
|              | PFO5DA                             | 39492-91-6   | ND                       | 0.438       | 2.73        |                 |          | U     |
|              | PMPA                               | 13140-29-9   | ND                       | 0.129       | 0.547       |                 |          | U     |
|              | R-EVE                              | 2416366-22-6 | ND                       | 0.908       | 1.23        |                 |          | U     |
| PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9  | ND                       | 0.258       | 0.515       |                 |          | U     |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND                       | 0.350       | 0.510       |                 |          | U     |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND                       | 0.364       | 0.547       |                 |          | U     |
|              | NVHOS                              | 1132933-86-8 | ND                       | 0.0843      | 0.547       |                 |          | U     |
|              | PFEESA                             | 113507-82-7  | ND                       | 0.164       | 0.547       |                 |          | U     |
|              | R-PSDA                             | 2416366-18-0 | ND                       | 2.41        | 2.41        |                 |          | U     |
| ES           | R-PSDCA                            | 241636-21-5  | ND                       | 0.231       | 0.547       |                 |          | U     |
|              | MPFBA                              |              |                          |             |             | 20-150%         | 84.7%    |       |
|              | MSPFPeA                            |              |                          |             |             | 20-150%         | 170.4%   | Q     |
|              | M3PFBS                             |              |                          |             |             | 20-150%         | 244.4%   | Q     |
|              | M2-4:2 FTS                         |              |                          |             |             | 20-150%         | 235.1%   | Q     |
|              | MSPFHxA                            |              |                          |             |             | 20-150%         | 79.8%    |       |
|              | M3HFPO-DA                          |              |                          |             |             | 20-150%         | 83.7%    |       |
|              | M4PFHpA                            |              |                          |             |             | 20-150%         | 95.1%    |       |
|              | M3PFHxS                            |              |                          |             |             | 20-150%         | 92.2%    |       |
|              | M2-6:2 FTS                         |              |                          |             |             | 20-150%         | 112.9%   |       |
|              | M8PFOA                             |              |                          |             |             | 20-150%         | 83.0%    |       |
|              | M8PFNA                             |              |                          |             |             | 20-150%         | 78.1%    |       |
|              | M8PFOS                             |              |                          |             |             | 20-150%         | 70.5%    |       |
|              | M2-8:2 FTS                         |              |                          |             |             | 20-150%         | 91.2%    |       |
|              | M8FOSA-I                           |              |                          |             |             | 20-150%         | 49.8%    |       |
|              | M8PFDA                             |              |                          |             |             | 20-150%         | 75.6%    |       |
|              | d3-N-MeFOSAA                       |              |                          |             |             | 20-150%         | 93.0%    |       |
|              | d5-N-EFOSAA                        |              |                          |             |             | 20-150%         | 89.9%    |       |
|              | M7PFUDa                            |              |                          |             |             | 20-150%         | 64.9%    |       |
|              | MPFDoA                             |              |                          |             |             | 20-150%         | 44.8%    |       |
|              | M2PFTeDA                           |              |                          |             |             | 20-150%         | 34.0%    |       |
|              | d3-N-MeFOSA                        |              |                          |             |             | 10-200%         | 1.8%     | Q     |
|              | d5-N-EFOSA                         |              |                          |             |             | 10-200%         | 1.7%     | Q     |
|              | d7-N-MeFOSE                        |              |                          |             |             | 10-200%         | 35.7%    |       |
|              | d9-N-EFOSE                         |              |                          |             |             | 10-200%         | 37.8%    |       |

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: 211 Water Plant Leland, N.C.

|               |                  |               |                  |                  |        |
|---------------|------------------|---------------|------------------|------------------|--------|
| Enthalpy ID   | 0523-837-009-1   | Prep Batch    | EU15349          | Sample Vol (mL)  | 287.14 |
| Sample Name   | 052223-15        | Prep Date     | 2023-05-31 14:52 | Extract Vol (mL) | 0.4    |
| Matrix        | AQ               | Analysis Date | 2023-06-01 21:20 | Split Factor     | N/A    |
| Sampling Date | 2023-05-22 10:40 | Analyst       | bahager          | Method Code      | WM-026 |
| Received Date | 2023-05-22       | Instrument    | Pippin           | Sample Type      | Sample |

|              | Compound                           | CAS          | Formatted Result<br>ng/L | LOD<br>ng/L | LOQ<br>ng/L | Recovery Limits | Recovery | Flags |
|--------------|------------------------------------|--------------|--------------------------|-------------|-------------|-----------------|----------|-------|
| Acids        | PFBA                               | 375-22-4     | ND                       | 0.221       | 0.557       |                 |          | U     |
|              | PFPeA                              | 2706-90-3    | ND                       | 0.159       | 0.557       |                 |          | U     |
|              | PFHxA                              | 307-24-4     | ND                       | 0.186       | 0.557       |                 |          | U     |
|              | PFHpA                              | 375-85-9     | ND                       | 0.195       | 0.557       |                 |          | U     |
|              | PFOA                               | 335-67-1     | 0.0317                   | 0.127       | 0.557       |                 |          | L     |
|              | PFNA                               | 375-95-1     | ND                       | 0.126       | 0.557       |                 |          | U     |
|              | PFDA                               | 335-76-2     | ND                       | 0.159       | 0.557       |                 |          | U     |
|              | PFUnDA                             | 2058-94-8    | ND                       | 0.126       | 0.557       |                 |          | U     |
|              | PFDoDA                             | 307-55-1     | ND                       | 0.226       | 0.557       |                 |          | U     |
|              | PFTdA                              | 72629-94-8   | ND                       | 0.185       | 0.557       |                 |          | U     |
|              | PFTeDA                             | 376-06-7     | ND                       | 0.212       | 0.557       |                 |          | U     |
|              | PFHxDA                             | 67905-19-5   | ND                       | 0.296       | 0.557       |                 |          | U     |
| Sulfonates   | PFBS                               | 375-73-5     | ND                       | 0.296       | 0.557       |                 |          | U     |
|              | PFPeS                              | 2706-91-4    | ND                       | 0.114       | 0.525       |                 |          | U     |
|              | PFHxS                              | 355-46-4     | ND                       | 0.430       | 0.510       |                 |          | U     |
|              | PFHpS                              | 375-92-8     | ND                       | 0.270       | 0.531       |                 |          | U     |
|              | PFOS                               | 1763-23-1    | ND                       | 0.294       | 0.516       |                 |          | U     |
|              | PFNS                               | 68259-12-1   | ND                       | 0.173       | 0.537       |                 |          | U     |
|              | PFDS                               | 335-77-3     | ND                       | 0.293       | 0.537       |                 |          | U     |
|              | 4:2 FTS                            | 757124-72-4  | ND                       | 0.0723      | 0.522       |                 |          | U     |
|              | 6:2 FTS                            | 27619-97-2   | ND                       | 0.263       | 0.531       |                 |          | U     |
|              | 8:2 FTS                            | 39108-34-4   | ND                       | 0.125       | 0.534       |                 |          | U     |
|              | 10:2 FTS                           | 120226-60-0  | ND                       | 0.427       | 0.557       |                 |          | U     |
| Sulfonamides | FBSA                               | 30334-69-1   | ND                       | 0.265       | 0.557       |                 |          | U     |
|              | N-EFOSA                            | 4151-50-2    | ND                       | 0.345       | 0.557       |                 |          | U     |
|              | N-EFOSAA                           | 2991-50-6    | ND                       | 0.226       | 0.557       |                 |          | U     |
|              | N-EFOSE                            | 1691-99-2    | ND                       | 0.853       | 2.51        |                 |          | U     |
|              | N-MeFOSA                           | 31506-32-8   | ND                       | 0.230       | 0.557       |                 |          | U     |
|              | N-MeFOSAA                          | 2355-31-9    | ND                       | 0.157       | 0.557       |                 |          | U     |
|              | N-MeFOSE                           | 24448-09-7   | ND                       | 0.529       | 2.51        |                 |          | U     |
|              | PFOSA                              | 754-91-6     | ND                       | 0.0782      | 0.557       |                 |          | U     |
| Other        | Nation Byproduct 1 (PS Acid)       | 29311-67-9   | ND                       | 0.298       | 0.557       |                 |          | U     |
|              | Nation Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND                       | 0.461       | 0.557       |                 |          | U     |
| PFECAs       | ADONA                              | 919005-14-4  | ND                       | 0.151       | 0.528       |                 |          | U     |
|              | EVE Acid                           | 69087-46-3   | ND                       | 0.178       | 1.25        |                 |          | U     |
|              | HFPO-DA                            | 13252-13-6   | 0.0986                   | 0.0590      | 0.557       |                 |          | J     |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND                       | 0.183       | 0.557       |                 |          | U     |
|              | NFDHA                              | 151772-58-6  | ND                       | 0.117       | 0.557       |                 |          | U     |
|              | PEPA                               | 267239-61-2  | ND                       | 0.104       | 0.557       |                 |          | U     |
|              | PFECA-G                            | 801212-59-9  | ND                       | 0.0744      | 0.557       |                 |          | U     |
|              | PFMOAA                             | 674-13-5     | 0.405                    | 0.282       | 0.557       |                 |          | J     |
|              | PFMOBA                             | 863090-89-5  | ND                       | 0.935       | 1.25        |                 |          | U     |
|              | PFMOPrA                            | 377-73-1     | ND                       | 0.199       | 0.557       |                 |          | U     |
|              | PFO2HxA                            | 39492-88-1   | ND                       | 0.179       | 0.557       |                 |          | U     |
|              | PFO3OA                             | 39492-89-2   | ND                       | 0.256       | 0.557       |                 |          | U     |
|              | PFO4DA                             | 39492-90-5   | ND                       | 0.441       | 2.79        |                 |          | U     |
|              | PFO5DA                             | 39492-91-6   | ND                       | 0.446       | 2.79        |                 |          | U     |
|              | PMPA                               | 13140-29-9   | 0.643                    | 0.131       | 0.557       |                 |          | U     |
|              | R-EVE                              | 2416366-22-6 | ND                       | 0.925       | 1.25        |                 |          | U     |
| PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9  | ND                       | 0.263       | 0.525       |                 |          | U     |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND                       | 0.357       | 0.519       |                 |          | U     |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND                       | 0.371       | 0.557       |                 |          | U     |
|              | NVHOS                              | 1132933-86-8 | ND                       | 0.0858      | 0.557       |                 |          | U     |
|              | PFEESA                             | 113507-82-7  | ND                       | 0.168       | 0.557       |                 |          | U     |
|              | R-PSDA                             | 2416366-18-0 | ND                       | 2.46        | 2.46        |                 |          | U     |
| ES           | R-PSDCA                            | 2416366-21-5 | ND                       | 0.235       | 0.557       |                 |          | U     |
|              | MPFBA                              |              |                          |             |             | 20-150%         | 89.8%    |       |
|              | M5PFPeA                            |              |                          |             |             | 20-150%         | 226.0%   | Q     |
|              | M3PFBS                             |              |                          |             |             | 20-150%         | 326.6%   | Q     |
|              | M2-4:2 FTS                         |              |                          |             |             | 20-150%         | 260.2%   | Q     |
|              | M5PFHxA                            |              |                          |             |             | 20-150%         | 87.7%    |       |
|              | M3HFPO-DA                          |              |                          |             |             | 20-150%         | 92.6%    |       |
|              | M4PFHpA                            |              |                          |             |             | 20-150%         | 100.9%   |       |
|              | M3PFHxS                            |              |                          |             |             | 20-150%         | 103.0%   |       |
|              | M2-6:2 FTS                         |              |                          |             |             | 20-150%         | 115.8%   |       |
|              | M8PFOA                             |              |                          |             |             | 20-150%         | 90.3%    |       |
|              | M8PFNA                             |              |                          |             |             | 20-150%         | 66.7%    |       |
|              | M8PFOS                             |              |                          |             |             | 20-150%         | 58.0%    |       |
|              | M2-8:2 FTS                         |              |                          |             |             | 20-150%         | 53.9%    |       |
|              | M8FOSA-I                           |              |                          |             |             | 20-150%         | 19.6%    | Q     |
|              | M8PFDA                             |              |                          |             |             | 20-150%         | 50.4%    |       |
|              | d3-N-MeFOSAA                       |              |                          |             |             | 20-150%         | 64.6%    |       |
|              | d5-N-EFOSAA                        |              |                          |             |             | 20-150%         | 64.4%    |       |
|              | M7PFUnDA                           |              |                          |             |             | 20-150%         | 44.5%    |       |
|              | MPFDoA                             |              |                          |             |             | 20-150%         | 29.8%    |       |
|              | M2PFTeDA                           |              |                          |             |             | 20-150%         | 13.9%    | Q     |
|              | d3-N-MeFOSA                        |              |                          |             |             | 10-200%         | 0.9%     | Q     |
|              | d5-N-EFOSA                         |              |                          |             |             | 10-200%         | 0.5%     | Q     |
|              | d7-N-MeFOSE                        |              |                          |             |             | 10-200%         | 16.2%    |       |
|              | d9-N-EFOSE                         |              |                          |             |             | 10-200%         | 20.1%    |       |

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: 211 Water Plant Leland, N.C.

|               |                  |               |                  |                  |        |
|---------------|------------------|---------------|------------------|------------------|--------|
| Enthalpy ID   | 0523-837-010-1   | Prep Batch    | EU15349          | Sample Vol (mL)  | 291.59 |
| Sample Name   | 052223-8         | Prep Date     | 2023-05-31 14:52 | Extract Vol (mL) | 0.4    |
| Matrix        | AQ               | Analysis Date | 2023-06-01 21:43 | Split Factor     | N/A    |
| Sampling Date | 2023-05-22 10:45 | Analyst       | bahager          | Method Code      | WM-026 |
| Received Date | 2023-05-22       | Instrument    | Pippin           | Sample Type      | Sample |

|              | Compound                           | CAS          | Formatted Result<br>ng/L | LOD<br>ng/L | LOQ<br>ng/L | Recovery Limits | Recovery | Flags |
|--------------|------------------------------------|--------------|--------------------------|-------------|-------------|-----------------|----------|-------|
| Acids        | PFBA                               | 375-22-4     | ND                       | 0.218       | 0.549       |                 |          | U     |
|              | PFPeA                              | 2706-90-3    | ND                       | 0.157       | 0.549       |                 |          | U     |
|              | PFHxA                              | 307-24-4     | ND                       | 0.183       | 0.549       |                 |          | U     |
|              | PFHpA                              | 375-85-9     | ND                       | 0.192       | 0.549       |                 |          | U     |
|              | PFOA                               | 335-67-1     | ND                       | 0.126       | 0.549       |                 |          | U     |
|              | PFNA                               | 375-95-1     | ND                       | 0.124       | 0.549       |                 |          | U     |
|              | PFDA                               | 335-76-2     | ND                       | 0.157       | 0.549       |                 |          | U     |
|              | PFUnDA                             | 2058-94-8    | ND                       | 0.124       | 0.549       |                 |          | U     |
|              | PFDoDA                             | 307-55-1     | ND                       | 0.223       | 0.549       |                 |          | U     |
|              | PFTeDA                             | 72629-94-8   | ND                       | 0.182       | 0.549       |                 |          | U     |
|              | PFTeDA                             | 376-06-7     | ND                       | 0.209       | 0.549       |                 |          | U     |
|              | PFHxDA                             | 67905-19-5   | ND                       | 0.292       | 0.549       |                 |          | U     |
|              | PFBS                               | 375-73-5     | ND                       | 0.292       | 0.549       |                 |          | U     |
|              | PFPeS                              | 2706-91-4    | ND                       | 0.113       | 0.517       |                 |          | U     |
| Sulfonates   | PFHxS                              | 355-46-4     | ND                       | 0.424       | 0.503       |                 |          | U     |
|              | PFHpS                              | 375-92-8     | ND                       | 0.266       | 0.523       |                 |          | U     |
|              | PFOS                               | 1763-23-1    | ND                       | 0.290       | 0.508       |                 |          | U     |
|              | PFNS                               | 68259-12-1   | ND                       | 0.170       | 0.528       |                 |          | U     |
|              | PFDS                               | 335-77-3     | ND                       | 0.288       | 0.528       |                 |          | U     |
|              | 4:2 FTS                            | 757124-72-4  | ND                       | 0.0712      | 0.514       |                 |          | U     |
|              | 6:2 FTS                            | 27619-97-2   | ND                       | 0.259       | 0.523       |                 |          | U     |
|              | 8:2 FTS                            | 39108-34-4   | ND                       | 0.123       | 0.526       |                 |          | U     |
|              | 10:2 FTS                           | 120226-60-0  | ND                       | 0.420       | 0.549       |                 |          | U     |
|              | FBSA                               | 30334-69-1   | ND                       | 0.261       | 0.549       |                 |          | U     |
|              | N-EFOSA                            | 4151-50-2    | ND                       | 0.340       | 0.549       |                 |          | U     |
| Sulfonamides | N-EFOSAA                           | 2991-50-6    | ND                       | 0.223       | 0.549       |                 |          | U     |
|              | N-EFOSE                            | 1691-99-2    | ND                       | 0.840       | 2.47        |                 |          | U     |
|              | N-MeFOSA                           | 31506-32-8   | ND                       | 0.226       | 0.549       |                 |          | U     |
|              | N-MeFOSAA                          | 2355-31-9    | ND                       | 0.154       | 0.549       |                 |          | U     |
|              | N-MeFOSE                           | 24448-09-7   | ND                       | 0.521       | 2.47        |                 |          | U     |
|              | PFOSA                              | 754-91-6     | ND                       | 0.0770      | 0.549       |                 |          | U     |
| Other        | Nation Byproduct 1 (PS Acid)       | 29311-67-9   | ND                       | 0.293       | 0.549       |                 |          | U     |
|              | Nation Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND                       | 0.454       | 0.549       |                 |          | U     |
| PFECAs       | ADONA                              | 919005-14-4  | ND                       | 0.149       | 0.520       |                 |          | U     |
|              | EVE Acid                           | 69087-46-3   | ND                       | 0.175       | 1.23        |                 |          | U     |
|              | HFPO-DA                            | 13252-13-6   | 0.0511                   | 0.0581      | 0.549       |                 |          | L     |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND                       | 0.180       | 0.549       |                 |          | U     |
|              | NFDHA                              | 151772-58-6  | ND                       | 0.115       | 0.549       |                 |          | U     |
|              | PEPA                               | 267239-61-2  | ND                       | 0.103       | 0.549       |                 |          | U     |
|              | PFECA-G                            | 801212-59-9  | ND                       | 0.0732      | 0.549       |                 |          | U     |
|              | PFMOAA                             | 674-13-5     | 0.336                    | 0.278       | 0.549       |                 |          | J     |
|              | PFMOBA                             | 863090-89-5  | ND                       | 0.921       | 1.23        |                 |          | U     |
|              | PFMOPrA                            | 377-73-1     | ND                       | 0.195       | 0.549       |                 |          | U     |
|              | PFO2HxA                            | 39492-88-1   | ND                       | 0.177       | 0.549       |                 |          | U     |
|              | PFO3OA                             | 39492-89-2   | ND                       | 0.252       | 0.549       |                 |          | U     |
|              | PFO4DA                             | 39492-90-5   | ND                       | 0.434       | 2.74        |                 |          | U     |
|              | PFO5DA                             | 39492-91-6   | ND                       | 0.439       | 2.74        |                 |          | U     |
|              | PMPA                               | 13140-29-9   | 0.0332                   | 0.129       | 0.549       |                 |          | L     |
|              | R-EVE                              | 2416366-22-6 | ND                       | 0.911       | 1.23        |                 |          | U     |
| PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9  | ND                       | 0.259       | 0.517       |                 |          | U     |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND                       | 0.352       | 0.511       |                 |          | U     |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND                       | 0.365       | 0.549       |                 |          | U     |
|              | NVHOS                              | 1132933-86-8 | ND                       | 0.0845      | 0.549       |                 |          | U     |
|              | PFEESA                             | 113507-82-7  | ND                       | 0.165       | 0.549       |                 |          | U     |
|              | R-PSDA                             | 2416366-18-0 | ND                       | 2.42        | 2.42        |                 |          | U     |
| ES           | R-PSDCA                            | 241636-21-5  | ND                       | 0.231       | 0.549       |                 |          | U     |
|              | MPFBA                              |              |                          |             |             | 20-150%         | 82.1%    |       |
|              | M5PFPeA                            |              |                          |             |             | 20-150%         | 183.1%   | Q     |
|              | M3PFBS                             |              |                          |             |             | 20-150%         | 217.8%   | Q     |
|              | M2-4:2 FTS                         |              |                          |             |             | 20-150%         | 269.0%   | Q     |
|              | M5PFHxA                            |              |                          |             |             | 20-150%         | 93.9%    |       |
|              | M3HFPO-DA                          |              |                          |             |             | 20-150%         | 88.3%    |       |
|              | M4PFHpA                            |              |                          |             |             | 20-150%         | 102.4%   |       |
|              | M3PFHxS                            |              |                          |             |             | 20-150%         | 95.2%    |       |
|              | M2-6:2 FTS                         |              |                          |             |             | 20-150%         | 95.6%    |       |
|              | M8PFOA                             |              |                          |             |             | 20-150%         | 84.9%    |       |
|              | M8PFNA                             |              |                          |             |             | 20-150%         | 70.5%    |       |
|              | M8PFOS                             |              |                          |             |             | 20-150%         | 66.9%    |       |
|              | M2-8:2 FTS                         |              |                          |             |             | 20-150%         | 66.5%    |       |
|              | M8FOSA-I                           |              |                          |             |             | 20-150%         | 30.3%    |       |
|              | M8PFDA                             |              |                          |             |             | 20-150%         | 68.1%    |       |
|              | d3-N-MeFOSAA                       |              |                          |             |             | 20-150%         | 81.1%    |       |
|              | d5-N-EFOSAA                        |              |                          |             |             | 20-150%         | 72.8%    |       |
|              | M7PFUDa                            |              |                          |             |             | 20-150%         | 53.0%    |       |
|              | MPFDOA                             |              |                          |             |             | 20-150%         | 32.4%    |       |
|              | M2PFTeDA                           |              |                          |             |             | 20-150%         | 12.8%    | Q     |
|              | d3-N-MeFOSA                        |              |                          |             |             | 10-200%         | 1.3%     | Q     |
|              | d5-N-EFOSA                         |              |                          |             |             | 10-200%         | 1.1%     | Q     |
|              | d7-N-MeFOSE                        |              |                          |             |             | 10-200%         | 22.5%    |       |
|              | d9-N-EFOSE                         |              |                          |             |             | 10-200%         | 22.4%    |       |

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: 211 Water Plant Leland, N.C.

|               |                  |               |                  |                  |        |
|---------------|------------------|---------------|------------------|------------------|--------|
| Enthalpy ID   | 0523-837-011-1   | Prep Batch    | EU15349          | Sample Vol (mL)  | 282.57 |
| Sample Name   | 052223-12        | Prep Date     | 2023-05-31 14:52 | Extract Vol (mL) | 0.4    |
| Matrix        | AQ               | Analysis Date | 2023-06-01 22:29 | Split Factor     | N/A    |
| Sampling Date | 2023-05-22 10:55 | Analyst       | bahager          | Method Code      | WM-026 |
| Received Date | 2023-05-22       | Instrument    | Pippin           | Sample Type      | Sample |

|              | Compound                           | CAS          | Formatted Result<br>ng/L | LOD<br>ng/L | LOQ<br>ng/L | Recovery Limits | Recovery | Flags |
|--------------|------------------------------------|--------------|--------------------------|-------------|-------------|-----------------|----------|-------|
| Acids        | PFBA                               | 375-22-4     | 0.945                    | 0.225       | 0.566       |                 |          |       |
|              | PFPeA                              | 2706-90-3    | ND                       | 0.162       | 0.566       |                 |          | U     |
|              | PFHxA                              | 307-24-4     | ND                       | 0.189       | 0.566       |                 |          | U     |
|              | PFHpA                              | 375-85-9     | 0.0914                   | 0.198       | 0.566       |                 |          | L     |
|              | PFOA                               | 335-67-1     | 0.105                    | 0.130       | 0.566       |                 |          | L     |
|              | PFNA                               | 375-95-1     | ND                       | 0.128       | 0.566       |                 |          | U     |
|              | PFDA                               | 335-76-2     | ND                       | 0.162       | 0.566       |                 |          | U     |
|              | PFUnDA                             | 2058-94-8    | ND                       | 0.128       | 0.566       |                 |          | U     |
|              | PFDoDA                             | 307-55-1     | ND                       | 0.230       | 0.566       |                 |          | U     |
|              | PFTdA                              | 72629-94-8   | ND                       | 0.188       | 0.566       |                 |          | U     |
|              | PFTeDA                             | 376-06-7     | ND                       | 0.216       | 0.566       |                 |          | U     |
|              | PFHxDA                             | 67905-19-5   | ND                       | 0.301       | 0.566       |                 |          | U     |
|              | PFBS                               | 375-73-5     | ND                       | 0.301       | 0.566       |                 |          | U     |
|              | PFPeS                              | 2706-91-4    | ND                       | 0.116       | 0.533       |                 |          | U     |
| Sulfonates   | PFHxS                              | 355-46-4     | 0.503                    | 0.437       | 0.519       |                 |          | J     |
|              | PFHpS                              | 375-92-8     | ND                       | 0.274       | 0.539       |                 |          | U     |
|              | PFOS                               | 1763-23-1    | 1.28                     | 0.299       | 0.525       |                 |          |       |
|              | PFNS                               | 68259-12-1   | ND                       | 0.176       | 0.545       |                 |          | U     |
|              | PFDS                               | 335-77-3     | ND                       | 0.297       | 0.545       |                 |          | U     |
|              | 4:2 FTS                            | 757124-72-4  | ND                       | 0.0734      | 0.530       |                 |          | U     |
|              | 6:2 FTS                            | 27619-97-2   | ND                       | 0.267       | 0.539       |                 |          | U     |
|              | 8:2 FTS                            | 39108-34-4   | ND                       | 0.127       | 0.542       |                 |          | U     |
|              | 10:2 FTS                           | 120226-60-0  | ND                       | 0.434       | 0.566       |                 |          | U     |
|              | FBSA                               | 30334-69-1   | ND                       | 0.269       | 0.566       |                 |          | U     |
|              | N-EFOSA                            | 4151-50-2    | ND                       | 0.350       | 0.566       |                 |          | U     |
| Sulfonamides | N-EFOSAA                           | 2991-50-6    | ND                       | 0.230       | 0.566       |                 |          | U     |
|              | N-EFOSE                            | 1691-99-2    | ND                       | 0.867       | 2.55        |                 |          | U     |
|              | N-MeFOSA                           | 31506-32-8   | ND                       | 0.234       | 0.566       |                 |          | U     |
|              | N-MeFOSAA                          | 2355-31-9    | ND                       | 0.159       | 0.566       |                 |          | U     |
|              | N-MeFOSE                           | 24448-09-7   | ND                       | 0.538       | 2.55        |                 |          | U     |
|              | PFOSA                              | 754-91-6     | 0.0447                   | 0.0794      | 0.566       |                 |          | LB    |
|              | Nation Byproduct 1 (PS Acid)       | 29311-67-9   | ND                       | 0.303       | 0.566       |                 |          | U     |
| Other        | Nation Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND                       | 0.469       | 0.566       |                 |          | U     |
| PFECAs       | ADONA                              | 919005-14-4  | ND                       | 0.153       | 0.536       |                 |          | U     |
|              | EVE Acid                           | 69087-46-3   | ND                       | 0.180       | 1.27        |                 |          | U     |
|              | HFPO-DA                            | 13252-13-6   | 0.453                    | 0.0600      | 0.566       |                 |          | J     |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND                       | 0.186       | 0.566       |                 |          | U     |
|              | NFDHA                              | 151772-58-6  | ND                       | 0.119       | 0.566       |                 |          | U     |
|              | PEPA                               | 267239-61-2  | ND                       | 0.106       | 0.566       |                 |          | U     |
|              | PFECA-G                            | 801212-59-9  | ND                       | 0.0756      | 0.566       |                 |          | U     |
|              | PFMOAA                             | 674-13-5     | 12.8                     | 0.287       | 0.566       |                 |          |       |
|              | PFMOBA                             | 863090-89-5  | ND                       | 0.950       | 1.27        |                 |          | U     |
|              | PFMOPrA                            | 377-73-1     | ND                       | 0.202       | 0.566       |                 |          | U     |
|              | PFO2HxA                            | 39492-88-1   | 0.578                    | 0.182       | 0.566       |                 |          |       |
|              | PFO3OA                             | 39492-89-2   | ND                       | 0.260       | 0.566       |                 |          | U     |
|              | PFO4DA                             | 39492-90-5   | ND                       | 0.448       | 2.83        |                 |          | U     |
|              | PFO5DA                             | 39492-91-6   | ND                       | 0.453       | 2.83        |                 |          | U     |
|              | PMPA                               | 13140-29-9   | 0.512                    | 0.133       | 0.566       |                 |          | J     |
|              | R-EVE                              | 2416366-22-6 | ND                       | 0.940       | 1.27        |                 |          | U     |
| PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9  | ND                       | 0.267       | 0.533       |                 |          | U     |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND                       | 0.363       | 0.527       |                 |          | U     |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND                       | 0.377       | 0.566       |                 |          | U     |
|              | NVHOS                              | 1132933-86-8 | ND                       | 0.0872      | 0.566       |                 |          | U     |
|              | PFEESA                             | 113507-82-7  | ND                       | 0.170       | 0.566       |                 |          | U     |
|              | R-PSDA                             | 2416366-18-0 | ND                       | 2.49        | 2.49        |                 |          | U     |
| ES           | R-PSDCA                            | 241636-21-5  | ND                       | 0.239       | 0.566       |                 |          | U     |
|              | MPFBA                              |              |                          |             |             | 20-150%         | 81.9%    |       |
|              | MSPFPeA                            |              |                          |             |             | 20-150%         | 182.7%   | Q     |
|              | M3PFBS                             |              |                          |             |             | 20-150%         | 253.5%   | Q     |
|              | M2-4:2 FTS                         |              |                          |             |             | 20-150%         | 189.9%   | Q     |
|              | MSPFHxA                            |              |                          |             |             | 20-150%         | 77.6%    |       |
|              | M3HFPO-DA                          |              |                          |             |             | 20-150%         | 73.9%    |       |
|              | M4PFHpA                            |              |                          |             |             | 20-150%         | 92.4%    |       |
|              | M3PFHxS                            |              |                          |             |             | 20-150%         | 82.4%    |       |
|              | M2-6:2 FTS                         |              |                          |             |             | 20-150%         | 68.7%    |       |
|              | M8PFOA                             |              |                          |             |             | 20-150%         | 79.7%    |       |
|              | M8PFNA                             |              |                          |             |             | 20-150%         | 70.3%    |       |
|              | M8PFOS                             |              |                          |             |             | 20-150%         | 68.5%    |       |
|              | M2-8:2 FTS                         |              |                          |             |             | 20-150%         | 61.4%    |       |
|              | M8FOSA-I                           |              |                          |             |             | 20-150%         | 55.5%    |       |
|              | M8PFDA                             |              |                          |             |             | 20-150%         | 67.0%    |       |
|              | d3-N-MeFOSAA                       |              |                          |             |             | 20-150%         | 72.4%    |       |
|              | d5-N-EFOSAA                        |              |                          |             |             | 20-150%         | 75.5%    |       |
|              | M7PFUdA                            |              |                          |             |             | 20-150%         | 61.6%    |       |
|              | MPFDOA                             |              |                          |             |             | 20-150%         | 44.7%    |       |
|              | M2PFTeDA                           |              |                          |             |             | 20-150%         | 24.7%    |       |
|              | d3-N-MeFOSA                        |              |                          |             |             | 10-200%         | 7.9%     | Q     |
|              | d5-N-EFOSA                         |              |                          |             |             | 10-200%         | 5.9%     | Q     |
|              | d7-N-MeFOSE                        |              |                          |             |             | 10-200%         | 64.0%    |       |
|              | d9-N-EFOSE                         |              |                          |             |             | 10-200%         | 61.8%    |       |

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: 211 Water Plant Leland, N.C.

|               |                  |               |                  |                  |        |
|---------------|------------------|---------------|------------------|------------------|--------|
| Enthalpy ID   | 0523-837-012-1   | Prep Batch    | EU15349          | Sample Vol (mL)  | 291.33 |
| Sample Name   | 052223-11        | Prep Date     | 2023-05-31 14:52 | Extract Vol (mL) | 0.4    |
| Matrix        | AQ               | Analysis Date | 2023-06-01 22:51 | Split Factor     | N/A    |
| Sampling Date | 2023-05-22 11:20 | Analyst       | bahager          | Method Code      | WM-026 |
| Received Date | 2023-05-22       | Instrument    | Pippin           | Sample Type      | Sample |

|              | Compound                           | CAS          | Formatted Result<br>ng/L | LOD<br>ng/L | LOQ<br>ng/L | Recovery Limits | Recovery | Flags |
|--------------|------------------------------------|--------------|--------------------------|-------------|-------------|-----------------|----------|-------|
| Acids        | PFBA                               | 375-22-4     | 0.936                    | 0.218       | 0.549       |                 |          |       |
|              | PFPeA                              | 2706-90-3    | ND                       | 0.157       | 0.549       |                 |          | U     |
|              | PFHxA                              | 307-24-4     | ND                       | 0.184       | 0.549       |                 |          | U     |
|              | PFHpA                              | 375-85-9     | 0.0412                   | 0.192       | 0.549       |                 |          | L     |
|              | PFOA                               | 335-67-1     | 0.0640                   | 0.126       | 0.549       |                 |          | L     |
|              | PFNA                               | 375-95-1     | ND                       | 0.124       | 0.549       |                 |          | U     |
|              | PFDA                               | 335-76-2     | ND                       | 0.157       | 0.549       |                 |          | U     |
|              | PFUnDA                             | 2058-94-8    | ND                       | 0.124       | 0.549       |                 |          | U     |
|              | PFDoDA                             | 307-55-1     | ND                       | 0.223       | 0.549       |                 |          | U     |
|              | PFTdA                              | 72629-94-8   | ND                       | 0.182       | 0.549       |                 |          | U     |
|              | PFTeDA                             | 376-06-7     | ND                       | 0.209       | 0.549       |                 |          | U     |
|              | PFHxDA                             | 67905-19-5   | ND                       | 0.292       | 0.549       |                 |          | U     |
| Sulfonates   | PFBS                               | 375-73-5     | ND                       | 0.292       | 0.549       |                 |          | U     |
|              | PFPeS                              | 2706-91-4    | ND                       | 0.113       | 0.517       |                 |          | U     |
|              | PFHxS                              | 355-46-4     | 0.118                    | 0.424       | 0.503       |                 |          | L     |
|              | PFHpS                              | 375-92-8     | ND                       | 0.266       | 0.523       |                 |          | U     |
|              | PFOS                               | 1763-23-1    | 0.0113                   | 0.290       | 0.509       |                 |          | L     |
|              | PFNS                               | 68259-12-1   | ND                       | 0.170       | 0.529       |                 |          | U     |
|              | PFDS                               | 335-77-3     | ND                       | 0.288       | 0.529       |                 |          | U     |
|              | 4:2 FTS                            | 757124-72-4  | ND                       | 0.0712      | 0.515       |                 |          | U     |
|              | 6:2 FTS                            | 27619-97-2   | ND                       | 0.259       | 0.523       |                 |          | U     |
|              | 8:2 FTS                            | 39108-34-4   | ND                       | 0.123       | 0.526       |                 |          | U     |
|              | 10:2 FTS                           | 120226-60-0  | ND                       | 0.420       | 0.549       |                 |          | U     |
|              | FBSA                               | 30334-69-1   | ND                       | 0.261       | 0.549       |                 |          | U     |
| Sulfonamides | N-EFOSA                            | 4151-50-2    | ND                       | 0.340       | 0.549       |                 |          | U     |
|              | N-EFOSAA                           | 2991-50-6    | ND                       | 0.223       | 0.549       |                 |          | U     |
|              | N-EFOSE                            | 1691-99-2    | ND                       | 0.841       | 2.47        |                 |          | U     |
|              | N-MeFOSA                           | 31506-32-8   | ND                       | 0.227       | 0.549       |                 |          | U     |
|              | N-MeFOSAA                          | 2355-31-9    | ND                       | 0.154       | 0.549       |                 |          | U     |
|              | N-MeFOSE                           | 24448-09-7   | ND                       | 0.522       | 2.47        |                 |          | U     |
|              | PFOSA                              | 754-91-6     | ND                       | 0.0771      | 0.549       |                 |          | U     |
| Other        | Nation Byproduct 1 (PS Acid)       | 29311-67-9   | ND                       | 0.293       | 0.549       |                 |          | U     |
|              | Nation Byproduct 2 (Hydro-PS Acid) | 749836-20-2  | ND                       | 0.455       | 0.549       |                 |          | U     |
| PFECAs       | ADONA                              | 919005-14-4  | ND                       | 0.149       | 0.520       |                 |          | U     |
|              | EVE Acid                           | 69087-46-3   | ND                       | 0.175       | 1.24        |                 |          | U     |
|              | HFPO-DA                            | 13252-13-6   | 0.0847                   | 0.0682      | 0.549       |                 |          | J     |
|              | Hydro-EVE Acid                     | 773804-62-9  | ND                       | 0.180       | 0.549       |                 |          | U     |
|              | NFDHA                              | 151772-58-6  | ND                       | 0.116       | 0.549       |                 |          | U     |
|              | PEPA                               | 267239-61-2  | ND                       | 0.103       | 0.549       |                 |          | U     |
|              | PFECA-G                            | 801212-59-9  | ND                       | 0.0733      | 0.549       |                 |          | U     |
|              | PFMOAA                             | 674-13-5     | 3.77                     | 0.278       | 0.549       |                 |          |       |
|              | PFMOBA                             | 863090-89-5  | ND                       | 0.922       | 1.24        |                 |          | U     |
|              | PFMOPrA                            | 377-73-1     | ND                       | 0.196       | 0.549       |                 |          | U     |
|              | PFO2HxA                            | 39492-88-1   | 0.193                    | 0.177       | 0.549       |                 |          | J     |
|              | PFO3OA                             | 39492-89-2   | ND                       | 0.252       | 0.549       |                 |          | U     |
|              | PFO4DA                             | 39492-90-5   | ND                       | 0.434       | 2.75        |                 |          | U     |
|              | PFO5DA                             | 39492-91-6   | ND                       | 0.439       | 2.75        |                 |          | U     |
|              | PMPA                               | 13140-29-9   | 0.442                    | 0.129       | 0.549       |                 |          | J     |
|              | R-EVE                              | 2416366-22-6 | ND                       | 0.911       | 1.24        |                 |          | U     |
| PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9  | ND                       | 0.259       | 0.517       |                 |          | U     |
|              | 9Cl-PF3ONS                         | 756426-58-1  | ND                       | 0.352       | 0.512       |                 |          | U     |
|              | Hydrolyzed PSDA                    | 2416366-19-1 | ND                       | 0.366       | 0.549       |                 |          | U     |
|              | NVHOS                              | 1132933-86-8 | ND                       | 0.0846      | 0.549       |                 |          | U     |
|              | PFEESA                             | 113507-82-7  | ND                       | 0.165       | 0.549       |                 |          | U     |
|              | R-PSDA                             | 2416366-18-0 | ND                       | 2.42        | 2.42        |                 |          | U     |
| ES           | R-PSDCA                            | 241636-21-5  | ND                       | 0.232       | 0.549       |                 |          | U     |
|              | MPFBA                              |              |                          |             |             | 20-150%         | 81.9%    |       |
|              | M5PFPeA                            |              |                          |             |             | 20-150%         | 229.1%   | Q     |
|              | M3PFBS                             |              |                          |             |             | 20-150%         | 311.0%   | Q     |
|              | M2-4:2 FTS                         |              |                          |             |             | 20-150%         | 173.5%   | Q     |
|              | M5PFHxA                            |              |                          |             |             | 20-150%         | 92.3%    |       |
|              | M3HFPO-DA                          |              |                          |             |             | 20-150%         | 106.1%   |       |
|              | M4PFHpA                            |              |                          |             |             | 20-150%         | 100.7%   |       |
|              | M3PFHxS                            |              |                          |             |             | 20-150%         | 84.4%    |       |
|              | M2-6:2 FTS                         |              |                          |             |             | 20-150%         | 60.1%    |       |
|              | M8PFOA                             |              |                          |             |             | 20-150%         | 78.7%    |       |
|              | M8PFNA                             |              |                          |             |             | 20-150%         | 73.7%    |       |
|              | M8PFOS                             |              |                          |             |             | 20-150%         | 71.2%    |       |
|              | M2-8:2 FTS                         |              |                          |             |             | 20-150%         | 59.6%    |       |
|              | M8FOSA-I                           |              |                          |             |             | 20-150%         | 22.6%    |       |
|              | M8PFDA                             |              |                          |             |             | 20-150%         | 71.7%    |       |
|              | d3-N-MeFOSAA                       |              |                          |             |             | 20-150%         | 70.4%    |       |
|              | d5-N-EFOSAA                        |              |                          |             |             | 20-150%         | 72.8%    |       |
|              | M7PFUdA                            |              |                          |             |             | 20-150%         | 67.8%    |       |
|              | MPFDOA                             |              |                          |             |             | 20-150%         | 48.6%    |       |
|              | M2PFTeDA                           |              |                          |             |             | 20-150%         | 26.9%    |       |
|              | d3-N-MeFOSA                        |              |                          |             |             | 10-200%         | 0.6%     | Q     |
|              | d5-N-EFOSA                         |              |                          |             |             | 10-200%         | 0.7%     | Q     |
|              | d7-N-MeFOSE                        |              |                          |             |             | 10-200%         | 24.1%    |       |
|              | d9-N-EFOSE                         |              |                          |             |             | 10-200%         | 22.7%    |       |

# QC Data

# Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: 211 Water Plant Leland, N.C.

|               |               |               |                  |                  |        |
|---------------|---------------|---------------|------------------|------------------|--------|
| Enthalpy ID   | MB_15349_PFAS | Prep Batch    | EU15349          | Sample Vol (mL)  | 250    |
| Sample Name   | MB_15349_PFAS | Prep Date     | 2023-05-31 14:52 | Extract Vol (mL) | 0.4    |
| Matrix        | aqueous       | Analysis Date | 2023-06-01 17:33 | Split Factor     | N/A    |
| Sampling Date |               | Analyst       | bahager          | Method Code      | WM-026 |
| Received Date |               | Instrument    | Pippin           | Sample Type      | Blank  |

|            | Compound     | CAS                                | Formatted Result<br>ng/L | LOD<br>ng/L | LOQ<br>ng/L | Recovery Limits | Recovery | Flags |
|------------|--------------|------------------------------------|--------------------------|-------------|-------------|-----------------|----------|-------|
| Acids      | PFBA         | 375-22-4                           | ND                       | 0.254       | 0.640       |                 |          | U     |
|            | PFPeA        | 2706-90-3                          | ND                       | 0.183       | 0.640       |                 |          | U     |
|            | PFHxA        | 307-24-4                           | ND                       | 0.214       | 0.640       |                 |          | U     |
|            | PFHpA        | 375-85-9                           | ND                       | 0.224       | 0.640       |                 |          | U     |
|            | PFOA         | 335-67-1                           | ND                       | 0.146       | 0.640       |                 |          | U     |
|            | PFNA         | 375-95-1                           | ND                       | 0.145       | 0.640       |                 |          | U     |
|            | PFDA         | 335-76-2                           | ND                       | 0.183       | 0.640       |                 |          | U     |
|            | PFUnDA       | 2058-94-8                          | ND                       | 0.145       | 0.640       |                 |          | U     |
|            | PFDoDA       | 307-55-1                           | ND                       | 0.260       | 0.640       |                 |          | U     |
|            | PFTTrDA      | 72629-94-8                         | ND                       | 0.212       | 0.640       |                 |          | U     |
|            | PFTeDA       | 376-06-7                           | ND                       | 0.244       | 0.640       |                 |          | U     |
|            | PFHxDA       | 67905-19-5                         | ND                       | 0.340       | 0.640       |                 |          | U     |
|            | PFBS         | 375-73-5                           | ND                       | 0.340       | 0.640       |                 |          | U     |
|            | PFPeS        | 2706-91-4                          | ND                       | 0.131       | 0.603       |                 |          | U     |
|            | PFHxS        | 355-46-4                           | ND                       | 0.494       | 0.586       |                 |          | U     |
| Sulfonates | PFHpS        | 375-92-8                           | ND                       | 0.310       | 0.610       |                 |          | U     |
|            | PFOS         | 1763-23-1                          | ND                       | 0.338       | 0.593       |                 |          | U     |
|            | PFNS         | 68259-12-1                         | ND                       | 0.199       | 0.616       |                 |          | U     |
|            | PFDS         | 335-77-3                           | ND                       | 0.336       | 0.616       |                 |          | U     |
|            | 4:2 FTS      | 757124-72-4                        | ND                       | 0.0830      | 0.600       |                 |          | U     |
|            | 6:2 FTS      | 27619-97-2                         | ND                       | 0.302       | 0.610       |                 |          | U     |
|            | 8:2 FTS      | 39108-34-4                         | ND                       | 0.143       | 0.613       |                 |          | U     |
|            | 10:2 FTS     | 120226-60-0                        | ND                       | 0.490       | 0.640       |                 |          | U     |
|            | Sulfonamidos | FBSA                               | 30334-69-1               | ND          | 0.304       | 0.640           |          | U     |
|            |              | N-EiFOSA                           | 4151-50-2                | ND          | 0.396       | 0.640           |          | U     |
| Other      |              | N-EiFOSAA                          | 2991-50-6                | ND          | 0.260       | 0.640           |          | U     |
|            |              | N-EiFOSE                           | 1691-99-2                | ND          | 0.980       | 2.88            |          | U     |
|            |              | N-MeFOSA                           | 31506-32-8               | ND          | 0.264       | 0.640           |          | U     |
|            |              | N-MeFOSAA                          | 2355-31-9                | ND          | 0.180       | 0.640           |          | U     |
|            |              | N-MeFOSE                           | 24448-09-7               | ND          | 0.608       | 2.88            |          | U     |
|            |              | PFOSA                              | 754-91-6                 | 0.0234      | 0.0898      | 0.640           |          | L     |
|            |              | Nafion Byproduct 1 (PS Acid)       | 29311-67-9               | ND          | 0.342       | 0.640           |          | U     |
|            |              | Nafion Byproduct 2 (Hydro-PS Acid) | 749836-20-2              | ND          | 0.530       | 0.640           |          | U     |
|            | PFECAs       | ADONA                              | 919005-14-4              | ND          | 0.173       | 0.606           |          | U     |
|            |              | EVE Acid                           | 69087-46-3               | ND          | 0.204       | 1.44            |          | U     |
| PFECAs     |              | HFPO-DA                            | 13252-13-6               | ND          | 0.0678      | 0.640           |          | U     |
|            |              | Hydro-EVE Acid                     | 773804-62-9              | ND          | 0.210       | 0.640           |          | U     |
|            |              | NFDHA                              | 151772-58-6              | ND          | 0.135       | 0.640           |          | U     |
|            |              | PEPA                               | 267239-61-2              | ND          | 0.120       | 0.640           |          | U     |
|            |              | PFECA-G                            | 801212-59-9              | ND          | 0.0854      | 0.640           |          | U     |
|            |              | PFMOAA                             | 674-13-5                 | ND          | 0.324       | 0.640           |          | U     |
|            |              | PFMOBA                             | 863090-89-5              | ND          | 1.07        | 1.44            |          | U     |
|            |              | PFMOPrA                            | 377-73-1                 | ND          | 0.228       | 0.640           |          | U     |
|            |              | PFO2HxA                            | 39492-88-1               | ND          | 0.206       | 0.640           |          | U     |
|            |              | PFO3OA                             | 39492-89-2               | ND          | 0.294       | 0.640           |          | U     |
|            |              | PFO4DA                             | 39492-90-5               | ND          | 0.506       | 3.20            |          | U     |
|            |              | PFO5DA                             | 39492-91-6               | ND          | 0.512       | 3.20            |          | U     |
|            |              | PMPA                               | 13140-29-9               | ND          | 0.151       | 0.640           |          | U     |
|            |              | R-EVE                              | 2416366-22-6             | ND          | 1.06        | 1.44            |          | U     |
|            | PFESAs       | 11Cl-PF3OUdS                       | 763051-92-9              | ND          | 0.302       | 0.603           |          | U     |
| PFESAs     |              | 9Cl-PF3ONS                         | 756426-58-1              | ND          | 0.410       | 0.596           |          | U     |
|            |              | Hydrolyzed PSDA                    | 2416366-19-1             | ND          | 0.426       | 0.640           |          | U     |
|            |              | NVHOS                              | 1132933-86-8             | ND          | 0.0986      | 0.640           |          | U     |
|            |              | PFEESA                             | 113507-82-7              | ND          | 0.192       | 0.640           |          | U     |
|            |              | R-PSDA                             | 2416366-18-0             | ND          | 2.82        | 2.82            |          | U     |
| ES         |              | R-PSDCA                            | 241636-21-5              | ND          | 0.270       | 0.640           |          | U     |
|            |              | MPFBA                              |                          |             |             | 20-150%         | 94.2%    |       |
| ES         |              | M5PFPeA                            |                          |             |             | 20-150%         | 111.5%   |       |
|            |              | M3PFBS                             |                          |             |             | 20-150%         | 91.4%    |       |
|            |              | M2-4:2 FTS                         |                          |             |             | 20-150%         | 104.0%   |       |
|            |              | M5PFHxA                            |                          |             |             | 20-150%         | 126.3%   |       |
|            |              | M3HFPO-DA                          |                          |             |             | 20-150%         | 132.3%   |       |
|            |              | M4PFHpA                            |                          |             |             | 20-150%         | 120.8%   |       |
|            |              | M3PFHxS                            |                          |             |             | 20-150%         | 101.7%   |       |
|            |              | M2-6:2 FTS                         |                          |             |             | 20-150%         | 60.9%    |       |
|            |              | M8PFOA                             |                          |             |             | 20-150%         | 94.5%    |       |
|            |              | M9PFNA                             |                          |             |             | 20-150%         | 96.0%    |       |
|            |              | M8PFOS                             |                          |             |             | 20-150%         | 88.1%    |       |
|            |              | M2-8:2 FTS                         |                          |             |             | 20-150%         | 63.5%    |       |
|            |              | M8FOSA-I                           |                          |             |             | 20-150%         | 57.8%    |       |
|            |              | M6PFDA                             |                          |             |             | 20-150%         | 91.0%    |       |
|            |              | d3-N-MeFOSAA                       |                          |             |             | 20-150%         | 100.0%   |       |
|            |              | d5-N-EiFOSAA                       |                          |             |             | 20-150%         | 97.4%    |       |
|            |              | M7PFUdA                            |                          |             |             | 20-150%         | 89.8%    |       |
|            |              | MPFDoA                             |                          |             |             | 20-150%         | 68.9%    |       |
|            |              | M2PFTeDA                           |                          |             |             | 20-150%         | 33.2%    |       |
|            |              | d3-N-MeFOSA                        |                          |             |             | 10-200%         | 2.3%     | Q     |
|            |              | d5-N-EiFOSA                        |                          |             |             | 10-200%         | 2.5%     | Q     |
|            |              | d7-N-MeFOSE                        |                          |             |             | 10-200%         | 59.1%    |       |
|            |              | d9-N-EiFOSE                        |                          |             |             | 10-200%         | 51.5%    |       |

## Enthalpy Analytical

Job No.: 0523-837-1 PFAS by Isotope Dilution (non-potable water)

Brunswick County Public Utilities - NC Client Project: N/A Site: 211 Water Plant Leland, N.C.

|               |                |               |                  |                  |         |
|---------------|----------------|---------------|------------------|------------------|---------|
| Enthalpy ID   | OPR_15349_PFAS | Prep Batch    | EU15349          | Sample Vol (mL)  | 250     |
| Sample Name   | OPR_15349_PFAS | Prep Date     | 2023-05-31 14:52 | Extract Vol (mL) | 0.4     |
| Matrix        | aqueous        | Analysis Date | 2023-06-01 17:56 | Split Factor     | N/A     |
| Sampling Date |                | Analyst       | bahager          | Method Code      | WM-026  |
| Received Date |                | Instrument    | Pippin           | Sample Type      | Control |

|              | Compound     | CAS         | Formatted Result<br>ng/L | LOD<br>ng/L | LOQ<br>ng/L | Recovery Limits | Recovery | Flags |
|--------------|--------------|-------------|--------------------------|-------------|-------------|-----------------|----------|-------|
| Acids        | PFBA         | 375-22-4    | 20.1                     | 0.254       | 0.640       | 69.1-122%       | 100.6%   |       |
|              | PFPeA        | 2706-90-3   | 20.8                     | 0.183       | 0.640       | 68.5-121%       | 103.9%   |       |
|              | PFHxA        | 307-24-4    | 19.2                     | 0.214       | 0.640       | 68.3-121%       | 96.1%    |       |
|              | PFFHpA       | 375-85-9    | 20.4                     | 0.224       | 0.640       | 62.4-128%       | 101.8%   |       |
|              | PFOA         | 335-67-1    | 19.8                     | 0.146       | 0.640       | 66.3-124%       | 98.9%    |       |
|              | PFNA         | 375-95-1    | 20.0                     | 0.145       | 0.640       | 70.5-120%       | 100.2%   |       |
|              | PFDA         | 335-76-2    | 21.7                     | 0.183       | 0.640       | 68.9-117%       | 108.6%   |       |
|              | PFUnDA       | 2058-94-8   | 20.3                     | 0.145       | 0.640       | 58.1-132%       | 101.3%   |       |
|              | PFDoDA       | 307-55-1    | 20.5                     | 0.260       | 0.640       | 52.1-140%       | 102.5%   |       |
|              | PFTTrDA      | 72629-94-8  | 32.2                     | 0.212       | 0.640       | 65-144%         | 161.1%   | Q     |
| Sulfonates   | PFTeDA       | 376-06-7    | 21.7                     | 0.244       | 0.640       | 36.1-161%       | 108.7%   |       |
|              | PFBS         | 375-73-5    | 18.7                     | 0.340       | 0.640       | 67.5-111.6%     | 105.2%   |       |
|              | PFPeS        | 2706-91-4   | 18.7                     | 0.131       | 0.603       | 51.8-142%       | 99.1%    |       |
|              | PFHxS        | 355-46-4    | 17.8                     | 0.494       | 0.586       | 59.6-128%       | 97.6%    |       |
|              | PFFHpS       | 375-92-8    | 18.7                     | 0.310       | 0.610       | 46.9-157%       | 98.2%    |       |
|              | PFOS         | 1763-23-1   | 18.7                     | 0.338       | 0.593       | 59.2-132%       | 100.9%   |       |
|              | PFNS         | 68259-12-1  | 20.0                     | 0.199       | 0.616       | 53.9-133%       | 103.9%   |       |
|              | PFDS         | 335-77-3    | 16.3                     | 0.336       | 0.616       | 38.1-142%       | 84.5%    |       |
|              | 4:2 FTS      | 757124-72-4 | 19.4                     | 0.0830      | 0.600       | 61.9-131%       | 103.7%   |       |
|              | 6:2 FTS      | 27619-97-2  | 19.6                     | 0.302       | 0.610       | 62.3-129%       | 103.3%   |       |
| Sulfonamidos | 8:2 FTS      | 39108-34-4  | 20.2                     | 0.143       | 0.613       | 37.5-159%       | 105.4%   |       |
|              | N-EtFOSAA    | 2991-50-6   | 18.1                     | 0.260       | 0.640       | 61.5-133%       | 90.5%    |       |
|              | N-MeFOSAA    | 2355-31-9   | 20.3                     | 0.180       | 0.640       | 57.3-138%       | 101.4%   |       |
|              | PFOSA        | 754-91-6    | 19.4                     | 0.0898      | 0.640       | 49.1-143%       | 96.8%    |       |
| PFECA        | HFPO-DA      | 13252-13-6  | 17.9                     | 0.0678      | 0.640       | 57.2-130%       | 89.3%    |       |
| ES           | MPFBA        |             |                          |             |             | 20-150%         | 92.0%    |       |
|              | M5PFPeA      |             |                          |             |             | 20-150%         | 108.9%   |       |
|              | M3PFBS       |             |                          |             |             | 20-150%         | 87.1%    |       |
|              | M2-4:2 FTS   |             |                          |             |             | 20-150%         | 88.8%    |       |
|              | M5PFHxA      |             |                          |             |             | 20-150%         | 112.2%   |       |
|              | M3HFPO-DA    |             |                          |             |             | 20-150%         | 124.5%   |       |
|              | M4PFHpA      |             |                          |             |             | 20-150%         | 111.9%   |       |
|              | M3PFHxS      |             |                          |             |             | 20-150%         | 87.0%    |       |
|              | M2-6:2 FTS   |             |                          |             |             | 20-150%         | 54.4%    |       |
|              | M8PFOA       |             |                          |             |             | 20-150%         | 88.6%    |       |
|              | M9PFNA       |             |                          |             |             | 20-150%         | 81.7%    |       |
|              | M8PFOS       |             |                          |             |             | 20-150%         | 81.8%    |       |
|              | M2-8:2 FTS   |             |                          |             |             | 20-150%         | 59.6%    |       |
|              | M8FOSA-I     |             |                          |             |             | 20-150%         | 58.6%    |       |
|              | M6PFDA       |             |                          |             |             | 20-150%         | 84.0%    |       |
|              | d3-N-MeFOSAA |             |                          |             |             | 20-150%         | 87.5%    |       |
|              | d5-N-EtFOSAA |             |                          |             |             | 20-150%         | 92.1%    |       |
|              | M7PFUdA      |             |                          |             |             | 20-150%         | 88.1%    |       |
|              | MPFDoA       |             |                          |             |             | 20-150%         | 60.9%    |       |
|              | M2PFTeDA     |             |                          |             |             | 20-150%         | 36.7%    |       |

# Narrative Summary

# Enthalpy Analytical Narrative Summary

|            |                                                         |
|------------|---------------------------------------------------------|
| Company    | Brunswick County Public Utilities - NC                  |
| Job No.    | 0523-837-1 PFAS by Isotope Dilution (non-potable water) |
| Client ID. | N/A Site: 211 Water Plant Leland, N.C.                  |

## 1. Custody

Olivia Kyger received the samples on May 22, 2023 at 4.4 °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 |
|------------------|------------------|--------|
| 0523-837-001-1   | 052223-6A        | AQ     |
| 0523-837-002-1   | 052223-5         | AQ     |
| 0523-837-003-1   | 052223-1         | AQ     |
| 0523-837-004-1   | 052223-2         | AQ     |
| 0523-837-005-1   | 052223-16        | AQ     |
| 0523-837-006-1   | 052223-17        | AQ     |
| 0523-837-007-1   | 052223-18        | AQ     |
| 0523-837-008-1   | 052223-19        | AQ     |
| 0523-837-009-1   | 052223-15        | AQ     |
| 0523-837-010-1   | 052223-8         | AQ     |
| 0523-837-011-1   | 052223-12        | AQ     |
| 0523-837-012-1   | 052223-11        | AQ     |

## 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    | PFAS - Brunswick List | ENVI-Carb      |

## 3. Analysis

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

For aqueous samples, the sample volume was measured gravimetrically by the laboratory, and spiked with Extraction Standard (ES). The sample was then mixed well and centrifuged, if needed. The samples were then extracted via SPE, and the extracts were cleaned up using ENVI-Carb.

Each final sample extract was transferred to an autosampler vial, spiked with Injection Standard (IS), and brought to a final volume of 400µL prior to analysis.

# Enthalpy Analytical Narrative Summary

|            |                                                         |
|------------|---------------------------------------------------------|
| Company    | Brunswick County Public Utilities - NC                  |
| Job No.    | 0523-837-1 PFAS by Isotope Dilution (non-potable water) |
| Client ID. | N/A Site: 211 Water Plant Leland, N.C.                  |

## 4. Calibration

In the initial calibration, the reported analytes exhibited  $R^2$  of  $\geq 0.99$ . The reported analytes in the calibration standards, continuing calibration (concal) and Initial Calibration Verification (ICV) met the accuracy criterion for native analytes, except where noted below.

PFO4DA fell above method control limits in the opening and mid sequence concals. This analyte was not detected above LOQ in the samples; therefore, the data is reportable without adverse impact.

The Technical Director extended the method criteria for certain non-legacy analytes that do not have their own internal standard and exhibit observed variability during calibration.

## 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:

PFTTrDA fell above method recovery criteria in OPR-15349-PFAS. This analyte was not detected above LOQ in the samples. The data is accepted with no adverse impact.

PFOSA was detected in MB-15349-PFAS less than 1/2 LOQ meeting method criteria.

Target analytes are quantified based on their ratio to their labeled standard analogs. As a result, low or high labeled standard recovery in the method blank (MB) and OPR does not cause any change to ratios or contribute any additional error in the measurement of the target analyte(s). The data has been accepted and reported with no further action.

The samples were extracted within the 28-day from collection holding time and analyzed within the 28-day from extraction to analysis holding time required by the method.

## 6. Reporting Notes

This report provides all results including detections below LOD following client instruction.

Some labeled extraction standards in the sample analyses fell 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 without adverse impact.

Manual integrations were performed on analytes in the ICAL, controls, and samples to correct baseline-to-baseline integration as well as integrate all isomers for compounds that have both linear and branched isomers.

## Enthalpy Analytical Narrative Summary

|            |                                                         |
|------------|---------------------------------------------------------|
| Company    | Brunswick County Public Utilities - NC                  |
| Job No.    | 0523-837-1 PFAS by Isotope Dilution (non-potable water) |
| Client ID. | N/A Site: 211 Water Plant Leland, N.C.                  |

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

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**

- 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.
- 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 - 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.

## General Reporting Notes – Data Qualifiers

- <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.



## General Reporting Notes – Data Qualifiers

- 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                                                                   |
| Target Analytes                                                                             |              |                                                                                 |
| * Analyte is not accredited for SOP EU047 # Method 537.1 Accredited ^ Method 533 Accredited |              |                                                                                 |
| ^ 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                                                        |
| # PFTeDA (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                                                 |
| PFOSA (FOSA)                                                                                | 754-91-6     | Perfluorooctane sulfonamide                                                     |
| # N-MeFOSAA                                                                                 | 2355-31-9    | N-methyl perfluorooctane sulfonamido acetic acid                                |
| # N-EtFOSAA                                                                                 | 2991-50-6    | N-ethyl perfluorooctane sulfonamido acetic acid                                 |
| #, ^ 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-chloroeicosafluoro-3-oxaundecane-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-methoxybutanic acid                                                 |
| *, ^ NFDHA                                                                                  | 151772-58-6  | Nonafluoro-3,6-dioxaheptanoic acid                                              |
| *, ^ PFMOPra (PFMPA)                                                                        | 377-73-1     | Perfluoro-3-methoxypropanoic 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                                                                        | 29311-67-9   | Nafion Byproduct 1                                                              |
| * Nafion Byproduct 2                                                                        | 749836-20-2  | Nafion Byproduct 2                                                              |
| * PEPA                                                                                      | 267239-61-2  | Perfluoro-2-ethoxypropanoic acid                                                |
| * PMPA                                                                                      | 13140-29-9   | Perfluoro-2-methoxypropanoic acid                                               |
| * 10:2 FTS                                                                                  | 120226-60-0  | Fluorotelomer sulfonate 10:2                                                    |
| * N-EtFOSA                                                                                  | 4151-50-2    | N-ethylperfluoro-1-octanesulfonamide                                            |
| * N-EtFOSE                                                                                  | 1691-99-2    | 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol                               |
| * N-MeFOSA                                                                                  | 31506-32-8   | N-methylperfluoro-1-octanesulfonamide                                           |
| * N-MeFOSE                                                                                  | 24448-09-7   | 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol                               |
| * 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                                       |

| PFAS Compound Acronym List                                                                               |              |                                                                                                                 |
|----------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------|
| Acronym                                                                                                  | CAS #        | Compound Name                                                                                                   |
| Target Analytes                                                                                          |              |                                                                                                                 |
| <b>* Analyte is not accredited for SOP EU047    # Method 537.1 Accredited    ^ Method 533 Accredited</b> |              |                                                                                                                 |
| * 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                    |
| * 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                                                                                       |
| * 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 |

# Sample Custody



0523-837  
Chain of Custody Record

Enthalpy Ultratrace Job#: \_\_\_\_\_ COC Page 1 of 1

Special Handling:

☒ 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 Number: \_\_\_\_\_

PO#: \_\_\_\_\_

Project Manager: GLENN WALKER

Site Name: 211 WATER PLANT

Telephone#: \_\_\_\_\_

Report To: SAME

Location: LELAND N.C.

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 | # of Bottles | # of Jars | # of Bags | # Other |  |  |  | Method 161 | Method 8290 | Method 166 | PFAS by LC | PAHs by HR | Sample on | Method 23 | ALL PFAS | Notes:           |
|---------------------|--------------------|-----------------|---------------|------|--------|--------------|-----------|-----------|---------|--|--|--|------------|-------------|------------|------------|------------|-----------|-----------|----------|------------------|
| 052223 6A           | 5-22-23            | 0930            | 250mL         | G    | GW     | 2            |           |           |         |  |  |  |            |             |            |            |            |           |           | X        |                  |
| 052223 5            | 5-22-23            | 0940            | 250mL         | G    | GW     | 2            |           |           |         |  |  |  |            |             |            |            |            |           |           | X        |                  |
| <del>052223-3</del> | <del>5-22-23</del> | <del>0950</del> | 250mL         | G    | GW     | 2            |           |           |         |  |  |  |            |             |            |            |            |           |           | X        |                  |
| 052223-1            | 5-22-23            | 1000            | 250mL         | G    | GW     | 2            |           |           |         |  |  |  |            |             |            |            |            |           |           | X        |                  |
| 052223-2            | 5-22-23            | 1005            | 250mL         | G    | GW     | 2            |           |           |         |  |  |  |            |             |            |            |            |           |           | X        |                  |
| 052223-16           | 5-22-23            | 1010            | 250mL         | G    | GW     | 2            |           |           |         |  |  |  |            |             |            |            |            |           |           | X        |                  |
| 052223-17           | 5-22-23            | 1015            | 250mL         | G    | GW     | 2            |           |           |         |  |  |  |            |             |            |            |            |           |           | X        |                  |
| 052223-18           | 5-22-23            | 1020            | 250mL         | G    | GW     | 2            |           |           |         |  |  |  |            |             |            |            |            |           |           | X        | counter, cooler, |
| 052223-19           | 5-22-23            | 1030            | 250mL         | G    | GW     | 2            |           |           |         |  |  |  |            |             |            |            |            |           |           | X        | on ice, no seals |
| 052223-15           | 5-22-23            | 1040            | 250mL         | G    | GW     | 2            |           |           |         |  |  |  |            |             |            |            |            |           |           | X        | open condition   |
| 052223-8            | 5-22-23            | 1045            | 250mL         | G    | GW     | 2            |           |           |         |  |  |  |            |             |            |            |            |           |           | X        | SB 5/22/23       |
| 052223-12           | 5-22-23            | 1055            | 250mL         | G    | GW     | 2            |           |           |         |  |  |  |            |             |            |            |            |           |           | X        |                  |
| 052223-11           | 5-22-23            | 1120            | 250mL         | G    | GW     | 2            |           |           |         |  |  |  |            |             |            |            |            |           |           | X        |                  |
|                     |                    |                 | 250mL         | G    | GW     | 2            |           |           |         |  |  |  |            |             |            |            |            |           |           | X        |                  |

Relinquished By: [Signature]

Date: 5-22-23

Received By: [Signature]

Date: 5/22/23

Time: 1320

Sample Temperature Upon Receipt:

☒ Iced ☐ Ambient °C 4.4° N

☐ Iced ☐ Ambient °C \_\_\_\_\_

☐ Iced ☐ Ambient °C \_\_\_\_\_

**This Is The Last Page  
Of This Report.**