



Environmental Chemists, Inc.

6602 Windmill Way, Wilmington, NC 28405 • 910.392.0223 Lab • 910.392.4424 Fax
710 Bowsertown Road, Manteo, NC 27954 • 252.473.5702 Lab/Fax
255-A Wilmington Highway, Jacksonville, NC 28540 • 910.347.5843 Lab/Fax

ANALYTICAL & CONSULTING CHEMISTS

info@environmentalchemists.com

April 3, 2018

Brunswick County Public Utilities
Post Office Box 249
Bolivia, NC 28422
Attn: Glenn Walker

Report #2018-03634

Enclosed please find your analytical report.

Sincerely,

Tammy Duran
Environmental Chemists, Inc.

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA 537 Rev 1.1 Safe Drinking Water Analysis

Customer: Environmental Chemists NLS Project: 295942
 Project Description: EPA 537 with GenX
 Project Title: Template: 537PPTGENX Printed: 04/02/2018 14:02

Sample: 1044640 8943 Collected: 03/08/18 Analyzed: 03/27/18 Analytes: 13

| ANALYTE NAME | RESULT | UNITS | WWB | DIL | LOD | LOQ | MCL | Note |
|---|---------|-------|-----|-----|------|-----|-----|------|
| perfluorobutanesulfonic acid (PFBS) | ND | ppt | | 1 | 6.6 | 21 | | |
| perfluorohexanoic acid (PFHxA) | 17.5 | ppt | | 1 | 1.3 | 4.0 | | BD |
| perfluoro-2-piropoxypropanoic acid (GenX) | 10.6 | ppt | | 1 | 0.73 | 2.3 | | |
| perfluorohexanoic acid (PFHpA) | 13.6 | ppt | | 1 | 0.80 | 2.6 | | |
| perfluorohexanesulfonic acid (PFHxS) | [8.32] | ppt | | 1 | 2.8 | 8.8 | | J |
| perfluorooctanoic acid (PFOA) | 7.83 | ppt | | 1 | 1.2 | 3.9 | | |
| perfluorononanoic acid (PFNA) | 17.5 | ppt | | 1 | 1.5 | 4.9 | | J |
| perfluorooctanesulfonic acid (PFOS) | [1.8] | ppt | | 1 | 1.7 | 5.3 | | |
| perfluorodecanoic acid (PFDA) | 17.5 | ppt | | 1 | 0.90 | 2.7 | | |
| perfluoroundecanoic acid (PFUnA) | [1.68] | ppt | | 1 | 1.0 | 3.0 | | J |
| perfluorododecanoic acid (PFDoA) | ND | ppt | | 1 | 1.9 | 6.1 | | |
| perfluorotetradecanoic acid (PFTDA) | ND | ppt | | 1 | 3.2 | 10 | | |
| perfluorotetradecanoic acid (PFTA) | ND | ppt | | 1 | 2.8 | 8.9 | | |
| C13-PFHxA (SURR) | 64.92% | | | 1 | | | | SRS |
| C13-PFDA (SURR) | 92.709% | | | 1 | | | | S |

NOTES APPLICABLE TO THIS ANALYSIS:

- J = Result enclosed in brackets is between LOD and LOQ, a region of less certain quantitation.
- S = This compound is a surrogate used to evaluate the quality control of a method.
- SR = Surrogate recovery was outside QC limits.
- C13-PFHxA recovered below QC limits.
- BD = Compound was detected in the laboratory method blank.
- perfluorohexanoic acid (PFHxA) detected at 2.34 ppt.

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA 537 Rev 1.1 Safe Drinking Water Analysis

Customer: Environmental Chemists NLS Project: 295942
 Project Description: EPA 537 with GenX
 Project Title: Template: 537PPTGENX Printed: 04/02/2018 14:02

Sample: 1044641 8944 Collected: 03/08/18 Analyzed: 03/27/18 Analytes: 13

| ANALYTE NAME | RESULT | UNITS | WWB | DIL | LOD | LOQ | MCL | Note |
|--|---------|-------|-----|-----|------|-----|-----|------|
| perfluorobutanesulfonic acid (PFBS) | ND | ppt | | 1 | 6.6 | 21 | | |
| perfluorohexanoic acid (PFHxA) | 13.7 | ppt | | 1 | 1.3 | 4.0 | | BD |
| perfluoro-2-propoxypropanoic acid (GenX) | 9.97 | ppt | | 1 | 0.73 | 2.3 | | |
| perfluorohexanoic acid (PFHxA) | 11.4 | ppt | | 1 | 0.80 | 2.6 | | |
| perfluorohexanesulfonic acid (PFHxS) | [6:17] | ppt | | 1 | 2.8 | 8.8 | | J |
| perfluorooctanoic acid (PFOA) | 7.34 | ppt | | 1 | 1.2 | 3.9 | | |
| perfluorononanoic acid (PFNA) | [1:58] | ppt | | 1 | 1.5 | 4.9 | | J |
| perfluorooctanesulfonic acid (PFOS) | 14.5 | ppt | | 1 | 1.7 | 5.3 | | |
| perfluorodecanoic acid (PFDA) | [1:56] | ppt | | 1 | 0.90 | 2.7 | | J |
| perfluoroundecanoic acid (PFUnA) | ND | ppt | | 1 | 1.0 | 3.0 | | |
| perfluorododecanoic acid (PFDoA) | ND | ppt | | 1 | 1.9 | 6.1 | | |
| perfluorotridecanoic acid (PFTriDA) | ND | ppt | | 1 | 3.2 | 10 | | |
| perfluorotetradecanoic acid (PFTTA) | ND | ppt | | 1 | 2.8 | 8.9 | | |
| C13-PFHxA (SURR) | 63.598% | | | 1 | | | | SR S |
| C13-PFDA (SURR) | 89.338% | | | 1 | | | | S |

NOTES APPLICABLE TO THIS ANALYSIS:

- J = Result enclosed in brackets is between LOD and LOQ, a region of less certain quantitation.
- S = This compound is a surrogate used to evaluate the quality control of a method.
- SR = Surrogate recovery was outside QC limits.
- C13-PFHxA recovered below QC limits.
- BD = Compound was detected in the laboratory method blank.
- perfluorohexanoic acid (PFHxA) detected at 2.34 ppt.

The PFOA branch isotope peak is included in the PFOA calculation per EPA directive. GenX analysis performed by Modified EPA Method 537.



Analytical & Consulting Chemists

ENVIRONMENTAL CHEMISTS, INC

NCDENR: DWQ CERTIFICATION # 94 NCDHHS: DLS CERTIFICATION # 37729

6602 Windmill Way Wilmington, NC 28405
OFFICE: 910-392-0223 FAX 910-392-4424
info@environmentalchemists.com

COLLECTION AND CHAIN OF CUSTODY

Client: Brunswick County Water PROJECT NAME: _____ REPORT NO: _____

ADDRESS: P.O. Box 244 CONTACT NAME: Gwen Walker PO NO: _____

BOLIVIA, N.C. 28422 REPORT TO: SAME PHONE/FAX: _____

COPY TO: _____ email: gwalker@brunswickcountync.gov

Sampled By: THAD HILL SAMPLE TYPE: I = Influent, E = Effluent, W = Well, ST = Stream, SO = Soil, SL = Sludge, Other: _____

| Sample Identification | Collection | | | Sample Type | Composite or Grab | Container (P or G) | Chlorine mg/L | LAB ID NUMBER | PRESERVATION | | | | | | | ANALYSIS REQUESTED | |
|-----------------------|------------|------|------|-------------|-------------------|--------------------|---------------|---------------|--------------|-----|-------|------|------|------|-------|--------------------|----------------|
| | Date | Time | Temp | | | | | | NONE | HCL | H2SO4 | HNO3 | NAOH | THIO | OTHER | | |
| 30818 S01 | 3-08-18 | 0805 | 14,4 | Raw | C | P | | 08943 | | | | | | | | | EPA 537 + GENX |
| 30818 E01 | 3-08-18 | 0805 | 14,4 | DW | C | P | | 08944 | | | | | | | | | |
| | | | | | C | P | | | | | | | | | | | |
| | | | | | G | G | | | | | | | | | | | |
| | | | | | C | P | | | | | | | | | | | |
| | | | | | G | G | | | | | | | | | | | |
| | | | | | C | P | | | | | | | | | | | |
| | | | | | G | G | | | | | | | | | | | |
| | | | | | C | P | | | | | | | | | | | |
| | | | | | G | G | | | | | | | | | | | |
| | | | | | C | P | | | | | | | | | | | |
| | | | | | G | G | | | | | | | | | | | |

Transfer Relinquished By: Billy Beaton Date/Time: _____ Received By: _____ Date/Time: _____

1. _____

2. _____

Temperature when Received: _____ Accepted: _____ Resampled Requested: _____

Delivered By: Billy Beaton Received By: [Signature] Date: 3/8/18 Time: 1330

Comments: TURNAROUND: