



Environmental Chemists, Inc.

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ANALYTICAL & CONSULTING CHEMISTS

info@environmentalchemists.com

April 30, 2018

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

Report #2018-04948

Enclosed please find your analytical report.

Sincerely,

Tammy Duran
Environmental Chemists, Inc.

Customer: Environmental Chemists NLS Project: 297379
 Project Description: PFCs with GenX by EPA 537
 Project Title: Template: 537PPTGENX Printed: 04/28/2018 12:27

| Sample: 1048864 | 12311 | Collected: 03/29/18 | Analyzed: 04/13/18 | Analytes: 13 | ANALYTE NAME | RESULT | UNITS | WWB | DIL | LOD | LOQ | MCL | Note |
|-----------------|-------|---------------------|--------------------|--------------|--|---------|-------|-----|-----|------|-----|-----|------|
| | | | | | perfluorobutanesulfonic acid (PFBS) | ND | ppt | | 1 | 6.6 | 21 | | |
| | | | | | perfluorohexanoic acid (PFHxA) | 15.8 | ppt | | 1 | 1.3 | 4.0 | | |
| | | | | | perfluoro-2-propoxypropanoic acid (GenX) | 5.63 | ppt | | 1 | 0.73 | 2.3 | | |
| | | | | | perfluoroheptanoic acid (PFHpA) | 16.7 | ppt | | 1 | 0.80 | 2.6 | | |
| | | | | | perfluorohexanesulfonic acid (PFHxS) | [4.16] | ppt | | 1 | 2.8 | 8.8 | | J |
| | | | | | perfluorooctanoic acid (PFOA) | 7.17 | ppt | | 1 | 1.2 | 3.9 | | |
| | | | | | perfluorononanoic acid (PFNA) | [1.65] | ppt | | 1 | 1.5 | 4.9 | | J |
| | | | | | perfluorooctanesulfonic acid (PFOS) | 11.1 | ppt | | 1 | 1.7 | 5.3 | | |
| | | | | | perfluorodecanoic acid (PFDA) | 2.73 | ppt | | 1 | 0.90 | 2.7 | | BD |
| | | | | | 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 (PFTA) | ND | ppt | | 1 | 2.8 | 8.9 | | |
| | | | | | C13-PFHxA (SURR) | 83.759% | | | 1 | | | | S |
| | | | | | C13-PFDA (SURR) | 88.58% | | | 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.
 BD = Compound was detected in the laboratory method blank.
 perfluorodecanoic acid (PFDA) detected at 2 ppt.

| Sample: 1048865 | 12312 | Collected: 03/29/18 | Analyzed: 04/13/18 | Analytes: 13 | ANALYTE NAME | RESULT | UNITS | WWB | DIL | LOD | LOQ | MCL | Note |
|-----------------|-------|---------------------|--------------------|--------------|--|---------|-------|-----|-----|------|-----|-----|------|
| | | | | | perfluorobutanesulfonic acid (PFBS) | ND | ppt | | 1 | 6.6 | 21 | | |
| | | | | | perfluorohexanoic acid (PFHxA) | 17.4 | ppt | | 1 | 1.3 | 4.0 | | |
| | | | | | perfluoro-2-propoxypropanoic acid (GenX) | 8.15 | ppt | | 1 | 0.73 | 2.3 | | |
| | | | | | perfluoroheptanoic acid (PFHpA) | 16.5 | ppt | | 1 | 0.80 | 2.6 | | J |
| | | | | | perfluorohexanesulfonic acid (PFHxS) | [3.27] | ppt | | 1 | 2.8 | 8.8 | | |
| | | | | | perfluorooctanoic acid (PFOA) | 7.56 | ppt | | 1 | 1.2 | 3.9 | | |
| | | | | | perfluorononanoic acid (PFNA) | [1.73] | ppt | | 1 | 1.5 | 4.9 | | J |
| | | | | | perfluorooctanesulfonic acid (PFOS) | 10 | ppt | | 1 | 1.7 | 5.3 | | |
| | | | | | perfluorodecanoic acid (PFDA) | 2.97 | ppt | | 1 | 0.90 | 2.7 | | BD |
| | | | | | 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 (PFTA) | ND | ppt | | 1 | 2.8 | 8.9 | | |
| | | | | | C13-PFHxA (SURR) | 81.325% | | | 1 | | | | S |
| | | | | | C13-PFDA (SURR) | 88.424% | | | 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.
 BD = Compound was detected in the laboratory method blank.
 perfluorodecanoic acid (PFDA) detected at 2 ppt.



Analytical & Consulting Chemists

ENVIRONMENTAL CHEMISTS, INC

NC DENR: DWQ CERTIFICATION # 94 NCDHHS: DLS CERTIFICATION # 37729

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COLLECTION AND CHAIN OF CUSTODY

| | | |
|---------------------------------------|---|------------------------------|
| Client: Brunswick County Water | PROJECT NAME: | REPORT NO: 2018-04948 |
| ADDRESS: P.O. Box 249 | CONTACT NAME: GLENN WALKER | PO NO: |
| BOLIVIA, N.C. 28422 | REPORT TO: SAME | PHONE/FAX: |
| COPY TO: | email: glenn.walker@brunswickcounty.nc.gov | |

Sampled By: Billy Benton
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 |
| 032918-S01 | 3-29-18 | 0830 | 14.3 | RAW | C (G) | P | | 12311 | | | | | | | | EPA 537+ GENX |
| 032918-E01 | 3-29-18 | 0830 | | DW | C (G) | P | | 12312 | | | | | | | | / |
| | | | | | C | P | | | | | | | | | | |
| | | | | | G | G | | | | | | | | | | |
| | | | | | C | P | | | | | | | | | | |
| | | | | | G | G | | | | | | | | | | |
| | | | | | C | P | | | | | | | | | | |
| | | | | | G | G | | | | | | | | | | |
| | | | | | C | P | | | | | | | | | | |
| | | | | | G | G | | | | | | | | | | |
| | | | | | C | P | | | | | | | | | | |
| | | | | | G | G | | | | | | | | | | |
| | | | | | C | P | | | | | | | | | | |
| | | | | | G | G | | | | | | | | | | |

| | | | |
|-----------------|--------------------------------------|---------------------|------------------|
| Transfer | Relinquished By: Billy Benton | Received By: | Date/Time |
| 1. | | | |
| 2. | | | |

Temperature when Received: _____ **Accepted:** _____ **Rejected:** _____ **Resample Requested:** _____

Delivered By: Billy Benton **Received By:** _____ **Date:** _____ **Time:** _____

Comments: _____ **TURNAROUND:** _____