



# Environmental Chemists, Inc.

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ANALYTICAL & CONSULTING CHEMISTS

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April 3, 2018

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

Report #2018-03222

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:** 1044632\_07925      **Collected:** 03/01/18      **Analyzed:** 03/19/18      **Analyses:** 13

ANALYTE NAME	RESULT	UNITS	WWB	DIL	LOD	LOQ	MCL	Note
perfluorobutanesulfonic acid (PFBS)	ND	ppt	1	1	6.6	21		
perfluorohexanoic acid (PFHxA)	14.5	ppt	1	1	1.3	4.0		
perfluoro-2-propoxypropanoic acid (GenX)	9.63	ppt	1	1	0.73	2.3		
perfluorohexanoic acid (PFHpA)	11.6	ppt	1	1	0.80	2.6		
perfluorohexanesulfonic acid (PFHxS)	[4.37]	ppt	1	1	2.8	8.8		J
perfluorooctanoic acid (PFOA)	8.66	ppt	1	1	1.2	3.9		
perfluorooctanoic acid (PFNA)	[1.8]	ppt	1	1	1.5	4.9		J
perfluorooctanesulfonic acid (PFOS)	14	ppt	1	1	1.7	5.3		
perfluorodecanoic acid (PFDA)	[1.51]	ppt	1	1	0.90	2.7		J
perfluoroundecanoic acid (PFUnA)	ND	ppt	1	1	1.0	3.0		
perfluorododecanoic acid (PFDoA)	ND	ppt	1	1	1.9	6.1		
perfluorotridecanoic acid (PFTriDA)	ND	ppt	1	1	3.2	10		
perfluorotetradecanoic acid (PFTA)	ND	ppt	1	1	2.8	8.9		
C13-PFHxA (SURR)	68.811%			1				SRS
C13-PFDA (SURR)	100.87%			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.
- Perfluoro-2-propoxypropanoic acid (GenX) was present in the laboratory blank at 8.52 ppt. Re-extraction was not possible due to only 1 bottle provided.

**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: 1044633\_07929 Collected: 03/01/18 Analyzed: 03/19/18 Analytes: 13

ANALYTE NAME	RESULT	UNITS	WWB	DIL	LOD	LOQ	MCL	Note
perfluorobutanesulfonic acid (PFBS)	ND	ppt		1	6.6	21		
perfluorohexanoic acid (PFHxA)	12.3	ppt		1	1.3	4.0		
perfluoro-2-propoxypropanoic acid (GenX)	10.3	ppt		1	0.73	2.3		
perfluorohexanoic acid (PFHxA)	11.4	ppt		1	0.80	2.6		
perfluorohexanesulfonic acid (PFHxS)	[4.59]	ppt		1	2.8	8.8		J
perfluorooctanoic acid (PFOA)	7.82	ppt		1	1.2	3.9		
perfluorononanoic acid (PFNA)	[1.76]	ppt		1	1.5	4.9		J
perfluorooctanesulfonic acid (PFOS)	13.2	ppt		1	1.7	5.3		
perfluorodecanoic acid (PFDA)	[1.19]	ppt		1	0.90	2.7		J
perfluoroundecanoic acid (PFUnA)	ND	ppt		1	1.0	3.0		
perfluorododecanoic acid (PFDDA)	ND	ppt		1	1.9	6.1		
perfluorotridecanoic acid (PFTDA)	ND	ppt		1	3.2	10		
perfluorotetradecanoic acid (PFTA)	ND	ppt		1	2.8	8.9		
C13-PFHxA (SURR)	65.814%			1				SR S
C13-PFDA (SURR)	97.631%			1				S

**NOTES APPLICABLE TO THIS ANALYSIS:**

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- 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.
- Perfluoro-2-propoxypropanoic acid (GenX) was present in the laboratory blank at 8.52 ppt. Re-extraction was not possible due to only 1 bottle provided.



Analytical & Consulting Chemists

# ENVIRONMENTAL CHEMISTS, INC

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

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## COLLECTION AND CHAIN OF CUSTODY

Client: <u>Brunswick County Water</u>	PROJECT NAME:	REPORT NO: <u>218-03222</u>
ADDRESS: <u>P.O. Box 244</u>	CONTACT NAME: <u>Gwendolyn Walker</u>	PO NO:
<u>Bellevue, N.C. 28422</u>	REPORT TO: <u>SAME</u>	PHONE/FAX:
	COPY TO:	email: <u>gwalker@brunswickcountync.gov</u>

Sampled By: Billy Beaton 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	
030118-S01	3-1-18	0830	16.6 °C	C	C	P		G1925							EPA 5371 + GENX	
									(G)	(P)						
030118-ED1	3-1-18	0830		C	C	P		G1929							/	
									(G)	(P)						
<u>Full Blank</u>				C	C	P		G1930								
				G	G	G										
				C	C	P										
				G	G	G										
				C	C	P										
				G	G	G										
				C	C	P										
				G	G	G										
				C	C	P										
				G	G	G										

Transfer	Relinquished By:	Date/Time	Received By:	Date/Time
1.	<u>Billy Beaton</u>	<u>3-1-18</u>		
2.				

Temperature when Received: not Accepted: ✓ Rejected: \_\_\_\_\_ Resample Requested: \_\_\_\_\_

Delivered By: Billy Beaton Received By: \_\_\_\_\_ Date: 3/1/2018 Time: 2:30pm

Comments: \_\_\_\_\_ TURNAROUND: \_\_\_\_\_