



# Environmental Chemists, Inc.

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ANALYTICAL & CONSULTING CHEMISTS

info@environmentalchemists.com

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September 21, 2017

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

Report #2017-12345

Enclosed please find your analytical report.

Sincerely,

*Tammy Duran*  
Tammy Duran

Environmental Chemists, Inc.

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

Customer: Environmental Chemists NLS Project: 285853  
 Project Description: GenX Samples Template: 537PPTGENX Printed: 09/06/2017 15:44  
 Project Title:

Sample: 1013831 29626 Collected: 08/18/17 Analyzed: 08/30/17 - Analytes: 13

ANALYTE NAME	RESULT	UNITS	WWB	DIL	LOD	LOQ	MCL	Note
perfluorobutanesulfonic acid (PFBS)	ND	ppt	1	1	6.6	21		
perfluorohexanoic acid (PFHxA)	20.7	ppt	1	1	1.3	4.0		
perfluoro-2-propoxypropionic acid (GenX)	20.4	ppt	1	1	0.73	2.3		
perfluorohexanoic acid (PFHxA)	18.8	ppt	1	1	0.80	2.6		
perfluorohexanesulfonic acid (PFHS)	[7.17]	ppt	1	1	2.8	8.8		J
perfluorooctanoic acid (PFOA)	13.5	ppt	1	1	1.2	3.9		
perfluorononanoic acid (PFNA)	[2.31]	ppt	1	1	1.5	4.9		J
perfluorooctanesulfonic acid (PFOS)	14	ppt	1	1	1.7	5.3		
perfluorodecanoic acid (PFDA)	[1.71]	ppt	1	1	0.90	2.7		J
perfluoroundecanoic acid (PFUnA)	ND	ppt	1	1	1.0	3.0		
perfluorododecanoic acid (PFDDA)	ND	ppt	1	1	1.9	6.1		
perfluorotridecanoic acid (PFTDA)	ND	ppt	1	1	3.2	10		
perfluorotetradecanoic acid (PFTA)	ND	ppt	1	1	2.8	8.9		
C13-PFHxA (SURR)	81.105%							S
C13-PEDA (SURR)	82.072%							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.

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

Customer: Environmental Chemists NLS Project: 285853

Project Description: GenX Samples

Project Title: Template: 537PPTGENX Printed: 09/06/2017 15:44

Sample: 1013834 29627 Collected: 08/18/17 Analyzed: 09/30/17 - Analyses: 13

ANALYTE NAME	RESULT	UNITS	WWB	DIL	LOD	LOQ	MCL	Note
perfluorobutanesulfonic acid (PFBS)	ND	ppt		1	6.6	21		
perfluorohexanoic acid (PFHxA)	21.9	ppt		1	1.3	4.0		
perfluoro-2-propoxypropionic acid (GenX)	20.5	ppt		1	0.73	2.3		
perfluorohexanoic acid (PFHxA)	18.6	ppt		1	0.80	2.6		
perfluorohexanesulfonic acid (PFHxS)	[4.99]	ppt		1	2.8	8.8		J
perfluorooctanoic acid (PFOA)	11	ppt		1	1.2	3.9		
perfluorononanoic acid (PFNA)	[1.91]	ppt		1	1.5	4.9		J
perfluorooctanesulfonic acid (PFOS)	9.42	ppt		1	1.7	5.3		
perfluorodecanoic acid (PFDA)	[1.35]	ppt		1	0.90	2.7		J
perfluoroundecanoic acid (PFUra)	ND	ppt		1	1.0	3.0		
perfluorododecanoic acid (PFDOA)	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)	82.821%							S
C13-PFDA (SURR)	89.229%							S

**NOTES APPLICABLE TO THIS ANALYSIS:**

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Sample: 1013833 29628 Collected: 08/18/17 Analyzed: 08/30/17 - Analytes: 13

ANALYTE NAME	RESULT	UNITS	WMB	DIL	LOD	LOQ	MCL	Note
perfluorobutanesulfonic acid (PFBS)	ND	ppt		1	6.6	2.1		
perfluorohexanoic acid (PFHxA)	4.63	ppt		1	1.3	4.0		
perfluoro-2-propoxypropionic acid (GenX)	24.1	ppt		1	0.73	2.3		
perfluorohexanoic acid (PFHxA)	3.84	ppt		1	0.80	2.6		
perfluorohexanesulfonic acid (PFHxS)	ND	ppt		1	2.8	8.8		J
perfluorooctanoic acid (PFOA)	[3.52]	ppt		1	1.2	3.9		
perfluorooctanoic acid (PFOA)	ND	ppt		1	1.5	4.9		
perfluorononanoic acid (PFNA)	[4.2]	ppt		1	1.7	5.3		J
perfluorooctanesulfonic acid (PFOS)	ND	ppt		1	0.90	2.7		
perfluorodecanoic acid (PFDA)	ND	ppt		1	1.0	3.0		
perfluoroundecanoic acid (PFUnA)	ND	ppt		1	1.9	6.1		
perfluorododecanoic acid (PFDoA)	ND	ppt		1	3.2	10		
perfluorotridecanoic acid (PFTDA)	ND	ppt		1	2.8	8.9		
perfluorotetradecanoic acid (PFTA)	ND	ppt		1				
C13-PFHxA (SURR)	81.594%							S
C13-PFDA (SURR)	87.587%							S

**NOTES APPLICABLE TO THIS ANALYSIS:**

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Sample: 1013830 29629 Collected: 08/18/17 Analyzed: 08/30/17 - Analytes: 13

ANALYTE NAME	RESULT	UNITS	WWB	DIL	LOD	LOQ	MCL	Note
perfluorobutanesulfonic acid (PFBS)	ND	ppt		1	6.6	21		
perfluorohexanoic acid (PFHxA)	7.92	ppt		1	1.3	4.0		
perfluoro-2-propoxypropanoic acid (GenX)	27.9	ppt		1	0.73	2.3		
perfluorothepianoic acid (PFHpA)	7.57	ppt		1	0.80	2.6		
perfluorohexanesulfonic acid (PFHxS)	[4.41]	ppt		1	2.8	8.8		J
perfluorooctanoic acid (PFOA)	7.24	ppt		1	1.2	3.9		
perfluorononanoic acid (PFNA)	ND	ppt		1	1.5	4.9		
perfluorooctanesulfonic acid (PFOS)	9.31	ppt		1	1.7	5.3		
perfluorodecanoic acid (PFDA)	ND	ppt		1	0.90	2.7		
perfluoroundecanoic acid (PFUnA)	ND	ppt		1	1.0	3.0		
perfluorododecanoic acid (PFDoA)	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)	75.282%							S
C13-PFDA (SURR)	86.322%							S

**NOTES APPLICABLE TO THIS ANALYSIS:**

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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  
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## COLLECTION AND CHAIN OF CUSTODY

CLIENT: <u>Brunswick County Utilities</u>	PROJECT NAME: <u>WWTIP</u>	REPORT NO: <u>17.12345</u>
ADDRESS: <u>PO Box 249</u>	CONTACT NAME: <u>Glen Walker</u>	PO NO:
<u>Belivia NC 28422</u>	REPORT TO: <u>same</u>	PHONE/FAX: <u>910-371-5755</u>
COPY TO:		email: <u>glen.walker@brunswickcounty.nc.gov</u>

Sampled By: \_\_\_\_\_ 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	Zn acetate	
81717 SO1	8/17/17	0943	29.1°	C	P			29626								✓ GenX
81717 E01	8/17/17	0955	29.1°	C	P			29627								✓ GenX
81717 BCA	8/17/17	1440	20.2°	G	P			29628								✓ GenX
81717 LPDA	8/17/17	1445	20.2°	G	G			29629								✓ GenX
				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:															
1.																
2.																

Temperature when Received: \_\_\_\_\_ Accepted: \_\_\_\_\_ Resampled Requested: \_\_\_\_\_

Delivered By: \_\_\_\_\_ Received By: \_\_\_\_\_ Date: 8-18-17 Time: 10:09

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