



# Environmental Chemists, Inc.

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ANALYTICAL & CONSULTING CHEMISTS

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October 9, 2017

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

Report #2017-14542

Enclosed please find your analytical report.

Sincerely,

Tammy Duran  
Environmental Chemists, Inc.

# ANALYTICAL REPORT

**NORTHERN LAKE SERVICE, INC.**  
Analytical Laboratory and Environmental Services  
400 North Lake Avenue - Crandon, WI 54520  
Ph: (715)-478-2777 Fax: (715)-478-3060

Client: Environmental Chemists  
Attn: Ray Porter  
6602 Windmill Way  
Wilmington, NC 28405

WDNR Laboratory ID No. 721026460  
WDATCP Laboratory Certification No. 105-330  
EPA Laboratory ID No. WI000034

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NLS Project: 288004  
NLS Customer: 96259  
Fax: 910 392 4424 Phone: 910 392 0223

Project: GenX Samples


**17-34949 NLS ID: 1021035**

COC: 228319.1 Matrix: DW  
Collected: 09/21/17 08:55 Received: 09/27/17

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed Method	Lab
Solid Phase Extraction by EPA Method 537	yes					10/04/17 EPA 537	721026460
GenX and PFCs by EPA 537	see attached					10/05/17 EPA 537	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk (\*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution and/or solids content.

ND = Not Detected (< LOD)      LOD = Limit of Detection      LOQ = Limit of Quantitation      NA = Not Applicable  
DWB = Dry Weight Basis      %DWB = (mg/kg DWB) / 10000      1000 ug/L = 1 mg/L  
MCL = Maximum Contaminant Levels for Drinking Water Samples.      Shaded results indicate >MCL.

Reviewed by:  Authorized by: R. T. Krueger  
President

**ANALYTICAL RESULTS:** Perfluorinated Chemicals by EPA 537 Rev 1.1 Safe Drinking Water Analysis  
**Customer:** Environmental Chemists      **NLS Project:** 288004  
**Project Description:** GenX Samples      **Template:** 537PPTGENX      **Printed:** 10/06/2017 13:53  
**Project Title:**

**Sample:** 1021035 17-34949      **Collected:** 09/21/17      **Analyzed:** 10/05/17 - Analytes: 13

ANALYTE NAME	RESULT	UNITS	WWB	DIL	LOD	LOQ	MCL	Note
perfluorobutanesulfonic acid (PFBS)	ND	ppt		1	6.6	21		
perfluorohexanoic acid (PFHxA)	21.4	ppt		1	1.3	4.0		
perfluoro-2-propoxypropanoic acid (GenX)	35.4	ppt		1	0.73	2.3		
perfluorooheptanoic acid (PFHpA)	17.4	ppt		1	0.80	2.6		
perfluorohexanesulfonic acid (PFHxS)	[4.93]	ppt		1	2.8	8.8		J
perfluorooctanoic acid (PFOA)	9.12	ppt		1	1.2	3.9		
perfluorononanoic acid (PFNA)	[1.96]	ppt		1	1.5	4.9		J
perfluorooctanesulfonic acid (PFOS)	7.32	ppt		1	1.7	5.3		
perfluorodecanoic acid (PFDA)	[1.15]	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 (PFTA)	ND	ppt		1	2.8	8.9		
C13-PFHxA (SURR)	86.328%							S
	79.279%							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.

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WDNR Laboratory ID No. 721026460  
 WDATCP Laboratory Certification No. 105-330  
 EPA Laboratory ID No. WI000034

Printed: 10/06/17 Page 2 of 3  
**NLS Project:** 288004  
**NLS Customer:** 96259  
 Fax: 910 392 4424 Phone: 910 392 0223

**Project:** GenX Samples


**17-34948 NLS ID: 1021036**

COC: 228319.2 Matrix: DW  
 Collected: 09/21/17 08:55 Received: 09/27/17

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed Method	Lab
Solid Phase Extraction by EPA Method 537	yes					10/04/17 EPA 537	721026460
GenX and PFCs by EPA 537	see attached					10/05/17 EPA 537	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(\*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution and/or solids content.

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 DWB = Dry Weight Basis      %DWB = (mg/kg DWB) / 10000      LOQ = Limit of Quantitation      NA = Not Applicable  
 MCL = Maximum Contaminant Levels for Drinking Water Samples.      Shaded results indicate >MCL.

Reviewed by:  Authorized by: R. T. Krueger  
 President

**ANALYTICAL RESULTS:** Perfluorinated Chemicals by EPA 537 Rev 1.1 Safe Drinking Water Analysis  
**Customer:** Environmental Chemists      **NLS Project:** 288004  
**Project Description:** GenX Samples      **Template:** 537PPTGENX  
**Project Title:**      **Printed:** 10/06/2017 13:53

**Sample:** 1021036 17-34948      **Collected:** 09/21/17      **Analyzed:** 10/05/17      **Analytes:** 13

ANALYTE NAME	RESULT	UNITS	WWB	DIL	LOD	LOQ	MCL	Note
perfluorobutanesulfonic acid (PFBS)	ND	ppt		1	6.6	21		
perfluorohexanoic acid (PFHxA)	22.1	ppt		1	1.3	4.0		
perfluoro-2-propoxypropionic acid (GenX)	30.8	ppt		1	0.73	2.3		
perfluorohexanoic acid (PFHxA)	19.5	ppt		1	0.80	2.6		
perfluorohexanesulfonic acid (PFHxS)	[7.22]	ppt		1	2.8	8.8		J
perfluorooctanoic acid (PFOA)	9.99	ppt		1	1.2	3.9		
perfluorononanoic acid (PFNA)	[2.49]	ppt		1	1.5	4.9		J
perfluorooctanesulfonic acid (PFOS)	11.2	ppt		1	1.7	5.3		
perfluorodecanoic acid (PFDA)	[1.6]	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 (PFTDA)	ND	ppt		1	3.2	10		
perfluorotetradecanoic acid (PFTA)	ND	ppt		1	2.8	8.9		
C13-PFHxA (SURR)	90.086%							S
C13-PFDA (SURR)	77.309%							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.

