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ANALYTICAL & CONSULTING CHEMISTS

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November 7, 2017

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

Report #2017-16244

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 - Grandon, 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. W1000034

Printed: 11/07/17 Page 1 of 1
 NLS Project: 289718
 NLS Customer: 96259
 Fax: 910 392 4424 Phone: 910 392 0223

Project: Investigative Drinking Water

39228 NLS ID: 1026673

COC: 227836:1 Matrix: DW

Collected: 10/19/17 08:50 Received: 10/27/17

Parameter Solid Phase Extraction by EPA Method 537

GenX and PFCs by EPA 537

Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
yes					11/01/17	EPA 537	721026460
see attached					11/03/17	EPA 537	721026460

39229 NLS ID: 1026674

COC: 227836:2 Matrix: DW

Collected: 10/19/17 08:50 Received: 10/27/17


Parameter Solid Phase Extraction by EPA Method 537

GenX and PFCs by EPA 537

Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
yes					11/01/17	EPA 537	721026460
see attached					11/03/17	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/or 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: 289718
Project Description: Investigative Drinking Water
Project Title: Template: 537PPTGENX Printed: 11/07/2017 10:58

Sample: 1026673 39228 Collected: 10/19/17 Analyzed: 11/03/17 - Analyses: 13

ANALYTE NAME	RESULT	UNITS	WWB	DIL	LOD	LOQ	MCL	Note
perfluorobutanesulfonic acid (PFBS)	ND	ppt		1	6.6	21		
perfluorohexanoic acid (PFHxA)	41.7	ppt		1	1.3	4.0		
perfluoro-2-propoxypropanoic acid (GenX)	281	ppt		1	0.73	2.3		
perfluorohexanoic acid (PFHxA)	33.1	ppt		1	0.80	2.6		
perfluorohexanesulfonic acid (PFHS)	[6.64]	ppt		1	2.8	8.8		J
perfluorooctanoic acid (PFOA)	17.5	ppt		1	1.2	3.9		
perfluorononanoic acid (PFNA)	[4.53]	ppt		1	1.5	4.9		J
perfluorooctanesulfonic acid (PFOS)	12.7	ppt		1	1.7	5.3		
perfluorodecanoic acid (PFDA)	3.06	ppt		1	0.90	2.7		
perfluoroundecanoic acid (PFUnA)	ND	ppt		1	1.0	3.0		
perfluorododecanoic acid (PFDDA)	ND	ppt		1	1.9	6.1		
perfluorotridecanoic acid (PFTrDA)	ND	ppt		1	3.2	10		
perfluorotetradecanoic acid (PFTA)	ND	ppt		1	2.8	8.9		
C13-PFHxA (SURR)	89.849%							S
C13-PFDA (SURR)	88.281%							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.

Sample: 1026674 39229 Collected: 10/19/17 Analyzed: 11/03/17 - Analyses: 13

ANALYTE NAME	RESULT	UNITS	WWB	DIL	LOD	LOQ	MCL	Note
perfluorobutanesulfonic acid (PFBS)	ND	ppt		1	6.6	21		
perfluorohexanoic acid (PFHxA)	31.1	ppt		1	1.3	4.0		
perfluoro-2-propoxypropanoic acid (GenX)	193	ppt		1	0.73	2.3		
perfluorohexanoic acid (PFHxA)	21.6	ppt		1	0.80	2.6		
perfluorohexanesulfonic acid (PFHS)	[3.33]	ppt		1	2.8	8.8		J
perfluorooctanoic acid (PFOA)	10.2	ppt		1	1.2	3.9		
perfluorononanoic acid (PFNA)	[2.14]	ppt		1	1.5	4.9		J
perfluorooctanesulfonic acid (PFOS)	[4.43]	ppt		1	1.7	5.3		J
perfluorodecanoic acid (PFDA)	[1.26]	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 (PFTrDA)	ND	ppt		1	3.2	10		
perfluorotetradecanoic acid (PFTA)	ND	ppt		1	2.8	8.9		
C13-PFHxA (SURR)	82.057%							S
C13-PFDA (SURR)	82.819%							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.

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

