

July 06, 2020

Glenn Walker PO Box
Brunswick County Water Systems
PO Box 249
Bolivia, NC 28422

RE: Project: 1, 4-Dx522 (Weekly)
Pace Project No.: 35559243

Dear Glenn PO Box:

Enclosed are the analytical results for sample(s) received by the laboratory on June 26, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Ormond Beach

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa Harvey
lisa.harvey@pacelabs.com
(386) 672-5668
Project Manager

Enclosures

cc: Billy Benton, BRUNSWICK COUNTY PUBLIC UTILITIES



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 1, 4-Dx522 (Weekly)

Pace Project No.: 35559243

Pace Analytical Services Ormond Beach

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST

Alabama Certification #: 41320

Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079

Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maryland Certification: #346

Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14

New Hampshire Certification #: 2958

New Jersey Certification #: FL022

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710

North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947

Pennsylvania Certification #: 68-00547

Puerto Rico Certification #: FL01264

South Carolina Certification: #96042001

Tennessee Certification #: TN02974

Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C

Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

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SAMPLE SUMMARY

Project: 1, 4-Dx522 (Weekly)

Pace Project No.: 35559243

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35559243001	062520-S01	Drinking Water	06/25/20 08:10	06/26/20 10:50
35559243002	062520-E01	Drinking Water	06/25/20 08:10	06/26/20 10:50

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SAMPLE ANALYTE COUNT

Project: 1, 4-Dx522 (Weekly)

Pace Project No.: 35559243

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35559243001	062520-S01	EPA 522	CTB	2	PASI-O
35559243002	062520-E01	EPA 522	CTB	2	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach

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ANALYTICAL RESULTS

Project: 1, 4-Dx522 (Weekly)

Pace Project No.: 35559243

Sample: 062520-S01 **Lab ID: 35559243001** Collected: 06/25/20 08:10 Received: 06/26/20 10:50 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
522 MSS 1,4 Dioxane									
Analytical Method: EPA 522 Preparation Method: EPA 522 Pace Analytical Services - Ormond Beach									
1,4-Dioxane (p-Dioxane)	1.2	ug/L	0.20	0.12	1	07/01/20 12:29	07/02/20 11:49	123-91-1	
Surrogates									
1,4-Dioxane-d8 (S)	68	%	70-130		1	07/01/20 12:29	07/02/20 11:49		J(S5)

Sample: 062520-E01 **Lab ID: 35559243002** Collected: 06/25/20 08:10 Received: 06/26/20 10:50 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
522 MSS 1,4 Dioxane									
Analytical Method: EPA 522 Preparation Method: EPA 522 Pace Analytical Services - Ormond Beach									
1,4-Dioxane (p-Dioxane)	1.7	ug/L	0.20	0.12	1	07/01/20 12:29	07/02/20 12:06	123-91-1	
Surrogates									
1,4-Dioxane-d8 (S)	77	%	70-130		1	07/01/20 12:29	07/02/20 12:06		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1, 4-Dx522 (Weekly)

Pace Project No.: 35559243

QC Batch: 645173	Analysis Method: EPA 522
QC Batch Method: EPA 522	Analysis Description: 522 MSS 1,4 Dioxane
	Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35559243001, 35559243002

METHOD BLANK: 3507990 Matrix: Water

Associated Lab Samples: 35559243001, 35559243002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.12 U	0.20	0.12	07/02/20 10:44	
1,4-Dioxane-d8 (S)	%	87	70-130		07/02/20 10:44	

LABORATORY CONTROL SAMPLE & LCSD: 3507991 3507992

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	2	1.6	1.7	81	84	70-130	4	20	
1,4-Dioxane-d8 (S)	%				83	85	70-130			

LABORATORY CONTROL SAMPLE: 3507993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.2	0.17 I	85	50-150	
1,4-Dioxane-d8 (S)	%			90	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: 1, 4-Dx522 (Weekly)

Pace Project No.: 35559243

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 645572

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

U Compound was analyzed for but not detected.

J(S5) Estimated Value. Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1, 4-Dx522 (Weekly)
Pace Project No.: 35559243

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35559243001	062520-S01	EPA 522	645173	EPA 522	645572
35559243002	062520-E01	EPA 522	645173	EPA 522	645572

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WO#: 35559243



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
Required Client Information:
 Company: Brunswick County Water System
 Address: 3954 Clearwell Dr. NE
 Leland, NC 28451
 Email: glenn.walker@brunswickcountync.gov
 Phone: 910-371-3480 Fax:
 Requested Due Date:

Section B
Required Project Information:
 Report To: Glenn - Bottles
 Copy To:
 Purchase Order #:
 Project Name: 1,4-DX-522 (Weekly)
 Project #:
 Invoice Information:
 Attention:
 Company Name:
 Address:
 Pace Quote:
 Pace Project Manager: lisa.harvey@pacelabs.com,
 Pace Profile #: 9551-1

Section C
 Page: 1 Of 1
 Regulatory Agency
 State / Location NC

ITEM #	MATRIX CODE (see valid codes to left)	SAMPLER TYPE (C=GRAB C-COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Y/N	Requested Analysis Filtered (Y/N)	Received in Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)
			START DATE TIME	END DATE TIME								
1	062520-S01	6	6:25 0810	6:35 0810	1	Unpreserved	Na2S2O3	1,4-dioxane, method 522				
2	062520-E01	6	6:25 0810	6:35 0810	1							
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

ADDITIONAL COMMENTS:
 ACQUISISHED BY / AFFILIATION: [Signature] DATE: 6/25/20
 TIME: 6:00
 ACCEPTED BY / AFFILIATION: [Signature] DATE: 6/25/20
 TIME: 6:00
 SAMPLE CONDITIONS: 38 Y NY

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Billy Benton
 SIGNATURE of SAMPLER: [Signature] DATE Signed: 6-25-20

