

July 27, 2021

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

RE: Project: 1,4-Dx-522 (Weekly)
Pace Project No.: 35648216

Dear Glenn PO Box:

Enclosed are the analytical results for sample(s) received by the laboratory on July 16, 2021. 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,



Bill White
bill.white@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-Dx-522 (Weekly)

Pace Project No.: 35648216

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-Dx-522 (Weekly)

Pace Project No.: 35648216

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35648216001	071521-S01	Water	07/15/21 10:30	07/16/21 11:00
35648216002	071521-E01	Drinking Water	07/15/21 10:30	07/16/21 11:00

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SAMPLE ANALYTE COUNT

Project: 1,4-Dx-522 (Weekly)

Pace Project No.: 35648216

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35648216001	071521-S01	EPA 522	CTB	2	PASI-O
35648216002	071521-E01	EPA 522	CTB	2	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach

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ANALYTICAL RESULTS

Project: 1,4-Dx-522 (Weekly)

Pace Project No.: 35648216

Sample: 071521-S01		Lab ID: 35648216001		Collected: 07/15/21 10:30	Received: 07/16/21 11:00	Matrix: 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	07/24/21 13:32	07/26/21 12:08	123-91-1	
Surrogates									
1,4-Dioxane-d8 (S)	78	%	70-130		1	07/24/21 13:32	07/26/21 12:08		

Sample: 071521-E01		Lab ID: 35648216002		Collected: 07/15/21 10:30	Received: 07/16/21 11:00	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)	1.0	ug/L	0.20	0.12	1	07/24/21 13:32	07/26/21 12:24	123-91-1	
Surrogates									
1,4-Dioxane-d8 (S)	83	%	70-130		1	07/24/21 13:32	07/26/21 12:24		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1,4-Dx-522 (Weekly)

Pace Project No.: 35648216

QC Batch: 748157	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: 35648216001, 35648216002

METHOD BLANK: 4084182 Matrix: Water

Associated Lab Samples: 35648216001, 35648216002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.12 U	0.20	0.12	07/26/21 10:49	
1,4-Dioxane-d8 (S)	%	75	70-130		07/26/21 10:49	

LABORATORY CONTROL SAMPLE & LCSD: 4084183 4084185

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	1.7	1.7	86	87	70-130	1	20	
1,4-Dioxane-d8 (S)	%				84	87	70-130			

LABORATORY CONTROL SAMPLE: 4084184

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.2	0.17 I	86	50-150	
1,4-Dioxane-d8 (S)	%			88	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-Dx-522 (Weekly)

Pace Project No.: 35648216

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: 748464

[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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1,4-Dx-522 (Weekly)

Pace Project No.: 35648216

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35648216001	071521-S01	EPA 522	748157	EPA 522	748464
35648216002	071521-E01	EPA 522	748157	EPA 522	748464

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WO#: 35648216

Project #
Project Manager:
Client:

PM: WBW Due Date: 07/28/21
CLIENT: BRUNCOWS

Date and Initials of person:
Examining contents:
Label:
Deliver:
pH:

Thermometer Used: T-387 Date: 7/16/21 Time: 1125 Initials: KMF

State of Origin: For WV projects, all containers verified to <=6 °C

Cooler #1 Temp. °C 4.1 (Visual) -0.3 (Correction Factor) 3.8 (Actual)
Cooler #2 Temp. °C
Cooler #3 Temp. °C
Cooler #4 Temp. °C
Cooler #5 Temp. °C
Cooler #6 Temp. °C
Samples on ice, cooling process has begun

Courier: [X] Fed Ex [] UPS [] USPS [] Client [] Commercial [] Pace [] Other

Shipping Method: [] First Overnight [] Priority Overnight [X] Standard Overnight [] Ground [] International Priority
[] Other

Billing: [] Recipient [] Sender [X] Third Party [] Credit Card [] Unknown

Tracking # 2814 9258 2564

Custody Seal on Cooler/Box Present: [] Yes [X] No Seals intact: [] Yes [X] No Ice: [X] Wet Blue Dry None

Packing Material: [X] Bubble Wrap [X] Bubble Bags [] None [] Other

Samples shorted to lab (If Yes, complete) Shorted Date: Shorted Time: Qty:

Comments:

Table with 3 columns: Item, Yes/No/N/A checkboxes, and Comments/Preservation Information. Rows include Chain of Custody Present, Chain of Custody Filled Out, Relinquished Signature & Sampler Name COC, Samples Arrived within Hold Time, Rush TAT requested on COC, Sufficient Volume, Correct Containers Used, Containers Intact, Sample Labels match COC, All containers needing acid/base preservation have been checked, All Containers needing preservation are found to be in compliance with EPA recommendation, Headspace in VOA Vials? (>6mm), Trip Blank Present.

Client Notification/ Resolution:

Person Contacted: Date/Time:

Comments/ Resolution (use back for additional comments):

Project Manager Review: Date:

Pace Container Order #705361

Addresses

Order By :	Ship To :	Return To:
Company <u>Brunswick County Water System</u>	Company <u>Brunswick County Water System</u>	Company <u>Pace Analytical Ormond Beach</u>
Contact <u>- Bottles, Glenn</u>	Contact <u>- Bottles, Glenn</u>	Contact <u>Harvey, Lisa</u>
Email <u>glenn.walker@brunswickcountync.gov</u>	Email <u>glenn.walker@brunswickcountync.gov</u>	Email <u>lisa.harvey@pacelabs.com</u>
Address <u>3954 Clearwell Dr. NE</u>	Address <u>3954 Clearwell Dr. NE</u>	Address <u>8 East Tower Circle</u>
Address 2 _____	Address 2 _____	Address 2 _____
City <u>Leland</u>	City <u>Leland</u>	City <u>Ormond Beach</u>
State <u>NC</u> Zip <u>28451</u>	State <u>NC</u> Zip <u>28451</u>	State <u>FL</u> Zip <u>32174</u>
Phone <u>910-371-3490</u>	Phone <u>910-371-3490</u>	Phone <u>(386) 672-5668</u>

Info

Project Name <u>1,4-Dx-522 (Weekly)</u>	Due Date <u>06/16/2021</u>	Profile <u>9551-1</u>	Quote _____
Project Manager <u>Harvey, Lisa</u>	Return Date _____	Carrier <u>FedEx Ground</u>	Location <u>NC</u>

<p>Trip Blanks</p> <input type="checkbox"/> Include Trip Blanks	<p>Bottle Labels</p> <input type="checkbox"/> Blank <input checked="" type="checkbox"/> Pre-Printed No Sample IDs <input type="checkbox"/> Pre-Printed With Sample IDs	<p>Bottles</p> <input type="checkbox"/> Boxed Cases <input checked="" type="checkbox"/> Individually Wrapped <input type="checkbox"/> Grouped By Sample ID/Matrix
<p>Return Shipping Labels</p> <input type="checkbox"/> No Shipper <input type="checkbox"/> With Shipper	<p>Misc</p> <input type="checkbox"/> Sampling Instructions <input checked="" type="checkbox"/> Custody Seal <input checked="" type="checkbox"/> Temp. Blanks <input checked="" type="checkbox"/> Coolers <u>1</u> <input type="checkbox"/> Syringes _____	
<p>COC Options</p> <input type="checkbox"/> Number of Blanks _____ <input checked="" type="checkbox"/> Pre-Printed <u>special</u>	<input type="checkbox"/> Extra Bubble Wrap <input type="checkbox"/> Short Hold/Rush Stickers <input type="checkbox"/> DI Water <u>Liter(s)</u> <input type="checkbox"/> USDA Regulated Soils	

# of Samples	Matrix	Test	Container	Total	# of	Lot #	Notes
2	WT	1,4-dioxane, method 522	1-1L Amber Glass, Sodium sulfite & Na bisulfate	2	0		

Hazard Shipping Label In Place : NO

- *Sample receiving hours are Mon-Fri 8:00am-6:00pm and Sat 10:00am-6:00pm unless special arrangements are made with your project manager.
- *Pace Analytical reserves the right to return hazardous, toxic, or radioactive samples to you.
- *Pace Analytical reserves the right to charge for unused bottles, as well as cost associated with sample storage/disposal.
- *Payment term are net 30 days.
- *Please include the proposal number on the chain of custody to insure proper billing.

LAB USE:

Ship Date :	
Prepared By:	
Verified By:	
Tracking Num:	

Sample

weekly sampling; 2-locations per week; ; Special COC attached; ;

CLIENT USE (Optional):

Date Rec'd:	
Received By:	
Verified By:	

Internal

download special COC