



July 17, 2025

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

RE: Project: 1,4-Dx-522 (Weekly)
Pace Project No.: 35968412

Dear Glenn Walker:

Enclosed are the analytical results for sample(s) received by the laboratory on July 11, 2025. 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,

Todd Baumgartner
todd.baumgartner@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.: 35968412

Pace Analytical Services Ormond Beach

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST

Alabama Certification #: 41320

California Certification# 3096

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

DoD-ANAB #:ADE-3199

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

Maine Certification #: FL01264

Maryland Certification: #346

Massachusetts Certification #: M-FL1264

Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14

Nevada Certification: FL NELAC Reciprocity

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

Utah

Utah FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

Washington Certification #: C955

West Virginia Certification #: 9962C

Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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



SAMPLE SUMMARY

Project: 1,4-Dx-522 (Weekly)
Pace Project No.: 35968412

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35968412001	071025-SO1	Water	07/10/25 09:40	07/11/25 11:30
35968412002	071025-EO1	Drinking Water	07/10/25 09:40	07/11/25 11:30

REPORT OF LABORATORY ANALYSIS

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



SAMPLE ANALYTE COUNT

Project: 1,4-Dx-522 (Weekly)
Pace Project No.: 35968412

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35968412001	071025-SO1	EPA 522	TSW	2	PASI-O
35968412002	071025-EO1	EPA 522	TSW	2	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach

REPORT OF LABORATORY ANALYSIS

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



ANALYTICAL RESULTS

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

Pace Project No.: 35968412

Sample: 071025-SO1									
Lab ID: 35968412001									
Collected: 07/10/25 09:40 Received: 07/11/25 11:30 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)	0.12 U	ug/L	0.20	0.12	1	07/15/25 17:33	07/16/25 18:52	123-91-1	
Surrogates									
1,4-Dioxane-d8 (S)	98	%	70-130		1	07/15/25 17:33	07/16/25 18:52		

Sample: 071025-EO1									
Lab ID: 35968412002									
Collected: 07/10/25 09:40 Received: 07/11/25 11:30 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)	0.12 U	ug/L	0.20	0.12	1	07/15/25 17:33	07/16/25 19:09	123-91-1	
Surrogates									
1,4-Dioxane-d8 (S)	90	%	70-130		1	07/15/25 17:33	07/16/25 19:09		

REPORT OF LABORATORY ANALYSIS

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



QUALITY CONTROL DATA

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

Pace Project No.: 35968412

QC Batch: 1113504

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: 35968412001, 35968412002

METHOD BLANK: 6106510

Matrix: Water

Associated Lab Samples: 35968412001, 35968412002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.12 U	0.20	0.12	07/16/25 18:00	
1,4-Dioxane-d8 (S)	%	83	70-130		07/16/25 18:00	

LABORATORY CONTROL SAMPLE: 6106511

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	18.4	92	70-130	
1,4-Dioxane-d8 (S)	%			93	70-130	

LABORATORY CONTROL SAMPLE: 6106512

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.2	0.18 I	91	50-150	
1,4-Dioxane-d8 (S)	%			87	70-130	

MATRIX SPIKE SAMPLE: 6106587

Parameter	Units	35968412002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.12 U	19.5	16.7	85	70-130	
1,4-Dioxane-d8 (S)	%				85	70-130	

SAMPLE DUPLICATE: 6106533

Parameter	Units	35968189002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.12 U	0.12 U		20	
1,4-Dioxane-d8 (S)	%	86	78			

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.

REPORT OF LABORATORY ANALYSIS

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



QUALIFIERS

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

Pace Project No.: 35968412

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

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.

REPORT OF LABORATORY ANALYSIS

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



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1,4-Dx-522 (Weekly)
Pace Project No.: 35968412

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35968412001	071025-SO1	EPA 522	1113504	EPA 522	1113668
35968412002	071025-EO1	EPA 522	1113504	EPA 522	1113668

REPORT OF LABORATORY ANALYSIS

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

Pace Container Order #1185896

Order By : Company Brunswick County Water System
 Contact - Bottles, Glenn
 Email glenn.walker@brunswickcounty.nc.gov
 Address 3954 Clearwell Dr. NE
 City Leland
 State NC Zip 28451
 Phone 910-371-3490

Ship To : Company Brunswick County Water System
 Contact - Bottles, Glenn
 Email glenn.walker@brunswickcounty.nc.gov
 Address 3954 Clearwell Dr. NE
 City Leland
 State NC Zip 28451
 Phone 910-371-3490

Return To: Pace Analytical Ormond Beach
 Company Pace Analytical Ormond Beach
 Contact shelby.sharpe@pacelabs.com
 Address 8 East Tower Circle
 City Ormond Beach
 State FL Zip 32174
 Phone 386-672-5668

Info

Project Name 14-DX-522 **Due Date** 06/27/2025 **Profile** 9551-1 **Carrier** FedEx Standard **Location NC**

Project Manager Baumgartner, Todd **Return Date**

Trip Blanks Include Trip Blanks

Bottle Labels Blank Pre-Printed No Sample IDs Pre-Printed With Sample IDs

Bottles Boxed Cases Individually Wrapped Grouped By Sample ID/Matrix

Return Shipping Labels No Shipper With Shipper

COC Options Number of Blanks Pre-Printed

Misc Sampling Instructions Custody Seal Temp. Blanks Coolers Syringes

Extra Bubble Wrap Short Hold/Rush Stickers DI Water (Liters) USDA Regulated Soils

# of Samples	Matrix	WT	Test	Container	Total	# of QC	Lot #	Notes
2			1,4-dioxane, method 522	1-1L Amber Glass, Sodium sulfite & Na bisulfate	2	0	012725-3DII	031725-1EVP/

Hazard Shipping Placard In Place : NO

LAB USE:

*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 ensure proper billing.

Sample Notes :

Weekly sampling; 2-locations per week; Special COC attached; :

CLIENT USE (Optional):

Ship Date : 06/26/2025
 Prepared By: RM
 Verified By:
 Tracking Num:
 Date Rec'd:
 Received By:
 Verified By:

Sample Condition Upon Receipt Form (SCUR)

WO#: 35968412

PM: TAB Due Date: 07/23/25
CLIENT: BRUNCOWS

Pace

Date and Initials of person: 2-23
Examining contents: 2-23
Verifying pH: 2-23

Initials: SBY

Project #
Project Manager:
Client:

Thermometer Used: T-409 Date: 7/11/25 Time: 1233

State of Origin: _____
 For WV projects, all containers verified to ≤ 6 °C
Cooler #1 Temp. °C 2.7 (Visual) 0 (Correction Factor) 2.7 (Actual)
Cooler #2 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #3 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #4 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #5 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #6 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Recheck for OOT °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

Samples collected sameday, on ice cooling has begun
 Samples collected sameday, on ice cooling has begun

Courier: Fed Ex UPS USPS Client Commercial Pace Other:

Time: _____ Initials: _____

Shipping Method: Standard Overnight First Overnight Priority Overnight Ground International Priority Other:

Tracking # 4348 2258 6726

Custody Seal Present: Yes No Seal properly placed and intact: Yes No

Ice: Wet Blue Dry None Melted

Packing Material: Bubble Wrap Bubble Bags None Other:

Samples shorted to lab: Yes No (If yes, complete the following)
Shorted Date: _____

Bottle Quantity / Type: _____ Shorted Time: _____

Chain of Custody:	Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Filled Out: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Sampler Name: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A								
	Relinquished To Pace: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Sampling Date(s): <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Sampling Time(s): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A								
Samples Arrived within Hold Time.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Comments:								
Rush Turnaround Requested on COC.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Comments:								
Sufficient Volume.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Comments:								
Correct Containers Used.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments:								
Containers Intact.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments:								
Sample Labels Match COC (Sample ID, Date/Time of Collection).	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments:								
All containers needing acid / base preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A								
All containers needing preservation are found to be in compliance with EPA recommendation:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A								
Exceptions: Vials, Microbiology, O&G, PFAS									
Headspace in Volatile Vials? (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A								
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A								
<table border="1"> <thead> <tr> <th colspan="2">Preservation Information</th> </tr> </thead> <tbody> <tr> <td>Preservative: _____</td> <td>Date: _____</td> </tr> <tr> <td>Lot / Trace: _____</td> <td>Time: _____</td> </tr> <tr> <td>Amount added (mL): _____</td> <td>Initials: _____</td> </tr> </tbody> </table>		Preservation Information		Preservative: _____	Date: _____	Lot / Trace: _____	Time: _____	Amount added (mL): _____	Initials: _____
Preservation Information									
Preservative: _____	Date: _____								
Lot / Trace: _____	Time: _____								
Amount added (mL): _____	Initials: _____								
Comments / Resolutions (use back for additional comments):									

Labeled by: 2-23

Reviewed by: [Signature]