



August 21, 2025

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

RE: Project: 1,4-Dx-522(Weekly)
Pace Project No.: 35974823

Dear Glenn Walker:

Enclosed are the analytical results for sample(s) received by the laboratory on August 08, 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.: 35974823

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.: 35974823

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35974823001	080725-S01	Water	08/07/25 07:45	08/08/25 11:00
35974823002	080725-E01	Drinking Water	08/07/25 07:45	08/08/25 11:00

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.: 35974823

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35974823001	080725-S01	EPA 522	TSW	2	PASI-O
35974823002	080725-E01	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.: 35974823

Sample: 080725-S01									
Lab ID: 35974823001									
Collected: 08/07/25 07:45 Received: 08/08/25 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)	0.19 I	ug/L	0.20	0.12	1	08/19/25 09:26	08/20/25 15:30	123-91-1	
Surrogates									
1,4-Dioxane-d8 (S)	95	%	70-130		1	08/19/25 09:26	08/20/25 15:30		

Sample: 080725-E01									
Lab ID: 35974823002									
Collected: 08/07/25 07:45 Received: 08/08/25 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)	0.17 I	ug/L	0.20	0.12	1	08/19/25 09:26	08/20/25 15:47	123-91-1	
Surrogates									
1,4-Dioxane-d8 (S)	86	%	70-130		1	08/19/25 09:26	08/20/25 15:47		

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.: 35974823

QC Batch:	1122266	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: 35974823001, 35974823002

METHOD BLANK: 6154188 Matrix: Water

Associated Lab Samples: 35974823001, 35974823002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.12 U	0.20	0.12	08/20/25 14:38	
1,4-Dioxane-d8 (S)	%	92	70-130		08/20/25 14:38	

LABORATORY CONTROL SAMPLE: 6154189

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	16.8	84	70-130	
1,4-Dioxane-d8 (S)	%			98	70-130	

LABORATORY CONTROL SAMPLE: 6154190

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.2	0.17 I	87	50-150	
1,4-Dioxane-d8 (S)	%			93	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 6154290 6154291

Parameter	Units	6154290		6154291		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
1,4-Dioxane (p-Dioxane)	ug/L	ND	19.9	17.0	16.6	86	83	70-130	3	20	
1,4-Dioxane-d8 (S)	%					96	91	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.

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.: 35974823

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.: 35974823

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35974823001	080725-S01	EPA 522	1122266	EPA 522	1122664
35974823002	080725-E01	EPA 522	1122266	EPA 522	1122664

REPORT OF LABORATORY ANALYSIS

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



WO#: 35974823

CHAIN-OF-CUSTODY / Analytical Request
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant

1



35974823

Section A Required Client Information:
Company: Brunswick County Water Systems
Address: PO Box 249
Bolivia, NC 28422
Email To: Glenn Walker
Phone: 910-371-3490
Requested Due Date: W007
Section B Required Project Information:
Report To: Glenn Walker
Copy To:
Purchase Order #:
Project Name: 1,4-Dx-522 (Weekly)
Project #:
Section C Invoice Information:
Attention: Accounts Payable
Company Name: See Section A
Address:
Pace Quote:
Pace Project Manager: Lisa Harvey
Pace Profile #: 9551-1 (SO1), -2 (EO1)
Regulatory Agency: NC
State / Location: NC

Table with columns: ITEM #, MATRIX CODE, SAMPLE ID, CHARACTER PER I.C.X., SAMPLE TYPE, COLLECTED (START/END DATE/TIME), MATRIX CODE, SAMPLE TYPE, RELINQUISHED BY / AFFILIATION, DATE, TIME, ACCEPTED BY / AFFILIATION, DATE, TIME, SAMPLE CONDITIONS, Received on Ice (Y/N), Custody Sealed Cooler (Y/N), Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: BILLY BENTON
SIGNATURE of SAMPLER: [Signature]
8/7/2025

SO1 is Raw Water (WT)
EO1 is Potable DWTR (DW)

Pace Container Order #1185897

Addresses	Ship To :	Return To:
Order By :		
Company Brunswick County Water System	Company Brunswick County Water System	Company Pace Analytical Ormond Beach
Contact - Bottles, Glenn	Contact - Bottles, Glenn	Contact
Email glenn.walker@brunswickcountync.gov	Email glenn.walker@brunswickcountync.gov	Email shelby.sharpe@pacelabs.com
Address 3954 Clearwell Dr. NE	Address 3954 Clearwell Dr. NE	Address 8 East Tower Circle
Address 2	Address 2	Address 2
City Leland	City Leland	City Ormond Beach
State NC Zip 28451	State NC Zip 28451	State FL Zip 32174
Phone 910-371-3490	Phone 910-371-3490	Phone 386-672-5668

Info			
Project Name 1,4-Dx-522	Due Date 07/28/2025	Profile 9551-1	Quote
Project Manager Baumgartner, Todd	Return Date	Carrier FedEx Standard Overnight	Location NC

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

Misc

Sampling Instructions

Custody Seal

Temp. Blanks

Coolers 1

Syringes

Extra Bubble Wrap

Short Hold/Rush Stickers

DI Water

USDA Regulated Soils

COC Options

Number of Blanks

Pre-Printed

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

Hazard Shipping Placard 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 ensure proper billing.

Sample Notes :

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

LAB USE:

Ship Date : 07/28/2025

Prepared By: AVJ

Verified By:

Tracking Num:

CLIENT USE (Optional):

Date Rec'd:

Received By:

Verified By:

WO#: 35974823

Pace

Project #
Project Manager:
Client:

PM: TAB **Due Date: 08/20/25**
CLIENT: BRUNCOWS

Date and Initials of person:

Examining contents: AWJ

Verifying pH: ↓

Initials: BP

Thermometer Used: T-427

Date: 8/8/25

Time: 1138

State of Origin: _____
 For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp. °C 5.6 (Visual) -0.1 (Correction Factor) 5.5 (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
- Samples collected sameday, on ice cooling has begun
- Samples collected sameday, on ice cooling has begun
- Samples collected sameday, on ice cooling has begun
- Samples collected sameday, on ice cooling has begun

Time: _____ Initials: _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other:

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

Tracking # 4348 2259 8101

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

Packing Material: Bubble Wrap Bubble Bags None Other:

Ice: Wet Blue Dry None Melted

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 type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Sampler Name: <input checked="" 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 checked="" 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments: _____
Rush Turnaround Requested on COC.	<input checked="" type="checkbox"/> Yes <input 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments: _____
Containers Intact.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments: _____
Sample Labels Match COC (Sample ID, Date/Time of Collection).	<input checked="" 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 Comments: _____
All containers needing preservation are found to be in compliance with EPA recommendation: <small>Exceptions: Vials, Microbiology, O&G, PFAS</small>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
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

Preservation Information

Preservative: _____ Date: _____

Lot / Trace: _____ Time: _____

Amount added (mL): _____ Initials: _____

Comments / Resolutions (use back for additional comments):

Labeled by: AWJ

Reviewed by: [Signature]