



April 04, 2025

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

RE: Project: 1,4-Dx-522 (Weekly)
Pace Project No.: 35944841

Dear Glenn Walker:

Enclosed are the analytical results for sample(s) received by the laboratory on March 25, 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,

A handwritten signature in black ink on a light blue background, reading "Todd Baumgartner".

Todd Baumgartner
todd.baumgartner@pacelabs.com
(386)672-5668
Project Manager

Enclosures

cc: Billy Benton, Brunswick County Public Utilities



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

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

Pace Project No.: 35944841

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

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.: 35944841

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35944841001	032425-S01	Drinking Water	03/24/25 13:05	03/25/25 11:05
35944841002	032425-E01	Drinking Water	03/24/25 13:05	03/25/25 11:05

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SAMPLE ANALYTE COUNT

Project: 1,4-Dx-522 (Weekly)
Pace Project No.: 35944841

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35944841001	032425-S01	EPA 522	TCF	2	PASI-O
35944841002	032425-E01	EPA 522	TCF	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.: 35944841

Sample: 032425-S01 **Lab ID: 35944841001** Collected: 03/24/25 13:05 Received: 03/25/25 11:05 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)	0.31	ug/L	0.21	0.13	1	04/02/25 08:34	04/02/25 16:03	123-91-1	
Surrogates									
1,4-Dioxane-d8 (S)	90	%	70-130		1	04/02/25 08:34	04/02/25 16:03		

Sample: 032425-E01 **Lab ID: 35944841002** Collected: 03/24/25 13:05 Received: 03/25/25 11:05 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)	0.31	ug/L	0.21	0.12	1	04/02/25 08:34	04/02/25 16:21	123-91-1	
Surrogates									
1,4-Dioxane-d8 (S)	93	%	70-130		1	04/02/25 08:34	04/02/25 16:21		

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QUALITY CONTROL DATA

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

Pace Project No.: 35944841

QC Batch: 1088493	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: 35944841001, 35944841002

METHOD BLANK: 5970960 Matrix: Water

Associated Lab Samples: 35944841001, 35944841002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.12 U	0.20	0.12	04/02/25 15:10	
1,4-Dioxane-d8 (S)	%	93	70-130		04/02/25 15:10	

LABORATORY CONTROL SAMPLE: 5970961

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	2	1.6	81	70-130	
1,4-Dioxane-d8 (S)	%			92	70-130	

LABORATORY CONTROL SAMPLE: 5970962

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.2	0.15 I	74	50-150	
1,4-Dioxane-d8 (S)	%			91	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 5970974 5970975

Parameter	Units	5970974		5970975		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	2.1	1.7	1.7	82	81	70-130	3	20	
1,4-Dioxane-d8 (S)	%					92	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.

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QUALIFIERS

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

Pace Project No.: 35944841

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1,4-Dx-522 (Weekly)
Pace Project No.: 35944841

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35944841001	032425-S01	EPA 522	1088493	EPA 522	1088679
35944841002	032425-E01	EPA 522	1088493	EPA 522	1088679

REPORT OF LABORATORY ANALYSIS

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Pace Container Order #1185891

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

Info			
Project Name <u>1,4-Dx-522</u>	Due Date <u>01/28/2025</u>	Profile <u>9551-1</u>	Quote _____
Project Manager <u>Baumgartner, Todd</u>	Return Date _____	Carrier <u>FedEx Standard Overnight</u>	Location <u>NC</u>

Trip Blanks <input type="checkbox"/> Include Trip Blanks	Bottle Labels <input type="checkbox"/> Blank <input checked="" type="checkbox"/> Pre-Printed No Sample IDs <input type="checkbox"/> Pre-Printed With Sample IDs	Bottles <input type="checkbox"/> Boxed Cases <input checked="" type="checkbox"/> Individually Wrapped <input type="checkbox"/> Grouped By Sample ID/Matrix
Return Shipping Labels <input type="checkbox"/> No Shipper <input type="checkbox"/> With Shipper	Misc <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 _____	
COC Options <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 QC	Lot #	Notes
2	WT	1,4-dioxane, method 522	1-1L Amber Glass, Sodium sulfite & Na bisulfate	2	0	111824-1EVP/061724-3DII	

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 :	<u>01/28/2025</u>
Prepared By:	<u>KWT</u>
Verified By:	_____
Tracking Num:	_____

CLIENT USE (Optional):

Date Rec'd:	_____
Received By:	_____
Verified By:	_____

Paco

WO#: 35944841
PM: TAB Due Date: 04/04/25
CLIENT: BRUNCOWS

Project #
Project Manager:
Client:

Date and Initials of person:
Examining contents: ATT
Verifying pH: 1
Initials: ZAG

Thermometer Used: T-404 Date: 3/25/25 Time: 1135

State of Origin: _____ For WV projects, all containers verified to ≤6 °C
Cooler #1 Temp. °C 2.6 (Visual) _____ (Correction Factor) 2.5 (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 on ice, cooling process has begun.
 Samples on ice, cooling process 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: _____
Billing: Recipient Sender Third Party Credit Card Unknown

Tracking # 286777290439
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: _____ Shorted Time: _____
Bottle Quantity / Type: _____

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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
	Relinquished To Pace: <input checked="" 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Comments:
Sufficient Volume.	<input checked="" type="checkbox"/> Yes <input 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
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
Comments / Resolutions (use back for additional comments):	

Client used start time on bottles.
Preservation Information
Preservative: _____ Date: _____
Lot / Trace: _____ Time: _____
Amount added (mL): _____ Initials: _____

Labeled by: ATT Reviewed by: ZAG Delivered by: _____