



October 09, 2025

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

RE: Project: 1,4-Dx-522(Weekly)
Pace Project No.: 35987567

Dear Glenn Walker:

Enclosed are the analytical results for sample(s) received by the laboratory on October 03, 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

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CERTIFICATIONS

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

Pace Project No.: 35987567

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

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SAMPLE SUMMARY

Project: 1,4-Dx-522(Weekly)
Pace Project No.: 35987567

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|-------------|------------|----------------|----------------|----------------|
| 35987567001 | 100225-S01 | Water | 10/02/25 07:35 | 10/03/25 10:40 |
| 35987567002 | 100225-E01 | Drinking Water | 10/02/25 07:35 | 10/03/25 10:40 |

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SAMPLE ANALYTE COUNT

Project: 1,4-Dx-522(Weekly)
Pace Project No.: 35987567

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|------------|---------|----------|-------------------|------------|
| 35987567001 | 100225-S01 | EPA 522 | TSW | 2 | PASI-O |
| 35987567002 | 100225-E01 | EPA 522 | TSW | 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.: 35987567

| Sample: 100225-S01 | | Lab ID: 35987567001 | | Collected: 10/02/25 07:35 | Received: 10/03/25 10:40 | 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 | 10/08/25 17:35 | 10/09/25 09:43 | 123-91-1 | |
| Surrogates | | | | | | | | | |
| 1,4-Dioxane-d8 (S) | 86 | % | 70-130 | | 1 | 10/08/25 17:35 | 10/09/25 09:43 | | |

| Sample: 100225-E01 | | Lab ID: 35987567002 | | Collected: 10/02/25 07:35 | Received: 10/03/25 10:40 | 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 | 10/08/25 17:35 | 10/09/25 10:01 | 123-91-1 | |
| Surrogates | | | | | | | | | |
| 1,4-Dioxane-d8 (S) | 80 | % | 70-130 | | 1 | 10/08/25 17:35 | 10/09/25 10:01 | | |

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QUALITY CONTROL DATA

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

Pace Project No.: 35987567

| | | | |
|------------------|---------|-----------------------|---|
| QC Batch: | 1135250 | 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: 35987567001, 35987567002

METHOD BLANK: 6222266 Matrix: Water

Associated Lab Samples: 35987567001, 35987567002

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-------------------------|-------|--------------|-----------------|------|----------------|------------|
| 1,4-Dioxane (p-Dioxane) | ug/L | 0.12 U | 0.20 | 0.12 | 10/09/25 07:59 | |
| 1,4-Dioxane-d8 (S) | % | 90 | 70-130 | | 10/09/25 07:59 | |

LABORATORY CONTROL SAMPLE: 6222267

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,4-Dioxane (p-Dioxane) | ug/L | 20 | 17.7 | 89 | 70-130 | |
| 1,4-Dioxane-d8 (S) | % | | | 90 | 70-130 | |

LABORATORY CONTROL SAMPLE: 6222268

| 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) | % | | | 86 | 70-130 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 6222973 6222974

| Parameter | Units | 6222973 | | 6222974 | | 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 | 0.45 | 20.1 | 20 | 18.6 | 90 | 86 | 70-130 | 5 | 20 | |
| 1,4-Dioxane-d8 (S) | % | | | | | 87 | 84 | 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.: 35987567

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.: 35987567

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|------------|-----------------|----------|-------------------|------------------|
| 35987567001 | 100225-S01 | EPA 522 | 1135250 | EPA 522 | 1135385 |
| 35987567002 | 100225-E01 | EPA 522 | 1135250 | EPA 522 | 1135385 |

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WO#: 35987567



35987567

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 Systems
 Report To: Glenn Walker
 Address: PO Box 249
 Bolivia, NC 28422
 Email To: Glenn Walker
 Phone: 910-371-3490 Fax:
 Requested Due Date: W007

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)

Page: 1 Of 1

Regulatory Agency: NC
 State / Location: NC

| ITEM # | MATRIX CODE (A-Z, 0-9 / , -) One Character per box. Sample ids must be unique | COLLECTED | SAMPLE TYPE (G=GRAB C=COMP) (see valid codes to left) | DATE | TIME | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | Requested Analysis Filtered (Y/N) | Residual Chlorine (Y/N) | Received on | Temp in C | Sealed | Cooler | Custody | Samples | Intact | |
|--------|--|-----------|--|----------|------|----------|------|---------------------------|----------|------|-------------------|-----------------------------------|-------------------------|-------------|-----------|--------|--------|---------|---------|--------|-------|
| | | | | | | | | | | | | | | | | | | | | | START |
| 1 | 100225-S01 | | WT G | 10/02/25 | 0730 | 10/02/25 | 0735 | 1 | 10/31/25 | 1040 | 3:3 | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 2 | 100225-E01 | | DW G | 10/02/25 | 0730 | 10/02/25 | 0735 | 1 | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | |

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Philip Mcculloch
 SIGNATURE of SAMPLER: *Philip Mcculloch*
 DATE Signed: 10/02/2025

S01 is Raw Water (WT)
 E01 is Potable DWTR (DW)

Pace Container Order #1185899

| Addresses | Ship To : | Return To: |
|---|---|---|
| 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 _____ |
| Email <u>glenn.walker@brunswickcountync.gov</u> | Email <u>glenn.walker@brunswickcountync.gov</u> | Email <u>shelby.sharpe@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</u> | Due Date <u>09/29/2025</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 checked="" 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 | 012725-3DII / 070725-1EVP | |

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.

LAB USE:

Ship Date : 09/26/2025

Prepared By: bls.

Verified By: _____

Tracking Num: _____

Sample Notes :

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

CLIENT USE (Optional):

Date Rec'd: _____

Received By: _____

Verified By: _____

WO#: 35987567

Project #
Project Manager:
Client:

PM: TAB Due Date: 10/15/25
CLIENT: BRUNCOWS

Pace
Date and Initials of person:
Examining contents:
Verifying pH:
Initials: SBY

Thermometer Used: T-425 Date: 10/3/25 Time: 1158

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

Cooler #1 Temp. °C 3.1 (Visual) +0.2 (Correction Factor) 3.3 (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)

- 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

Recheck for OOT °C (Visual) (Correction Factor) (Actual)

Courier: Fed Ex UPS USPS Client Commercial Pace Other:

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

Tracking # 4736 119 2611

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:

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 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments: |
| Rush Turnaround Requested on COC. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" 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 type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Comments: |
| All containers needing acid / base preservation have been checked. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |
| All containers needing preservation are found to be in compliance with EPA recommendation: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" 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 type="checkbox"/> N/A |

Preservation Information
Preservative: _____ Date: _____
Lot / Trace: _____ Time: _____
Amount added (mL): _____ Initials: _____

Comments / Resolutions (use back for additional comments):

Labeled by: *JM*

Reviewed by: *LL*