

November 22, 2021

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

RE: Project: 1,4-Dx-522 (Weekly)
Pace Project No.: 35677213

Dear Glenn Walker:

Enclosed are the analytical results for sample(s) received by the laboratory on November 04, 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,
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CERTIFICATIONS

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

Pace Project No.: 35677213

Pace Analytical Services Ormond Beach

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST

Alabama Certification #: 41320

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

Maine Certification #: FL01264

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.: 35677213

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35677213001	11 04 21-SO1	Water	11/04/21 08:00	11/04/21 13:00
35677213002	11 04 21-EO1	Drinking Water	11/04/21 08:00	11/04/21 13:00

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SAMPLE ANALYTE COUNT

Project: 1,4-Dx-522 (Weekly)
Pace Project No.: 35677213

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35677213001	11 04 21-SO1	EPA 522	PFG	2	PASI-O
35677213002	11 04 21-EO1	EPA 522	PFG	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.: 35677213

Sample: 11 04 21-SO1		Lab ID: 35677213001		Collected: 11/04/21 08:00	Received: 11/04/21 13:00	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)	2.7	ug/L	0.20	0.12	1	11/18/21 18:31	11/19/21 12:16	123-91-1	
Surrogates									
1,4-Dioxane-d8 (S)	95	%	70-130		1	11/18/21 18:31	11/19/21 12:16		

Sample: 11 04 21-EO1		Lab ID: 35677213002		Collected: 11/04/21 08:00	Received: 11/04/21 13:00	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)	2.2	ug/L	0.20	0.12	1	11/18/21 18:31	11/19/21 12:32	123-91-1	
Surrogates									
1,4-Dioxane-d8 (S)	84	%	70-130		1	11/18/21 18:31	11/19/21 12:32		

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QUALITY CONTROL DATA

Project: 1,4-Dx-522 (Weekly)
Pace Project No.: 35677213

QC Batch: 779075	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: 35677213001, 35677213002

METHOD BLANK: 4270529 Matrix: Water

Associated Lab Samples: 35677213001, 35677213002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.12 U	0.20	0.12	11/19/21 11:27	
1,4-Dioxane-d8 (S)	%	84	70-130		11/19/21 11:27	

LABORATORY CONTROL SAMPLE: 4270530

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	2	1.9	97	70-130	
1,4-Dioxane-d8 (S)	%			97	70-130	

LABORATORY CONTROL SAMPLE: 4270531

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)	%			79	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4270532 4270533

Parameter	Units	60385197004		MS		MSD		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result						
1,4-Dioxane (p-Dioxane)	ug/L	105	2	2	2	6.7	111	-4900	326	70-130	177	20	J(M1), J(R1), L
1,4-Dioxane-d8 (S)	%							5	81	70-130			J(S0)

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.: 35677213

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.

J(M1) Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

J(R1) Estimated Value. RPD value was outside control limits.

J(S0) Estimated Value. Surrogate recovery outside laboratory control limits.

L Off-scale high. Actual value is known to be greater than value given.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

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

Pace Project No.: 35677213

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35677213001	11 04 21-SO1	EPA 522	779075	EPA 522	779270
35677213002	11 04 21-EO1	EPA 522	779075	EPA 522	779270

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Sample Condition Upon Receipt Form (SCUR)

Project #
Project Manager:
Client:

WO#: 35677213
PM: WBW
CLIENT: BRUNCOWS
Due Date: 11/16/21

Date and Initials of person:
Examining contents: NMT 11/13/21
Label:
Deliver:
pH:

Thermometer Used: T-389 Date: 11-5-21 Time: 1057 Initials: KMF

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

- Cooler #1 Temp.°C 2.5 (Visual) +0.0 (Correction Factor) 2.5 (Actual)
Cooler #2 Temp.°C
Cooler #3 Temp.°C
Cooler #4 Temp.°C
Cooler #5 Temp.°C
Cooler #6 Temp.°C
Recheck for OOT °C

Courier: Fed Ex UPS USPS Client Commercial Pace Other
Shipping Method: First Overnight Priority Overnight Standard Overnight Ground International Priority Other

Billing: Recipient Sender Third Party Credit Card Unknown

Tracking # 2857 2850 4977

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No Ice: Wet Blue Melted None

Packing Material: Bubble Wrap Bubble Bags None Other

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

Table with 2 columns: Checklist items (Chain of Custody, Volume, Containers, etc.) and Comments. Includes handwritten notes like 'Collection time on bottles 0845'.

Comments/ Resolution (use back for additional comments):