

December 10, 2021

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

RE: Project: 1,4-DX-522(Weekly)
Pace Project No.: 35681583

Dear Glenn Walker:

Enclosed are the analytical results for sample(s) received by the laboratory on December 03, 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.: 35681583

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.: 35681583

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35681583001	120221-SO1	Water	12/02/21 08:30	12/03/21 10:55
35681583002	120221-EO1	Drinking Water	12/02/21 08:30	12/03/21 10:55

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SAMPLE ANALYTE COUNT

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

Pace Project No.: 35681583

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35681583001	120221-SO1	EPA 522	PFG	2	PASI-O
35681583002	120221-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.: 35681583

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: 120221-SO1 Lab ID: 35681583001 Collected: 12/02/21 08:30 Received: 12/03/21 10:55 Matrix: Water									
522 MSS 1,4 Dioxane Analytical Method: EPA 522 Preparation Method: EPA 522 Pace Analytical Services - Ormond Beach									
1,4-Dioxane (p-Dioxane)	5.2	ug/L	0.20	0.12	1	12/08/21 18:15	12/09/21 13:41	123-91-1	
Surrogates									
1,4-Dioxane-d8 (S)	93	%	70-130		1	12/08/21 18:15	12/09/21 13:41		

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: 120221-EO1 Lab ID: 35681583002 Collected: 12/02/21 08:30 Received: 12/03/21 10:55 Matrix: Drinking Water									
522 MSS 1,4 Dioxane Analytical Method: EPA 522 Preparation Method: EPA 522 Pace Analytical Services - Ormond Beach									
1,4-Dioxane (p-Dioxane)	4.1	ug/L	0.20	0.12	1	12/08/21 18:15	12/09/21 13:57	123-91-1	
Surrogates									
1,4-Dioxane-d8 (S)	93	%	70-130		1	12/08/21 18:15	12/09/21 13:57		

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QUALITY CONTROL DATA

Project: 1,4-DX-522(Weekly)
Pace Project No.: 35681583

QC Batch: 783926	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: 35681583001, 35681583002

METHOD BLANK: 4298664 Matrix: Water

Associated Lab Samples: 35681583001, 35681583002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.12 U	0.20	0.12	12/09/21 11:49	
1,4-Dioxane-d8 (S)	%	101	70-130		12/09/21 11:49	

LABORATORY CONTROL SAMPLE: 4298665

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	18.2	91	70-130	
1,4-Dioxane-d8 (S)	%			91	70-130	

LABORATORY CONTROL SAMPLE: 4298666

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.2	0.19 I	96	50-150	
1,4-Dioxane-d8 (S)	%			86	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4298667 4298668

Parameter	Units	35681595001		4298667		4298668		% Rec Limits	RPD	Max RPD	Qual		
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					MS % Rec	MSD % Rec
1,4-Dioxane (p-Dioxane)	ug/L	0.12 U		19.9	20.2	12.0	18.6	60	92	70-130	43	20	J(M1), J(R1)
1,4-Dioxane-d8 (S)	%							62	92	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.: 35681583

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

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

Pace Project No.: 35681583

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35681583001	120221-SO1	EPA 522	783926	EPA 522	784100
35681583002	120221-EO1	EPA 522	783926	EPA 522	784100

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Sample Condition Upon Receipt Form (SCUR)

Project #
Project Manager:
Client:

WO#: 35681583

PM: WBW Due Date: 12/15/21
CLIENT: BRUNCOWS

Date and Initials of person:

Examining contents: NLC
Label:
Deliver:
pH:

Thermometer Used: T-389 Date: 12/3/21 Time: 1108 Initials: BLP

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

- Cooler #1 Temp. °C 1.2 (Visual) +0.1 (Correction Factor) 1.3 (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: [X] 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 # 2869 6346 4907

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

Packing Material: [X] Bubble Wrap [] Bubble Bags [] None [] Other

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

Comments:

Table with 3 columns: Item, Yes/No/N/A checkboxes, and Comments. Rows include Chain of Custody, Relinquished Signature, Sufficient Volume, Preservation Information, etc.

Comments/ Resolution (use back for additional comments):