

Biological Analysis Report

NW-DIST-2023-05-17-03

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Overflow Analyses Performed By:
University of West Florida
11000 University Parkway
Pensacola, FL 32514
DOH Accreditation E71969

Event Description: **Project GreenShores Quarterly Sampling**
Request ID: **RQ-2023-05-15-01**
Customer: **NW-DIST**
Project ID: **DISTRICT**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Myranda Butler

For additional information please contact
Cheryl Swanson - Administrator
Sarah Menz, Ph.D. - Bench Biology & Aquatic
Toxicity
Puja Jasrotia, Ph.D. - Molecular Biology & Taxonomy
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8177

Certified by: Cheryl A. Swanson, Program Administrator

Date Certified: 14-JUN-2023 12:24



NON-CONFORMANCE REPORT INCLUDED

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Chlorophyll/Grain Size/BOD and Overflow.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Range Marker East of Bayou Texar

Collection Date/Time: 05/15/2023 10:12

Field ID: 1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410255	SM 10150 B	Chlorophyll-a, Corrected	4.7	Y	ug/L	P430937	
		Phaeophytin-a	0.98	UY	ug/L	P430937	
		Chlorophyll-a, Uncorrected	4.8	Y	ug/L	P430937	
2410269	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data. See Non-Conformance Report 9876.

Sample Location: Midpoint between bay bridge and Muscogee Wharf

Collection Date/Time: 05/15/2023 10:26

Field ID: 2

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410256	SM 10150 B	Chlorophyll-a, Corrected	3.4	Y	ug/L	P430937	
		Phaeophytin-a	0.90	UY	ug/L	P430937	
		Chlorophyll-a, Uncorrected	3.2	Y	ug/L	P430937	
2410270	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data. See Non-Conformance Report 9876.

Sample Location: East end of Primary Stormdrain

Collection Date/Time: 05/15/2023 10:35

Field ID: 3

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410257	SM 10150 B	Chlorophyll-a, Corrected	3.3	IY	ug/L	P430937	
		Phaeophytin-a	1.5	UY	ug/L	P430937	
		Chlorophyll-a, Uncorrected	2.8	IY	ug/L	P430937	
2410271	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10150 B: Lab dup result is 3.0 IY for Chl-a Corrected, 2.4 IY for Chl-a Uncorrected, and 1.5 UY for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample. See Non-Conformance Report 9876.

Sample Location: South of Primary Stormdrain

Collection Date/Time: 05/15/2023 10:42

Field ID: 4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410258	SM 10150 B	Chlorophyll-a, Corrected	3.4	Y	ug/L	P430937	
		Phaeophytin-a	0.90	UY	ug/L	P430937	
		Chlorophyll-a, Uncorrected	3.1	Y	ug/L	P430937	
2410272	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data. See Non-Conformance Report 9876.

Sample Location: End of Chase Street

Collection Date/Time: 05/15/2023 10:56

Field ID: 5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: 5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410259	SM 10150 B	Chlorophyll-a, Corrected	3.1	Y	ug/L	P430937	
		Phaeophytin-a	0.90	UY	ug/L	P430937	
		Chlorophyll-a, Uncorrected	2.9	Y	ug/L	P430937	
2410273	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data. See Non-Conformance Report 9876.

Sample Location: Midpoint between Muscogee and Hawkshaw

Collection Date/Time: 05/15/2023 11:03

Field ID: 6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410260	SM 10150 B	Chlorophyll-a, Corrected	3.3	Y	ug/L	P430937	
		Phaeophytin-a	0.90	UY	ug/L	P430937	
		Chlorophyll-a, Uncorrected	3.3	Y	ug/L	P430937	
2410274	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data. See Non-Conformance Report 9876.

Sample Location: Midpoint between bridge and Port Spoil pond

Collection Date/Time: 05/15/2023 11:10

Field ID: 7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410261	SM 10150 B	Chlorophyll-a, Corrected	2.8	Y	ug/L	P430937	
		Phaeophytin-a	0.90	UY	ug/L	P430937	
		Chlorophyll-a, Uncorrected	2.6	Y	ug/L	P430937	
2410275	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data. See Non-Conformance Report 9876.

Sample Location: West of Primary Stormdrain

Collection Date/Time: 05/15/2023 10:47

Field ID: 8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410262	SM 10150 B	Chlorophyll-a, Corrected	2.0	IY	ug/L	P430937	
		Phaeophytin-a	0.90	UY	ug/L	P430937	
		Chlorophyll-a, Uncorrected	1.7	IY	ug/L	P430937	
2410276	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data. See Non-Conformance Report 9876.

Sample Location: West of Hawkshaw Lagoon

Collection Date/Time: 05/15/2023 11:36

Field ID: 9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410263	SM 10150 B	Chlorophyll-a, Corrected	2.4	IY	ug/L	P430937	
		Phaeophytin-a	0.90	UY	ug/L	P430937	

Field ID: 9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410263	SM 10150 B	Chlorophyll-a, Uncorrected	2.2	Y	ug/L	P430937	
2410277	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data. See Non-Conformance Report 9876.

Sample Location: South of Bayfront Stormdrain

Collection Date/Time: 05/15/2023 11:30

Field ID: 10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410264	SM 10150 B	Chlorophyll-a, Corrected	3.1	Y	ug/L	P430937	
		Phaeophytin-a	0.90	UY	ug/L	P430937	
		Chlorophyll-a, Uncorrected	2.8	Y	ug/L	P430937	
2410278	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data. See Non-Conformance Report 9876.

Sample Location: Seville Marina Inlet

Collection Date/Time: 05/15/2023 11:22

Field ID: 11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410265	SM 10150 B	Chlorophyll-a, Corrected	2.8	IY	ug/L	P430937	
		Phaeophytin-a	1.0	UY	ug/L	P430937	
		Chlorophyll-a, Uncorrected	2.5	Y	ug/L	P430937	
2410279	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data. See Non-Conformance Report 9876.

Sample Location: East of Port Spoil pond

Collection Date/Time: 05/15/2023 11:16

Field ID: 12

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410266	SM 10150 B	Chlorophyll-a, Corrected	3.5	Y	ug/L	P430944	
		Phaeophytin-a	0.90	UY	ug/L	P430944	
		Chlorophyll-a, Uncorrected	3.5	Y	ug/L	P430944	
2410280	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data. See Non-Conformance Report 9876.

Sample Location: Hawkshaw Lagoon at Memorial bridge

Collection Date/Time: 05/15/2023 11:46

Field ID: 13

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2410267	SM 10150 B	Chlorophyll-a, Corrected	3.9	Y	ug/L	P430944	
		Phaeophytin-a	0.90	UY	ug/L	P430944	
		Chlorophyll-a, Uncorrected	4.1	Y	ug/L	P430944	
2410281	Enterolert/QT	Enterococci-Quanti-Tray	10		MPN/100 mL		

Field ID: 13

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:

SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data. See Non-Conformance Report 9876.

Sample Location: 150 ft South of Hawkshaw Lagoon East Stormdrain

Collection Date/Time: 05/15/2023 11:58

Field ID: 14

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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2410268	SM 10150 B	Chlorophyll-a, Corrected	3.9	Y	ug/L	P430944	
		Phaeophytin-a	0.90	UY	ug/L	P430944	
		Chlorophyll-a, Uncorrected	4.0	Y	ug/L	P430944	
2410282	Enterolert/QT	Enterococci-Quanti-Tray	10		MPN/100 mL		

Ref. Method and Comment:

SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data. See Non-Conformance Report 9876.

Non-Conformance Report

NCR ID: 9876

Event(s)

Job(s)

Sample(s)

Test(s)

NW-DIST-2023-05-17-03

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: Samples arrived late, samples received outside the acceptable temperature range.

Resolution: Samples will be qualified as appropriate.
 Customer contacted by phone
 Biology and Chemistry were notified by email.

Authorized by/Date: Kyle Klug 5/24/2023

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
 Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: SM 10150 B

Batch ID: P430937

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.82	U	ug/L
Chlorophyll-a, Uncorrected	0.60	U	ug/L
Phaeophytin-a	0.90	U	ug/L

Reference Method: SM 10150 B

Batch ID: P430944

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.82	U	ug/L
Chlorophyll-a, Uncorrected	0.60	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: SM 10150 B
 Batch ID: P430944

Component	Result	Code	Units
Phaeophytin-a	0.90	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10150 B
 Batch ID: P430937

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	93.7		P	84 - 116

Reference Method: SM 10150 B
 Batch ID: P430944

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	89.8		P	84 - 116

Quality Assurance Report Precision

Reference Method: SM 10150 B
 Batch ID: P430944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410181	Chlorophyll-a, Corrected	2.76	Sample	P	0 - 25
2410181	Chlorophyll-a, Uncorrected	2.49	Sample	P	0 - 25

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
SM 10150 B	Chlorophyll-a, Corrected	93.7				
	Chlorophyll-a, Corrected	89.8			2.76	
	Chlorophyll-a, Uncorrected				2.49	

Reference Method Descriptions

Method	Description	Associated Samples
Enterolert/QT	Enterococci by Enterolert/QT by UWF in Pensacola	2410269, 2410270, 2410271, 2410272, 2410273, 2410274, 2410275, 2410276, 2410277, 2410278, 2410279, 2410280, 2410281, 2410282

Reference Method Descriptions

Method	Description	Associated Samples
SM 10150 B	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2410255, 2410256, 2410257, 2410258, 2410259, 2410260, 2410261, 2410262, 2410263, 2410264, 2410265, 2410266, 2410267, 2410268

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
Enterolert/QT	05/15/2023	05/15/2023 16:15		05/16/2023 16:40	UWF Lab	2410269, 2410270, 2410271, 2410272, 2410273, 2410274, 2410275, 2410276, 2410277, 2410278, 2410279, 2410280, 2410281, 2410282
SM 10150 B	05/17/2023	05/17/2023 10:05	Tynan A Branch	05/25/2023 14:08	Tynan A Branch	2410255, 2410256, 2410257, 2410258, 2410259, 2410260, 2410261, 2410262, 2410263, 2410264, 2410265
	05/17/2023	05/17/2023 10:05	Tynan A Branch	05/25/2023 15:33	Tynan A Branch	2410266, 2410267, 2410268