

Biological Analysis Report

NW-DIST-2021-06-16-03

Florida Department of Environmental Protection
Central 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**
Request ID: **RQ-2021-06-14-07**
Customer: **NW-DIST**
Project ID: **DISTRICT**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
Pensacola, FL 32502-5794
Attn: Michael King

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

Certified by: Puja Jasrotia, Environmental Administrator

Date Certified: 14-JUL-2021 09:12



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: 06/14/2021 11:12

Field ID: 1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255191	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.5		ug/L	P400575	
		Phaeophytin-a	0.90	U	ug/L	P400575	
		Chlorophyll-a, Uncorrected	4.6		ug/L	P400575	
2255211	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:
 SM 10200 H (mod.): 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.

Sample Location: Midpoint between Bay Bridge and Muscogee Wharf

Collection Date/Time: 06/14/2021 11:30

Field ID: 2

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255192	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.3		ug/L	P400575	
		Phaeophytin-a	1.5	U	ug/L	P400575	
		Chlorophyll-a, Uncorrected	4.4		ug/L	P400575	
2255212	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:
 SM 10200 H (mod.): 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.

Sample Location: East End of Primary Stormdrain

Collection Date/Time: 06/14/2021 11:40

Field ID: 3

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255193	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.4	I	ug/L	P400575	
		Phaeophytin-a	1.8	U	ug/L	P400575	
		Chlorophyll-a, Uncorrected	4.7		ug/L	P400575	
2255213	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:
 SM 10200 H (mod.): 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.

Sample Location: South of Primary Stormdrain

Collection Date/Time: 06/14/2021 11:50

Field ID: 4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255194	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.7		ug/L	P400575	
		Phaeophytin-a	1.3	U	ug/L	P400575	
		Chlorophyll-a, Uncorrected	4.6		ug/L	P400575	
2255214	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:
 SM 10200 H (mod.): 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.

Sample Location: End of Chase Street

Collection Date/Time: 06/14/2021 12:06

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
2255195	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.5		ug/L	P400575	
		Phaeophytin-a	0.90	U	ug/L	P400575	
		Chlorophyll-a, Uncorrected	4.5		ug/L	P400575	
2255215	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10200 H (mod.): 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.

Sample Location: Midpoint between Muscogee and Hawkshaw

Collection Date/Time: 06/14/2021 12:15

Field ID: 6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255196	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.6		ug/L	P400575	
		Phaeophytin-a	0.90	U	ug/L	P400575	
		Chlorophyll-a, Uncorrected	4.7		ug/L	P400575	
2255216	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10200 H (mod.): 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.

Sample Location: Midpoint between bridge and port Spoil Pond

Collection Date/Time: 06/14/2021 12:20

Field ID: 7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255197	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.2	Y	ug/L	P400575	
		Phaeophytin-a	0.90	UY	ug/L	P400575	
		Chlorophyll-a, Uncorrected	4.3	Y	ug/L	P400575	
2255217	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10200 H (mod.): See Non-Conformance Report #8893. 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.

Sample Location: West of Primary Stormdrain

Collection Date/Time: 06/14/2021 11:58

Field ID: 8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255198	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.8	Y	ug/L	P400575	
		Phaeophytin-a	0.90	UY	ug/L	P400575	
		Chlorophyll-a, Uncorrected	3.8	Y	ug/L	P400575	
2255218	Enterolert/QT	Enterococci-Quanti-Tray	20		MPN/100 mL		

Ref. Method and Comment:

SM 10200 H (mod.): See Non-Conformance Report #8893. 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.

Sample Location: West of Hawkshaw Lagoon

Collection Date/Time: 06/14/2021 12:45

Field ID: 9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255199	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.0	Y	ug/L	P400575	
		Phaeophytin-a	0.90	UY	ug/L	P400575	

Field ID: 9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255199	SM 10200 H (mod.)	Chlorophyll-a, Uncorrected	4.1	Y	ug/L	P400575	
2255219	Enterolert/QT	Enterococci-Quanti-Tray	20		MPN/100 mL		

Ref. Method and Comment:

SM 10200 H (mod.): See Non-Conformance Report #8893. 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.

Sample Location: South of Bayfront Stormdrain

Collection Date/Time: 06/14/2021 12:40

Field ID: 10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255200	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.0	Y	ug/L	P400575	
		Phaeophytin-a	0.90	UY	ug/L	P400575	
		Chlorophyll-a, Uncorrected	4.1	Y	ug/L	P400575	
2255220	Enterolert/QT	Enterococci-Quanti-Tray	10		MPN/100 mL		

Ref. Method and Comment:

SM 10200 H (mod.): See Non-Conformance Report #8893. 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.

Sample Location: Seville Marine Inlet

Collection Date/Time: 06/14/2021 12:32

Field ID: 11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255201	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.9	Y	ug/L	P400575	
		Phaeophytin-a	0.90	UY	ug/L	P400575	
		Chlorophyll-a, Uncorrected	3.8	Y	ug/L	P400575	
2255221	Enterolert/QT	Enterococci-Quanti-Tray	110		MPN/100 mL		

Ref. Method and Comment:

SM 10200 H (mod.): See Non-Conformance Report #8893. 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.

Sample Location: East of Port Spoil Pond

Collection Date/Time: 06/14/2021 12:25

Field ID: 12

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255202	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.2	Y	ug/L	P400462	
		Phaeophytin-a	0.90	UY	ug/L	P400462	
		Chlorophyll-a, Uncorrected	4.3	Y	ug/L	P400462	
2255222	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10200 H (mod.): 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 #8893

Sample Location: Hawkshaw Lagoon at Memorial Bridge

Collection Date/Time: 06/14/2021 12:58

Field ID: 13

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255203	SM 10200 H (mod.)	Chlorophyll-a, Corrected	5.9	Y	ug/L	P400462	
		Phaeophytin-a	1.5	UY	ug/L	P400462	
		Chlorophyll-a, Uncorrected	6.7	Y	ug/L	P400462	
2255223	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 10200 H (mod.): 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 #8893

Sample Location: 150ft South of Hawkshaw Lagoon East Stormdrain

Collection Date/Time: 06/14/2021 13:08

Field ID: 14

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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2255204	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.7	IY	ug/L	P400575	
		Phaeophytin-a	1.8	UY	ug/L	P400575	
		Chlorophyll-a, Uncorrected	4.3	AY	ug/L	P400575	
2255224	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		

Ref. Method and Comment:

SM 10200 H (mod.): See Non-Conformance Report #8893. Laboratory duplicate result is 4.4 IY for Chlorophyll-a Corrected and 1.8 UY for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample.

Non-Conformance Report

NCR ID: 8893

<u>Event(s)</u>	<u>Job(s)</u>	<u>Sample(s)</u>	<u>Test(s)</u>
NW-DIST-2021-06-16-03	TLH-2021-06-16-39	2255197	
NW-DIST-2021-06-16-03	TLH-2021-06-16-39	2255198	
NW-DIST-2021-06-16-03	TLH-2021-06-16-39	2255199	
NW-DIST-2021-06-16-03	TLH-2021-06-16-39	2255200	
NW-DIST-2021-06-16-03	TLH-2021-06-16-39	2255201	
NW-DIST-2021-06-16-03	TLH-2021-06-16-39	2255202	
NW-DIST-2021-06-16-03	TLH-2021-06-16-39	2255203	
NW-DIST-2021-06-16-03	TLH-2021-06-16-39	2255204	

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, they elected to cancel affected samples. Email correspondence attached to sample submittal forms.

Biology and Chemistry supervisors were notified by email.

Chlorophyll samples were analyzed prior to notification of cancellation. Customer contacted on 7/2/2021 and elected to have qualified chlorophyll results reported. Email correspondence attached to sample submittal forms. Resolved by POWER_D on 7/2/2021

Authorized by/Date: Diane D. Power 7/13/2021

NCR ID: 8894

<u>Event(s)</u>	<u>Job(s)</u>	<u>Sample(s)</u>	<u>Test(s)</u>
NW-DIST-2021-06-16-03	TLH-2021-06-16-39	2255191	
NW-DIST-2021-06-16-03	TLH-2021-06-16-39	2255192	
NW-DIST-2021-06-16-03	TLH-2021-06-16-39	2255193	
NW-DIST-2021-06-16-03	TLH-2021-06-16-39	2255194	
NW-DIST-2021-06-16-03	TLH-2021-06-16-39	2255195	
NW-DIST-2021-06-16-03	TLH-2021-06-16-39	2255196	

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

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

Non-Conformance Report

NCR ID: 8894

<u>Event(s)</u>	<u>Job(s)</u>	<u>Sample(s)</u>	<u>Test(s)</u>
Resolution:	Samples will be qualified as appropriate. Customer contacted, email correspondence attached to sample submittal forms. Biology and Chemistry supervisors were notified by email.		

Authorized by/Date: Joshua Ayres 6/28/2021

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 10200 H (mod.)

Batch ID: P400462

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 10200 H (mod.)

Batch ID: P400575

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)

Batch ID: P400462

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	86.3		P	84 - 116

Reference Method: SM 10200 H (mod.)

Batch ID: P400575

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	108		P	84 - 116

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
 Batch ID: P400575

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255204	Chlorophyll-a, Uncorrected	3.92	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 10200 H (mod.)	Chlorophyll-a, Corrected	86.3				
	Chlorophyll-a, Corrected	108				
	Chlorophyll-a, Uncorrected				3.92	

Reference Method Descriptions

Method	Description	Associated Samples
Enterolert/QT	Enterococci by Enterolert/QT by UWF in Pensacola	2255211, 2255212, 2255213, 2255214, 2255215, 2255216, 2255217, 2255218, 2255219, 2255220, 2255221, 2255222, 2255223, 2255224
SM 10200 H (mod.)	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2255191, 2255192, 2255193, 2255194, 2255195, 2255196, 2255197, 2255198, 2255199, 2255200, 2255201, 2255202, 2255203, 2255204

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
Enterolert/QT	06/14/2021	06/14/2021 16:25		06/15/2021 16:50	UWF Lab	2255211, 2255212, 2255213, 2255214, 2255215, 2255216, 2255217, 2255218, 2255219, 2255220, 2255221, 2255222, 2255223, 2255224
SM 10200 H (mod.)	06/16/2021	06/16/2021 09:46	Carina A. Tull	06/28/2021 16:44	Carina A. Tull	2255202, 2255203
	06/16/2021	06/16/2021 10:32	Carina A. Tull	06/28/2021 16:05	Carina A. Tull	2255191, 2255192, 2255193, 2255194, 2255195, 2255196, 2255197, 2255198, 2255199, 2255200, 2255201, 2255204