

Biological Analysis Report

WAS-SECT-2018-06-20-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Dickson Bay, St. Marks River, East River**

Request ID: **RQ-2018-06-18-25**

Customer: **WAS-SECT**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
Attn: Curtis Musson

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

Certified by: Cheryl A. Swanson, Program Administrator

Date Certified: 19-JUL-2018 08:57



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 Microbiology.

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 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: DICKSON BAY NORTH

Collection Date/Time: 06/20/2018 09:00

Field ID: G1WA0062

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2002316	SM 10200 H (mod.)	Chlorophyll-a, Corrected	8.4	J	ug/L	P347673	
		Phaeophytin-a	1.3	IJ	ug/L	P347673	
		Chlorophyll-a, Uncorrected	9.5	J	ug/L	P347673	
2002320	Enterolert/QT	Enterococci-Quanti-Tray	10.0	U	MPN/100 mL	P347392	
2002324	SM 9222 D	Fecal Coliforms-Membrane Filter	2	U	cfu/100 mL	P347431	RPD

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 # 7111.

Enterolert/QT: Laboratory duplicate result is 10.0 U. Precision data is unavailable due to the small amount of analyte in the QC sample.

SM 9222 D: Laboratory duplication precision for batch is within acceptable limits.

Sample Location: DICKSON BAY SOUTH

Collection Date/Time: 06/20/2018 09:30

Field ID: G1WA0063

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2002317	SM 10200 H (mod.)	Chlorophyll-a, Corrected	11		ug/L	P347673	
		Phaeophytin-a	2.2		ug/L	P347673	
		Chlorophyll-a, Uncorrected	13		ug/L	P347673	
2002321	Enterolert/QT	Enterococci-Quanti-Tray	10.0	U	MPN/100 mL	P347392	
2002325	SM 9222 D	Fecal Coliforms-Membrane Filter	2	U	cfu/100 mL	P347431	RPD

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.

Enterolert/QT: Precision data is unavailable due to the small amount of analyte in the QC sample.

SM 9222 D: Laboratory duplication precision for batch is within acceptable limits.

Sample Location: EAST RIVER DOWNSTREAM OF BOGGY BAYOU

Collection Date/Time: 06/20/2018 12:00

Field ID: G1WA0056

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2002318	SM 10200 H (mod.)	Chlorophyll-a, Corrected	11		ug/L	P347673	
		Phaeophytin-a	1.9		ug/L	P347673	
		Chlorophyll-a, Uncorrected	12		ug/L	P347673	
2002322	Enterolert/QT	Enterococci-Quanti-Tray	10.0	I	MPN/100 mL	P347392	
2002326	SM 9222 D	Fecal Coliforms-Membrane Filter	2	B	cfu/100 mL	P347431	RPD

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.

Enterolert/QT: Precision data is unavailable due to the small amount of analyte in the QC sample.

SM 9222 D: Laboratory duplication precision for batch is within acceptable limits.

Sample Location: ST.MARK RIVER AT CHANNEL MARK 60

Collection Date/Time: 06/20/2018 11:15

Field ID: G1WA0055

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2002319	SM 10200 H (mod.)	Chlorophyll-a, Corrected	12		ug/L	P347673	
		Phaeophytin-a	0.40	U	ug/L	P347673	
		Chlorophyll-a, Uncorrected	12		ug/L	P347673	
2002323	Enterolert/QT	Enterococci-Quanti-Tray	34.5		MPN/100 mL	P347392	

Field ID: G1WA0055

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2002327	SM 9222 D	Fecal Coliforms-Membrane Filter	58		cfu/100 mL	P347431	RPD

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.

Enterolert/QT: Precision data is unavailable due to the small amount of analyte in the QC sample.

SM 9222 D: Laboratory duplication precision for batch is within acceptable limits.

Non-Conformance Report

NCR ID: 7111

Event(s)

WAS-SECT-2018-06-20-01

Job(s)

TLH-2018-06-20-75

Sample(s)

2002316

Test(s)

NCR Type: ANALYSIS

NCR Category: Analytical Measurement

Observation: The extraction tube broke during analysis, and some of the sample could not be recovered.

Resolution: The data will be reported with a J qualifier. The customer, Curtis Musson, was notified.

Authorized by/Date: Cheryl A. Swanson 7/3/2018

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: Enterolert/QT

Batch ID: P347392

Component	Result	Code	Units
Enterococci-Quanti-Tray	1.0	U	MPN/100 mL

Reference Method: SM 10200 H (mod.)

Batch ID: P347673

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.62	U	ug/L
Chlorophyll-a, Uncorrected	0.45	U	ug/L
Phaeophytin-a	0.45	U	ug/L

Reference Method: SM 9222 D

Batch ID: P347431

Component	Result	Code	Units
Fecal Coliforms-Membrane Filter	2	U	cfu/100 mL

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)

Batch ID: P347673

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P347673

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	95.6		P	84 - 116

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P347673

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2002251	Chlorophyll-a, Corrected	0.360	Sample	P	0 - 25
2002251	Chlorophyll-a, Uncorrected	0.192	Sample	P	0 - 25

Reference Method: SM 9222 D
Batch ID: P347431

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2002336	Fecal Coliforms-Membrane Filter	50.6	Sample	F	0 - 50

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
SM 10200 H (mod.)	Chlorophyll-a, Corrected	95.6			0.360	
	Chlorophyll-a, Uncorrected				0.192	
SM 9222 D	Fecal Coliforms-Membrane Filter				50.6	

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
Enterolert/QT / E31780	Enterococci by Enterolert Quanti-Tray method - non-chlorinated water systems	2002320, 2002321, 2002322, 2002323
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2002316, 2002317, 2002318, 2002319
SM 9222 D / E31780	Fecal coliforms by membrane filter method - non-chlorinated water systems	2002324, 2002325, 2002326, 2002327

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
Enterolert/QT	06/20/2018	06/20/2018 16:05	Jennifer Mihalic	06/21/2018 16:15	Peterson Janvier	2002320, 2002321, 2002322, 2002323
SM 10200 H (mod.)	06/20/2018	06/20/2018 15:00	Mariam Hanna	06/27/2018 14:25	Carina A. Tull	2002316, 2002317, 2002318, 2002319
SM 9222 D	06/20/2018	06/20/2018 16:05	Peterson Janvier	06/21/2018 15:35	Peterson Janvier	2002324, 2002325, 2002326
	06/20/2018	06/20/2018 16:10	Peterson Janvier	06/21/2018 15:35	Peterson Janvier	2002327