Biological Analysis Report

TLH-ROC-2019-10-09-01

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

Event Description: **Run 10**
Request ID: **RQ-2019-09-16-26**
Customer: **TLH-ROC**
Project ID: **SMP**

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

For additional information please contact
Cheryl Swanson - Administrator
Jacqueline Savage - Microbiology
Diane Power - Bench Biology
Andrew Tintle - Aquatic Toxicology
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Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8177

This Report replaces the previous Report Serial Number: 0118281

Report Comment: Unauthorized to correct sample ID errors that ocurred at log-in.

Revision certified by: Jacqueline Savage, Environmental Administrator Date Certified: 22-NOV-2019 12:26

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 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: PARKER BAYOU @ MOUTH **Collection Date/Time: 10/09/2019 11:25**

Field ID: G3TLHR0043 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2126659	Enterolert/QT	Enterococci-Quanti-Tray	10.0	U	MPN/100 mL	P372415	
2126660	SM 9222 D	Fecal Coliforms-Membrane Filter	2	U	cfu/100 mL	P372464	

Ref. Method and Comment:
Enterolert/QT: Precision data is unavailable due to the small amount of analyte in the QC sample.
SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: MULE CREEK @ MOUTH **Collection Date/Time: 10/09/2019 12:05**

Field ID: G3TLHR0038 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2126655	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.4	U	ug/L	P372799	
		Phaeophytin-a	1.5	U	ug/L	P372799	
		Chlorophyll-a, Uncorrected	1.0	U	ug/L	P372799	
2136892	SM 9223 Quanti-Tray	Escherichia Coli-Quanti-Tray	292.0		MPN/100 mL	P372415	

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.
SM 9223 Quanti-Tray: See Non-Conformance Report # 8020. Lower result is 160.0 MPN/100 mL.

Sample Location: LITTLE SANDY CREEK @ MOUTH **Collection Date/Time: 10/09/2019 12:15**

Field ID: G3TLHR0039 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2126656	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.3	I	ug/L	P372799	
		Phaeophytin-a	1.3	U	ug/L	P372799	
		Chlorophyll-a, Uncorrected	2.4	I	ug/L	P372799	
2126671	SM 9223 Quanti-Tray	Escherichia Coli-Quanti-Tray	10.0		MPN/100 mL	P372415	
2126672	Enterolert/QT	Enterococci-Quanti-Tray	20.0		MPN/100 mL	P372415	

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.

Sample Location: EAGLE NEST BAYOU @ MOUTH **Collection Date/Time: 10/09/2019 12:30**

Field ID: G3TLHR0041 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2126653	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.2	I	ug/L	P372799	
		Phaeophytin-a	1.3	U	ug/L	P372799	
		Chlorophyll-a, Uncorrected	3.9		ug/L	P372799	
2126657	Enterolert/QT	Enterococci-Quanti-Tray	10.0	U	MPN/100 mL	P372415	
2126658	SM 9222 D	Fecal Coliforms-Membrane Filter	2	B	cfu/100 mL	P372464	

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: 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 duplicate result is 2 U. Precision data for this duplicate is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: Apalachicola River 500m from Lola Landing Boat Ramp **Collection Date/Time: 10/09/2019 13:55**

Field ID: G2TLHR0044 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2126654	SM 10200 H (mod.)	Chlorophyll-a, Corrected	5.8		ug/L	P372799	
		Phaeophytin-a	0.90	U	ug/L	P372799	
		Chlorophyll-a, Uncorrected	6.1		ug/L	P372799	
2126661	SM 9223 Quanti-Tray	Escherichia Coli-Quanti-Tray	1.0		MPN/100 mL	P372415	

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.

Non-Conformance Report

NCR ID: 8020

Event(s)	Job(s)	Sample(s)	Test(s)
TLH-ROC-2019-10-09-01	TLH-2019-10-09-95	2126662	
TLH-ROC-2019-10-09-01	TLH-2019-10-09-95	2126663	
TLH-ROC-2019-10-09-01	TLH-2019-10-09-95	2136892	

NCR Type: SHIPPING/RECEIVING **NCR Category: Receiving**

Observation: Due to a login error field ID G3TLHR0038 was logged in twice for ECOLI-18QT, 2126662 and 2126663. Instead of ECOLI-18QT and ENT-24-QT. ENT-24-QT not properly scheduled, samplers added test in the field.

Additionally, 2126663 was logged in with incorrect site information.

Resolution: Samples 2126662 and 2126663 were cancelled. The sample results for 2126663 were re-entered under sample ID 2136892, and the results from 2126662 were included as a comment. The data for ENT-24-QT is unavailable. The customer, Cheryl Bunch, has been contacted.

Authorized by/Date: Joshua Ayres 11/18/2019

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: P372415

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

Reference Method: SM 10200 H (mod.)
Batch ID: P372799

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
Method Blank Results

Reference Method: SM 9222 D
Batch ID: P372464

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

Reference Method: SM 9223 Quanti-Tray
Batch ID: P372415

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P372799

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	95.3		P	84 - 116

Quality Assurance Report
Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P372799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126607	Chlorophyll-a, Corrected	20.4	Sample	P	0 - 25
2126607	Chlorophyll-a, Uncorrected	20.3	Sample	P	0 - 25

Reference Method: SM 9223 Quanti-Tray
Batch ID: P372415

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126273	Escherichia Coli-Quanti-Tray	29.7	Sample	P	0 - 80
2126613	Escherichia Coli-Quanti-Tray	43.1	Sample	P	0 - 80

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

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision		
				LCS	SMP	MS
SM 10200 H (mod.)	Chlorophyll-a, Corrected	95.3			20.4	
	Chlorophyll-a, Uncorrected				20.3	
SM 9223 Quanti-Tray	Escherichia Coli-Quanti-Tray				29.7	43.1

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
Enterolert/QT / E31780	Enterococci by Enterolert Quanti-Tray method - non-chlorinated water systems	2126657, 2126659, 2126672
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2126653, 2126654, 2126655, 2126656
SM 9222 D / E31780	Fecal coliforms by membrane filter method - non-chlorinated water systems	2126658, 2126660
SM 9223 Quanti-Tray / E31780	Escherichia coli by Colilert 18 Quanti-Tray method - non-chlorinated water systems	2126661, 2126671, 2136892

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
Enterolert/QT	10/09/2019	10/09/2019 16:49	Jessica Sherman	10/10/2019 16:52	Jessica Fetgatter	2126657, 2126659, 2126672
SM 10200 H (mod.)	10/09/2019	10/10/2019 14:11	Yuliya Danyuk	10/16/2019 09:00	Carina A. Tull	2126653, 2126654, 2126655, 2126656
SM 9222 D	10/09/2019	10/09/2019 16:47	Peterson Janvier	10/10/2019 15:25	Peterson Janvier	2126658, 2126660
SM 9223 Quanti-Tray	10/09/2019	10/09/2019 17:15	Jessica Sherman	10/10/2019 11:18	Jessica Sherman	2126661, 2126671, 2136892