

Biological Analysis Report

NE-DIST-2019-07-24-02

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

Overflow Analyses Performed By:
ALS Environmental - Jacksonville
9143 Philips Highway, Suite 200
Jacksonville, FL 32256
DOH Accreditation E82502

Event Description: **ICW Boat**
Request ID: **RQ-2019-07-22-06**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

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Certified by: Cheryl A. Swanson, Program Administrator

Date Certified: 26-AUG-2019 17:26



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, Molecular 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: ICW @ CM 15 DUVAL CO

Collection Date/Time: 07/23/2019 11:00

Field ID: 27010114

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2105470	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	U	MPN/100 mL		

Sample Location: ICW MARKER 11 DUVAL CO

Collection Date/Time: 07/23/2019 10:45

Field ID: 27010107

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2105471	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	U	MPN/100 mL		

Sample Location: OPEN CREEK 200 METERS ABOVE MOUTH

Collection Date/Time: 07/23/2019 09:10

Field ID: G2NE1178

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2105464	SM 10200 H (mod.)	Chlorophyll-a, Corrected	20		ug/L	P368440	
		Phaeophytin-a	3.0	I	ug/L	P368440	
		Chlorophyll-a, Uncorrected	23		ug/L	P368440	
2105467	ASTM D650399	ENTEROCOCCI-ENTEROLERT	350		MPN/100 mL		
2105472	SOP-PCR-1.0	HF183-qPCR**	94	U	GEU/100 mL	P367741	LCS

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.

SOP-PCR-1.0: Precision data unavailable for Analysis batch A93200

**Sample Location: OPEN CREEK 200 METERS ABOVE MOUTH
DUPLICATE**

Collection Date/Time: 07/23/2019 09:15

Field ID: G2NE1178DUP

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2105465	SM 10200 H (mod.)	Chlorophyll-a, Corrected	24		ug/L	P368440	
		Phaeophytin-a	3.5	I	ug/L	P368440	
		Chlorophyll-a, Uncorrected	27		ug/L	P368440	
2105468	ASTM D650399	ENTEROCOCCI-ENTEROLERT	570		MPN/100 mL		
2105473	SOP-PCR-1.0	HF183-qPCR**	94	U	GEU/100 mL	P367741	LCS

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.

SOP-PCR-1.0: Precision data unavailable for Analysis batch A93200

Sample Location: OPEN CREEK 0.5 MI UPSTREAM OF MOUTH

Collection Date/Time: 07/23/2019 09:55

Field ID: G2NE1186

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2105466	SM 10200 H (mod.)	Chlorophyll-a, Corrected	24	A	ug/L	P368320	
		Phaeophytin-a	2.3	I	ug/L	P368320	
		Chlorophyll-a, Uncorrected	26	A	ug/L	P368320	
2105469	ASTM D650399	ENTEROCOCCI-ENTEROLERT	120		MPN/100 mL		
2105474	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P367741	LCS

Field ID: G2NE1186

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.): Laboratory duplicate result is 2.1 I for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample.

SOP-PCR-1.0: Precision data unavailable for Analysis batch A93200

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)

Batch ID: P368320

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: P368440

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: SOP-PCR-1.0

Batch ID: P367741

Component	Result	Code	Units
HF183-qPCR	280	U	GEU/100 mL

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)

Batch ID: P368320

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	89.1		P	84 - 116

Reference Method: SM 10200 H (mod.)

Batch ID: P368440

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	88.6		P	84 - 116

Reference Method: SOP-PCR-1.0

Batch ID: P367741

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	100	294	P/F	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P367741

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2100797	HF183-qPCR	75.2		P	50 - 175
2105472	HF183-qPCR	81.1		P	50 - 175
2105473	HF183-qPCR	78.8		P	50 - 175
2105474	HF183-qPCR	69.0		P	50 - 175
2105647	HF183-qPCR	62.7		P	50 - 175
2105648	HF183-qPCR	71.7		P	50 - 175
2105840	HF183-qPCR	70.7		P	50 - 175
2106039	HF183-qPCR	78.2		P	50 - 175

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P368320

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2105466	Chlorophyll-a, Corrected	4.06	Sample	P	0 - 25
2105466	Chlorophyll-a, Uncorrected	3.38	Sample	P	0 - 25

* 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 Surrogates

Lab Sample ID: 2105472
Field Sample ID: G2NE1178

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	108	P	50 - 300

Lab Sample ID: 2105473
Field Sample ID: G2NE1178DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	100	P	50 - 300

Lab Sample ID: 2105474
Field Sample ID: G2NE1186

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	96.9	P	50 - 300

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision
			LCS	SMP
				MS
SM 10200 H (mod.)	Chlorophyll-a, Corrected	89.1		4.06

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
SM 10200 H (mod.)	Chlorophyll-a, Corrected	88.6						3.38	
	Chlorophyll-a, Uncorrected								
SOP-PCR-1.0	HF183-qPCR	294	100	75.2	81.1	78.8			
				69.0					

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
ASTM D650399 / E82502	Enterococci by Enterolert/QT by ALS in Jacksonville	2105467, 2105468, 2105469, 2105470, 2105471
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2105464, 2105465, 2105466
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2105472, 2105473, 2105474

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
ASTM D650399	07/23/2019	07/23/2019 13:37		07/24/2019 13:38	ALS Environmental, Jax	2105467, 2105468, 2105469, 2105470, 2105471
SM 10200 H (mod.)	07/24/2019	07/24/2019 14:20	Edwin Gonzalez-Soto	07/31/2019 15:42	Yuliya Danyuk	2105464, 2105465
	07/24/2019	07/24/2019 14:20	Edwin Gonzalez-Soto	08/01/2019 09:07	Yuliya Danyuk	2105466
SOP-PCR-1.0	07/24/2019	07/24/2019 14:15	Sarah Menz	08/01/2019 08:40	Mailin Lopez	2105472, 2105473, 2105474