

Biological Analysis Report

NE-DIST-2019-06-28-04

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-2019-06-24-05**
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: Jacqueline Savage, Environmental Administrator

Date Certified: 30-JUL-2019 09:21

A handwritten signature in black ink that reads "Jackie Savage". The signature is written in a cursive, flowing style.

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: Open creek 200 meters above mouth

Collection Date/Time: 06/27/2019 10:40

Field ID: G2NE1178

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2099651	SM 10200 H (mod.)	Chlorophyll-a, Corrected	7.3		ug/L	P367250	
		Phaeophytin-a	1.1	I	ug/L	P367250	
		Chlorophyll-a, Uncorrected	8.2		ug/L	P367250	
2099653	ASTM D650399	ENTEROCOCCI-ENTEROLERT	41		MPN/100 mL		
2099657	SOP-PCR-1.0	HF183-qPCR**	94	U	GEU/100 mL	P366460	

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: Open creek 0.5 mi upstream of mouth

Collection Date/Time: 06/27/2019 10:20

Field ID: G2NE1186

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2099652	SM 10200 H (mod.)	Chlorophyll-a, Corrected	6.9		ug/L	P367250	
		Phaeophytin-a	1.4	I	ug/L	P367250	
		Chlorophyll-a, Uncorrected	7.9		ug/L	P367250	
2099654	ASTM D650399	ENTEROCOCCI-ENTEROLERT	210		MPN/100 mL		
2099658	SOP-PCR-1.0	HF183-qPCR**	94	U	GEU/100 mL	P366460	

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: ICW @ CM 15 DUVAL CO

Collection Date/Time: 06/27/2019 11:45

Field ID: 27010114

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2099655	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	U	MPN/100 mL		

Sample Location: ICW MARKER 11 DUVAL CO

Collection Date/Time: 06/27/2019 12:00

Field ID: 27010107

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2099656	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10		MPN/100 mL		

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)

Batch ID: P367250

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: P366460

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: SOP-PCR-1.0
Batch ID: P366460

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: P367250

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	89.4		P	84 - 116

Reference Method: SOP-PCR-1.0
Batch ID: P366460

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	149	143	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P366460

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2095804	HF183-qPCR	99.2		P	50 - 175
2095805	HF183-qPCR	100		P	50 - 175
2096551	HF183-qPCR	119		P	50 - 175
2096552	HF183-qPCR	101		P	50 - 175
2096585	HF183-qPCR	109		P	50 - 175
2096763	HF183-qPCR	118		P	50 - 175
2096968	HF183-qPCR	108		P	50 - 175
2096969	HF183-qPCR	89.1		P	50 - 175
2097844	HF183-qPCR	104		P	50 - 175
2098562	HF183-qPCR	97.0		P	50 - 175
2099657	HF183-qPCR	95.5		P	50 - 175
2099658	HF183-qPCR	102		P	50 - 175
2100038	HF183-qPCR	71.7	65.2	P/P	50 - 175

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P367250

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099768	Chlorophyll-a, Uncorrected	14.2	Sample	P	0 - 25

Quality Assurance Report Precision

Reference Method: SOP-PCR-1.0
Batch ID: P366460

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100038	HF183-qPCR	9.47	Spike	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: 2099657
Field Sample ID: G2NE1178

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	101	P	50 - 300

Lab Sample ID: 2099658
Field Sample ID: G2NE1186

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
SM 10200 H (mod.)	Chlorophyll-a, Corrected	89.4						14.2	
	Chlorophyll-a, Uncorrected								
SOP-PCR-1.0	HF183-qPCR	143	149	108	89.1	104			9.47
				95.5					

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
ASTM D650399 / E82502	Enterococci by Enterolert/QT by ALS in Jacksonville	2099653, 2099654, 2099655, 2099656
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2099651, 2099652
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2099657, 2099658

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
ASTM D650399	06/27/2019	06/27/2019 15:16		06/28/2019 15:35	ALS Environmental, Jax	2099653, 2099654, 2099655, 2099656
SM 10200 H (mod.)	06/28/2019	06/28/2019 14:42	Yuliya Danyuk	07/11/2019 10:37	Yuliya Danyuk	2099651, 2099652
SOP-PCR-1.0	06/28/2019	06/28/2019 14:30	Sarah Menz	07/05/2019 11:45	Mailin Lopez	2099657, 2099658