

Biological Analysis Report

NE-DIST-2019-03-07-01

Florida Department of Environmental Protection
Central Laboratory
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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: **LSJR Coast**
Request ID: **RQ-2019-03-04-15**
Customer: **NE-DIST**
Project ID: **SMP**

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8800 Baymeadows Way West
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Certified by: Cheryl A. Swanson, Program Administrator

Date Certified: 10-APR-2019 13:06



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: DUNN CR AT FAYE ROAD

Collection Date/Time: 03/06/2019 10:05

Field ID: 20030140

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2068017	SM 10200 H (mod.)	Chlorophyll-a, Corrected	6.7	A	ug/L	P360808	
		Phaeophytin-a	2.1	U	ug/L	P360808	
		Chlorophyll-a, Uncorrected	7.0	A	ug/L	P360808	
2068066	ASTM D650399	ENTEROCOCCI-ENTEROLERT	31		MPN/100 mL		

Ref. Method and Comment:

SM 10200 H (mod.): Laboratory duplicate result is 2.1 U for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample.

Sample Location: SISTERS CREEK AT HECKSCHER DR

Collection Date/Time: 03/06/2019 10:35

Field ID: 20030491

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2068018	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.8		ug/L	P360808	
		Phaeophytin-a	1.1	I	ug/L	P360808	
		Chlorophyll-a, Uncorrected	3.6		ug/L	P360808	
2068067	ASTM D650399	ENTEROCOCCI-ENTEROLERT	74		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: GREENFIELD END OF BUCANEER DR

Collection Date/Time: 03/06/2019 09:00

Field ID: G2NE1154

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2068015	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.5	I	ug/L	P360808	
		Phaeophytin-a	0.90	U	ug/L	P360808	
		Chlorophyll-a, Uncorrected	3.1		ug/L	P360808	
2068064	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	U	MPN/100 mL		
2068069	SOP-PCR-1.0	HF183-qPCR**	94	U	GEU/100 mL	P359951	

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: ST.JOHNS RIVER AT FT CAROLINE DOCK

Collection Date/Time: 03/06/2019 09:25

Field ID: G2NE1179

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2068019	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.0		ug/L	P360808	
		Phaeophytin-a	1.0	I	ug/L	P360808	
		Chlorophyll-a, Uncorrected	3.7		ug/L	P360808	
2068068	ASTM D650399	ENTEROCOCCI-ENTEROLERT	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: DEER CR @ TALLEYRAND AVE

Collection Date/Time: 03/06/2019 11:35

Field ID: 20030792

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: 20030792

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2068016	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.82	U	ug/L	P360808	
		Phaeophytin-a	0.90	U	ug/L	P360808	
		Chlorophyll-a, Uncorrected	0.60	U	ug/L	P360808	
2068065	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	U	MPN/100 mL		
2068070	SOP-PCR-1.0	HF183-qPCR**	1.08E+03		GEU/100 mL	P359951	

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.

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)

Batch ID: P360808

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: P359951

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: P360808

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	99.8		P	84 - 116

Reference Method: SOP-PCR-1.0

Batch ID: P359951

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	122	155	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0

Batch ID: P359951

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061146	HF183-qPCR	130		P	50 - 175
2062106	HF183-qPCR	103		P	50 - 175
2066183	HF183-qPCR	120		P	50 - 175
2066184	HF183-qPCR	108		P	50 - 175
2066947	HF183-qPCR	118		P	50 - 175
2067537	HF183-qPCR	114		P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
 Batch ID: P359951

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067538	HF183-qPCR	118		P	50 - 175
2067629	HF183-qPCR	108	105	P/P	50 - 175
2067943	HF183-qPCR	115		P	50 - 175
2068069	HF183-qPCR	129		P	50 - 175
2068070	HF183-qPCR	127		P	50 - 175
2068941	HF183-qPCR	113		P	50 - 175
2068942	HF183-qPCR	116		P	50 - 175

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
 Batch ID: P360808

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068017	Chlorophyll-a, Corrected	0.391	Sample	P	0 - 25
2068017	Chlorophyll-a, Uncorrected	0.645	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
 Batch ID: P359951

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067629	HF183-qPCR	2.50	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: 2068069
 Field Sample ID: G2NE1154

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	168	P	50 - 300

Lab Sample ID: 2068070
 Field Sample ID: 20030792

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	167	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	99.8			0.391	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision SMP	MS
SM 10200 H (mod.)	Chlorophyll-a, Uncorrected						0.645	
SOP-PCR-1.0	HF183-qPCR	155	122	103	118	114		2.50
				118				

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
ASTM D650399 / E82502	Enterococci by Enterolert Quanti-Tray Method by ALS Environmental Laboratory in Jacksonville	2068064, 2068065, 2068066, 2068067, 2068068
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2068015, 2068016, 2068017, 2068018, 2068019
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2068069, 2068070

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
ASTM D650399	03/06/2019	03/06/2019 13:03		03/07/2019 13:04	ALS Environmental, Jax	2068064, 2068065, 2068066, 2068067, 2068068
SM 10200 H (mod.)	03/07/2019	03/07/2019 14:25	Edwin Gonzalez-Soto	03/20/2019 11:00	Peterson Janvier	2068015, 2068016, 2068017, 2068018, 2068019
SOP-PCR-1.0	03/07/2019	03/07/2019 12:00	Sarah Menz	03/13/2019 12:04	Mailin Lopez	2068069, 2068070