

Biological Analysis Report

NE-DIST-2019-07-30-02

Florida Department of Environmental Protection
Central Laboratory
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DOH Accreditation E31780

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

Event Description: **LSJR East**
Request ID: **RQ-2019-07-29-12**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Cheryl A. Swanson, Program Administrator

Date Certified: 27-AUG-2019 16:13



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: MILLER CREEK AT ATLANTIC BLVD

Collection Date/Time: 07/29/2019 10:10

Field ID: G2NE0005

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106965	SM 10200 H (mod.)	Chlorophyll-a, Corrected	34		ug/L	P368660	
		Phaeophytin-a	1.3	U	ug/L	P368660	
		Chlorophyll-a, Uncorrected	36		ug/L	P368660	
2106970	ASTM D650399	ENTEROCOCCI-ENTEROLERT	1200		MPN/100 mL		
2106990	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P368294	

Sample Location: STRAWBERRY CR AT END OF BOWLAN RD

Collection Date/Time: 07/29/2019 10:35

Field ID: 20030579

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106968	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.82	U	ug/L	P368660	
		Phaeophytin-a	0.90	U	ug/L	P368660	
		Chlorophyll-a, Uncorrected	0.60	U	ug/L	P368660	
2106973	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	816		MPN/100 mL		

Sample Location: NEWCASTLE CR @ FT CAROLINE HILLS RD

Collection Date/Time: 07/29/2019 11:10

Field ID: 20030872

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106969	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.82	U	ug/L	P368660	
		Phaeophytin-a	0.90	U	ug/L	P368660	
		Chlorophyll-a, Uncorrected	0.60	U	ug/L	P368660	
2106974	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	1720		MPN/100 mL		

Sample Location: GREENFIELD CREEK @ QUEENS HARBOUR BLVD

Collection Date/Time: 07/29/2019 11:55

Field ID: 20030809

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106966	SM 10200 H (mod.)	Chlorophyll-a, Corrected	26		ug/L	P368660	
		Phaeophytin-a	7.7		ug/L	P368660	
		Chlorophyll-a, Uncorrected	31		ug/L	P368660	
2106971	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	2400		MPN/100 mL		
2106991	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P368294	

Sample Location: PUNCHEON ABOVE POINT MEADOWS DR

Collection Date/Time: 07/29/2019 12:30

Field ID: G2NE1181

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106967	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.4	I	ug/L	P368660	
		Phaeophytin-a	0.90	U	ug/L	P368660	
		Chlorophyll-a, Uncorrected	1.8	I	ug/L	P368660	
2106972	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	328		MPN/100 mL		

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P368660

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: P368294

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: P368660

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	90.2		P	84 - 116

Reference Method: SOP-PCR-1.0
Batch ID: P368294

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	100	83.1	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P368294

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106892	HF183-qPCR	94.6	94.3	P/P	50 - 175
2106894	HF183-qPCR	74.8		P	50 - 175
2106990	HF183-qPCR	73.1		P	50 - 175
2106991	HF183-qPCR	61.4		P	50 - 175
2107456	HF183-qPCR	83.9		P	50 - 175
2107457	HF183-qPCR	74.5		P	50 - 175
2107458	HF183-qPCR	90.5		P	50 - 175
2107459	HF183-qPCR	89.0		P	50 - 175

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P368660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106998	Chlorophyll-a, Corrected	0.340	Sample	P	0 - 25

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P368660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106998	Chlorophyll-a, Uncorrected	0.895	Sample	P	0 - 25
2106998	Phaeophytin-a	3.84	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P368294

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106892	HF183-qPCR	0.373	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: 2106990
Field Sample ID: G2NE0005

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	96.0	P	50 - 300

Lab Sample ID: 2106991
Field Sample ID: 20030809

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	80.4	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	90.2						0.340	
	Chlorophyll-a, Uncorrected							0.895	
	Phaeophytin-a							3.84	
SOP-PCR-1.0	HF183-qPCR	83.1	100	83.9	74.5	90.5	89.0		0.373

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
ASTM D650399 / E82502	Enterococci by Enterolert/QT by ALS in Jacksonville	2106970
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2106965, 2106966, 2106967, 2106968, 2106969
SM 9223 B Quanti-Tray / E82502	E. coli by Colilert/QT by ALS in Jacksonville	2106971, 2106972, 2106973, 2106974
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2106990, 2106991

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
ASTM D650399	07/29/2019	07/29/2019 14:44		07/30/2019 15:10	ALS Environmental, Jax	2106970
SM 10200 H (mod.)	07/30/2019	07/30/2019 14:00	Peterson Janvier	08/06/2019 10:16	Yuliya Danyuk	2106965, 2106966, 2106967, 2106968, 2106969
SM 9223 B Quanti-Tray	07/29/2019	07/29/2019 14:58		07/30/2019 15:02	ALS Environmental, Jax	2106971, 2106972, 2106973, 2106974
SOP-PCR-1.0	07/30/2019	07/30/2019 15:30	Angela Smith	08/15/2019 09:11	Mailin Lopez	2106990, 2106991