

Biological Analysis Report

NE-DIST-2018-03-01-02

Florida Department of Environmental Protection
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DOH Accreditation E31780

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

Event Description: **LSJR Southside_2018**
Request ID: **RQ-2018-02-19-11**
Customer: **NE-DIST**
Project ID: **SMP**

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Date Certified: 28-SEP-2018 10:43



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 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: Miramar CR @ Gadsen Rd

Collection Date/Time: 02/28/2018 09:30

Field ID: 20030825

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1971116	SM 10200 H (mod.)	Chlorophyll-a, Corrected	5.5		ug/L	P341110	
		Phaeophytin-a	0.81	I	ug/L	P341110	
		Chlorophyll-a, Uncorrected	6.2		ug/L	P341110	
1971124	SM 9223 B	Escherichia Coli-Quanti-Tray	420	JQ	MPN/100 mL		
1971129	SOP-PCR-1.0	HF183-qPCR**	93	T	GEU/100 mL	P342094	RPD
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				

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 B: Samples were not incubated for the minimum incubation period

Sample Location: Miller CR @ Schumacher

Collection Date/Time: 02/28/2018 12:30

Field ID: 20030794

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1971121	SM 9223 B	Escherichia Coli-Quanti-Tray	24196	J	MPN/100 mL		
1971126	SOP-PCR-1.0	HF183-qPCR**	440	I	GEU/100 mL	P342094	RPD
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				

Ref. Method and Comment:

SM 9223 B: Samples were not incubated for the minimum incubation period. Results may be higher than reported.

Sample Location: Deep Bottom Creek at Scott Mill Rd

Collection Date/Time: 02/28/2018 14:35

Field ID: 20030595

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1971114	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.9		ug/L	P341110	
		Phaeophytin-a	0.42	I	ug/L	P341110	
		Chlorophyll-a, Uncorrected	4.3		ug/L	P341110	
1971122	SM 9223 B	Escherichia Coli-Quanti-Tray	3260	J	MPN/100 mL		
1971127	SOP-PCR-1.0	HF183-qPCR**	43	T	GEU/100 mL	P342094	RPD
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				

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 B: Samples were not incubated for the minimum incubation period

Sample Location: Deep Bottom Creek at I-295

Collection Date/Time: 02/28/2018 13:45

Field ID: 20030596

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1971115	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.6	A	ug/L	P341110	
		Phaeophytin-a	1.0	I	ug/L	P341110	
		Chlorophyll-a, Uncorrected	3.2	A	ug/L	P341110	
1971123	SM 9223 B	Escherichia Coli-Quanti-Tray	820	J	MPN/100 mL		
1971128	SOP-PCR-1.0	HF183-qPCR**	42	T	GEU/100 mL	P342094	RPD
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				

Field ID: 20030596

Matrix: W-SURF-FRH

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 0.84 I for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample.

SM 9223 B: Samples were not incubated for the minimum incubation period

Sample Location: Miller CR @ Beach Blvd

Collection Date/Time: 02/28/2018 12:00

Field ID: 20030828

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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1971113	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.55	U	ug/L	P341110	
		Phaeophytin-a	0.40	U	ug/L	P341110	
		Chlorophyll-a, Uncorrected	0.40	U	ug/L	P341110	
1971120	SM 9223 B	Escherichia Coli-Quanti-Tray	12000	J	MPN/100 mL		
1971125	SOP-PCR-1.0	HF183-qPCR**	1.08E+03		GEU/100 mL	P342094	RPD
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				

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 B: Samples were not incubated for the minimum incubation period

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)

Batch ID: P341110

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.55	U	ug/L
Chlorophyll-a, Uncorrected	0.40	U	ug/L
Phaeophytin-a	0.40	U	ug/L

Reference Method: SOP-PCR-1.0

Batch ID: P342094

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: P341110

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	101		P	84 - 116

Reference Method: SOP-PCR-1.0

Batch ID: P342094

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	108	102	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P342094

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1970976	HF183-qPCR	98.3		P	50 - 175
1970977	HF183-qPCR	86.0		P	50 - 175
1970978	HF183-qPCR	83.8		P	50 - 175
1971125	HF183-qPCR	96.6		P	50 - 175
1971126	HF183-qPCR	95.4		P	50 - 175
1971127	HF183-qPCR	96.3		P	50 - 175
1971128	HF183-qPCR	97.4		P	50 - 175
1971129	HF183-qPCR	101		P	50 - 175
1971426	HF183-qPCR	101		P	50 - 175
1971430	HF183-qPCR	95.4		P	50 - 175
1972701	HF183-qPCR	87.4		P	50 - 175
1972726	HF183-qPCR	76.3		P	50 - 175
1977971	HF183-qPCR	69.7	84.8	P/P	50 - 175

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P341110

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1971115	Chlorophyll-a, Corrected	9.48	Sample	P	0 - 25
1971115	Chlorophyll-a, Uncorrected	10.8	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P342094

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977971	HF183-qPCR	25.2	Spike	F	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: 1971125
Field Sample ID: 20030828

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	102	P	50 - 300

Lab Sample ID: 1971126
Field Sample ID: 20030794

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	110	P	50 - 300

Quality Assurance Report Surrogates

Lab Sample ID: 1971127
Field Sample ID: 20030595

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	111	P	50 - 300

Lab Sample ID: 1971128
Field Sample ID: 20030596

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

Lab Sample ID: 1971129
Field Sample ID: 20030825

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	104	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	101			9.48	
	Chlorophyll-a, Uncorrected				10.8	
SOP-PCR-1.0	HF183-qPCR	102 108	98.3 86.0 83.8 96.6			25.2

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	1971113, 1971114, 1971115, 1971116
SM 9223 B / E82502	Escherichia coli by Colilert Quanti-Tray method by ALS Environmental Overflow Laboratory for Northeast District	1971120, 1971121, 1971122, 1971123, 1971124
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	1971125, 1971126, 1971127, 1971128, 1971129
SOP-PCR-4.0 / E31780	Preparation of Samples by Filtration and held for qPCR Analysis	1971125, 1971126, 1971127, 1971128, 1971129

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 10200 H (mod.)	03/01/2018	03/01/2018 13:18	Cathy Sherrer	03/07/2018 07:45	Kim M. Spencer	1971113, 1971114, 1971115, 1971116
SM 9223 B	02/28/2018	02/28/2018 17:43		03/01/2018 17:21	ALS Environmental, Jax	1971120, 1971121, 1971122, 1971123, 1971124
SOP-PCR-1.0	03/01/2018	03/01/2018 13:20	Puja Jasrotia	03/28/2018 14:34	Sarah Menz	1971125, 1971126, 1971127, 1971128, 1971129
SOP-PCR-4.0	03/01/2018	03/01/2018 13:20	Angela Smith	03/23/2018 10:44	Puja Jasrotia	1971125, 1971126, 1971127, 1971128, 1971129