

Biological Analysis Report

NE-DIST-2018-04-13-01

Florida Department of Environmental Protection
Central Laboratory
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DOH Accreditation E31780

Overflow Analyses Performed By:
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DOH Accreditation E82502

Event Description: **LSJR Downtown Fresh**
Request ID: **RQ-2018-04-09-60**
Customer: **NE-DIST**
Project ID: **SMP**

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Date Certified: 24-MAY-2018 16:46



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: Trout River at Ramallah Rd

Collection Date/Time: 04/12/2018 11:30

Field ID: 20030752

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1984433	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.4	I	ug/L	P344017	
		Phaeophytin-a	0.40	U	ug/L	P344017	
		Chlorophyll-a, Uncorrected	1.6		ug/L	P344017	
1984440	SM 9223 B	Escherichia Coli-Quanti-Tray**	384		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: Blockhouse Cr @ Duval Rd

Collection Date/Time: 04/12/2018 12:15

Field ID: 20030746

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1984441	SM 9223 B	Escherichia Coli-Quanti-Tray**	932		MPN/100 mL		
1984445	SOP-PCR-1.0	HF183-qPCR**	280	U	GEU/100 mL	P344387	
	SOP-PCR-1.4	BacR-qPCR**	1.4E+04	I	TSC/100 mL	P344387	LCS
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				

Ref. Method and Comment:

SOP-PCR-1.0: No amplification of HF183 marker.

Sample Location: Blockhouse 100m abv Irma Rd.

Collection Date/Time: 04/12/2018 12:30

Field ID: G2NE1159

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1984430	SM 10200 H (mod.)	Chlorophyll-a, Corrected	6.5		ug/L	P344017	
		Phaeophytin-a	0.40	U	ug/L	P344017	
		Chlorophyll-a, Uncorrected	7.0		ug/L	P344017	
1984437	SM 9223 B	Escherichia Coli-Quanti-Tray**	780		MPN/100 mL		
1984442	SOP-PCR-1.0	HF183-qPCR**	220	T	GEU/100 mL	P344387	
	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.

Sample Location: Hogans Cr at Broad St.

Collection Date/Time: 04/12/2018 13:05

Field ID: 20030729

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1984431	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.5	I	ug/L	P344017	
		Phaeophytin-a	1.2	I	ug/L	P344017	
		Chlorophyll-a, Uncorrected	2.2		ug/L	P344017	
1984438	SM 9223 B	Escherichia Coli-Quanti-Tray**	121		MPN/100 mL		
1984443	SOP-PCR-4.0	HF183 - Human Source Marker**	Below 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.

Sample Location: Deer Cr @ Talleyrand Ave

Collection Date/Time: 04/12/2018 13:25

Field ID: 20030792

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1984432	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.4		ug/L	P344017	
		Phaeophytin-a	0.53	I	ug/L	P344017	
		Chlorophyll-a, Uncorrected	3.8		ug/L	P344017	
1984439	SM 9223 B	Escherichia Coli-Quanti-Tray**	520		MPN/100 mL		
1984444	SOP-PCR-1.0	HF183-qPCR**	60	T	GEU/100 mL	P344387	
	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.

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)
 Batch ID: P344017

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: P344387

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

Reference Method: SOP-PCR-1.4
 Batch ID: P344387

Component	Result	Code	Units
BacR-qPCR	3.0E+03	U	TSC/100 mL

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
 Batch ID: P344017

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	89.0		P	84 - 116

Reference Method: SOP-PCR-1.0
 Batch ID: P344387

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	116	119	P/P	50 - 175

Reference Method: SOP-PCR-1.4
 Batch ID: P344387

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	140	33.8	P/F	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P344387

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984442	HF183-qPCR	107		P	50 - 175
1984444	HF183-qPCR	103		P	50 - 175
1984445	HF183-qPCR	98.1		P	50 - 175
1989511	HF183-qPCR	96.3		P	50 - 175
1989512	HF183-qPCR	100		P	50 - 175
1989513	HF183-qPCR	97.8		P	50 - 175
1989514	HF183-qPCR	105	105	P/P	50 - 175
1989515	HF183-qPCR	76.5		P	50 - 175
1989516	HF183-qPCR	74.8		P	50 - 175
1989517	HF183-qPCR	78.6		P	50 - 175
1989782	HF183-qPCR	101		P	50 - 175
1989903	HF183-qPCR	97.0		P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P344387

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984445	BacR-qPCR	77.2		P	50 - 175
1989284	BacR-qPCR	79.4		P	50 - 175
1989285	BacR-qPCR	77.5		P	50 - 175
1989511	BacR-qPCR	75.7		P	50 - 175
1989512	BacR-qPCR	68.4		P	50 - 175
1989513	BacR-qPCR	72.5		P	50 - 175
1989514	BacR-qPCR	97.0	76.2	P/P	50 - 175
1989515	BacR-qPCR	55.1		P	50 - 175
1989517	BacR-qPCR	89.6		P	50 - 175

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P344017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984518	Chlorophyll-a, Corrected	5.68	Sample	P	0 - 25
1984518	Chlorophyll-a, Uncorrected	4.10	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P344387

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989514	HF183-qPCR	0.553	Spike	P	0 - 25

Reference Method: SOP-PCR-1.4
Batch ID: P344387

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989514	BacR-qPCR	24.0	Spike	P	0 - 25

Quality Assurance Report Precision

* 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: 1984442
Field Sample ID: G2NE1159

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	121	P	50 - 300

Lab Sample ID: 1984444
Field Sample ID: 20030792

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

Lab Sample ID: 1984445
Field Sample ID: 20030746

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	111	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	94.3	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	89.0			5.68	
	Chlorophyll-a, Uncorrected				4.10	
SOP-PCR-1.0	HF183-qPCR	119 116	107 103 98.1 96.3			0.553
SOP-PCR-1.4	BacR-qPCR	33.8 140	77.2 79.4 77.5 75.7			24.0

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	1984430, 1984431, 1984432, 1984433
SM 9223 B / E82502	Escherichia coli by Colilert Quanti-Tray method by ALS Environmental Overflow Laboratory for Northeast District	1984437, 1984438, 1984439, 1984440, 1984441
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	1984442, 1984444, 1984445
SOP-PCR-1.4 / E31780	Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction	1984445
SOP-PCR-4.0 / E31780	Preparation of Samples by Filtration and held for qPCR Analysis	1984442, 1984443, 1984444, 1984445

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 10200 H (mod.)	04/13/2018	04/13/2018 13:30	Mariam Hanna	04/19/2018 15:35	Carina A. Tull	1984430, 1984431, 1984432, 1984433
SM 9223 B	04/12/2018	04/12/2018 16:16		04/13/2018 17:12	ALS Environmental, Jax	1984437, 1984438, 1984439, 1984440, 1984441
SOP-PCR-1.0	04/13/2018	04/13/2018 11:30	Puja Jasrotia	05/04/2018 13:01	Mailin Lopez	1984442, 1984444, 1984445
SOP-PCR-1.4	04/13/2018	04/13/2018 11:30	Puja Jasrotia	05/04/2018 15:46	Sarah Menz	1984445
SOP-PCR-4.0	04/13/2018	04/13/2018 11:30	Angela Smith	05/01/2018 13:27	Puja Jasrotia	1984442, 1984443, 1984444, 1984445