

Biological Analysis Report

NE-DIST-2021-03-25-02

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 North 2021**
Request ID: **RQ-2021-03-22-12**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Cheryl A. Swanson, Program Administrator

Date Certified: 22-APR-2021 13:29



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: Blockhouse at Broward Rd.

Collection Date/Time: 03/24/2021 09:00

Field ID: G2NE1180

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233643	SM 10200 H (mod.)	Chlorophyll-a, Corrected	5.2		ug/L	P395739	
		Phaeophytin-a	1.2	I	ug/L	P395739	
		Chlorophyll-a, Uncorrected	6.1		ug/L	P395739	
2233647	ASTM D650399	ENTEROCOCCI-ENTEROLERT	275		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 100m abv Irma Rd.

Collection Date/Time: 03/24/2021 09:30

Field ID: G2NE1159

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233644	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.4	I	ug/L	P395739	
		Phaeophytin-a	1.3	U	ug/L	P395739	
		Chlorophyll-a, Uncorrected	3.9		ug/L	P395739	
2233648	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	980		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: 03/24/2021 09:50

Field ID: 20030746

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233650	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	308		MPN/100 mL		

Sample Location: Tributary to Trout at Bessent Rd.

Collection Date/Time: 03/24/2021 10:05

Field ID: G2NE1207

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233651	ASTM D650399	ENTEROCOCCI-ENTEROLERT	602		MPN/100 mL		

Sample Location: Tributary to Trout at Capper Rd.

Collection Date/Time: 03/24/2021 10:20

Field ID: G2NE1208

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233645	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.1	I	ug/L	P395739	
		Phaeophytin-a	1.1	U	ug/L	P395739	
		Chlorophyll-a, Uncorrected	1.6	I	ug/L	P395739	
2233649	ASTM D650399	ENTEROCOCCI-ENTEROLERT	1990		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: Long BR at Evergreen Ave.

Collection Date/Time: 03/24/2021 10:50

Field ID: G2NE0735

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: G2NE0735

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233642	SM 10200 H (mod.)	Chlorophyll-a, Corrected	11		ug/L	P395739	
		Phaeophytin-a	0.90	U	ug/L	P395739	
		Chlorophyll-a, Uncorrected	11		ug/L	P395739	
2233646	ASTM D650399	ENTEROCOCCI-ENTEROLERT	771		MPN/100 mL		
2233652	SOP-PCR-1.0	HF183-qPCR**	7.6E+03		TSC/100 mL	P395427	
	SOP-PCR-1.4	BacR-qPCR**	760	U	TSC/100 mL	P395427	
	SOP-PCR-1.5	DG3-qPCR**	640	U	TSC/100 mL	P395427	

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: P395739

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: P395427

Component	Result	Code	Units
HF183-qPCR	3.3E+03	U	TSC/100 mL

Reference Method: SOP-PCR-1.4
Batch ID: P395427

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

Reference Method: SOP-PCR-1.5
Batch ID: P395427

Component	Result	Code	Units
DG3-qPCR	2.6E+03	U	TSC/100 mL

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P395739

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	85.3		P	84 - 116

Reference Method: SOP-PCR-1.0
Batch ID: P395427

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	95.5	99.1	P/P	50 - 175

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SOP-PCR-1.4
Batch ID: P395427

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	90.4	92.5	P/P	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P395427

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
DG3-qPCR	86.4	94.6	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P395427

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233396	HF183-qPCR	92.0	101	P/P	50 - 175
2233397	HF183-qPCR	87.3		P	50 - 175
2233398	HF183-qPCR	87.7		P	50 - 175
2233399	HF183-qPCR	94.5		P	50 - 175
2233400	HF183-qPCR	96.7		P	50 - 175
2233499	HF183-qPCR	77.5		P	50 - 175
2233628	HF183-qPCR	98.4		P	50 - 175
2233652	HF183-qPCR	87.1		P	50 - 175
2234082	HF183-qPCR	94.1		P	50 - 175
2234083	HF183-qPCR	91.0		P	50 - 175
2234084	HF183-qPCR	93.5		P	50 - 175
2234085	HF183-qPCR	99.4		P	50 - 175
2234086	HF183-qPCR	98.5		P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P395427

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233396	BacR-qPCR	83.0	76.5	P/P	50 - 175
2233397	BacR-qPCR	76.5		P	50 - 175
2233398	BacR-qPCR	83.8		P	50 - 175
2233399	BacR-qPCR	72.1		P	50 - 175
2233400	BacR-qPCR	75.5		P	50 - 175
2233499	BacR-qPCR	57.6		P	50 - 175
2233628	BacR-qPCR	87.5		P	50 - 175
2233652	BacR-qPCR	75.7		P	50 - 175
2234082	BacR-qPCR	77.2		P	50 - 175
2234083	BacR-qPCR	85.5		P	50 - 175
2234084	BacR-qPCR	81.3		P	50 - 175
2234085	BacR-qPCR	70.0		P	50 - 175
2234086	BacR-qPCR	78.3		P	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P395427

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.5
Batch ID: P395427

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233396	DG3-qPCR	93.7	93.8	P/P	50 - 175
2233397	DG3-qPCR	94.3		P	50 - 175
2233398	DG3-qPCR	85.6		P	50 - 175
2233399	DG3-qPCR	90.1		P	50 - 175
2233400	DG3-qPCR	89.3		P	50 - 175
2233499	DG3-qPCR	72.4		P	50 - 175
2233628	DG3-qPCR	93.3		P	50 - 175
2233652	DG3-qPCR	83.9		P	50 - 175
2234082	DG3-qPCR	87.2		P	50 - 175
2234083	DG3-qPCR	85.2		P	50 - 175
2234084	DG3-qPCR	89.3		P	50 - 175
2234085	DG3-qPCR	86.6		P	50 - 175
2234086	DG3-qPCR	88.2		P	50 - 175

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P395739

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233614	Chlorophyll-a, Corrected	1.15	Sample	P	0 - 25
2233614	Chlorophyll-a, Uncorrected	0.875	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P395427

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233396	HF183-qPCR	9.62	Spike	P	0 - 25

Reference Method: SOP-PCR-1.4
Batch ID: P395427

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233396	BacR-qPCR	8.14	Spike	P	0 - 25

Reference Method: SOP-PCR-1.5
Batch ID: P395427

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233396	DG3-qPCR	0.0886	Spike	P	0 - 25

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Quality Assurance Report Surrogates

Lab Sample ID: 2233652
Field Sample ID: G2NE0735

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	98.0	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	92.8	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	95.6	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	85.3						1.15	
	Chlorophyll-a, Uncorrected							0.875	
SOP-PCR-1.0	HF183-qPCR	99.1	95.5	92.0	101	87.3			9.62
				87.7					
SOP-PCR-1.4	BacR-qPCR	92.5	90.4	83.0	76.5	76.5			8.14
				83.8					
SOP-PCR-1.5	DG3-qPCR	94.6	86.4	93.7	93.8	94.3			0.0886
				85.6					

Reference Method Descriptions

Method	Description	Associated Samples
ASTM D650399	Enterococci by Enterolert/QT by ALS in Jacksonville	2233646, 2233647, 2233649, 2233651
SM 10200 H (mod.)	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2233642, 2233643, 2233644, 2233645
SM 9223 B Quanti-Tray	E. coli by Colilert/QT by ALS in Jacksonville	2233648, 2233650
SOP-PCR-1.0	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2233652
SOP-PCR-1.4	Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction	2233652
SOP-PCR-1.5	Detection and quantification of canine-specific DG3 Bacteroides genetic marker with quantitative polymerase chain reaction	2233652

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
ASTM D650399	03/24/2021	03/24/2021 16:58		03/25/2021 17:36	ALS Environmental, Jax	2233646, 2233647, 2233649, 2233651
SM 10200 H (mod.)	03/25/2021	03/25/2021 12:49	Yuliya Danyuk	03/31/2021 08:28	Yuliya Danyuk	2233642, 2233643, 2233644, 2233645
SM 9223 B Quanti-Tray	03/24/2021	03/24/2021 17:03		03/25/2021 17:39	ALS Environmental, Jax	2233648, 2233650
SOP-PCR-1.0	03/25/2021	03/25/2021 12:10	DeAsia Armster	03/30/2021 12:15	Mailin Lopez	2233652
SOP-PCR-1.4	03/25/2021	03/25/2021 12:10	DeAsia Armster	03/31/2021 08:26	Mailin Lopez	2233652
SOP-PCR-1.5	03/25/2021	03/25/2021 12:10	DeAsia Armster	03/31/2021 09:08	Mailin Lopez	2233652