

Biological Analysis Report

NE-DIST-2019-09-21-02

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
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 Downtown and Unnamed**

Request ID: **RQ-2019-09-16-17**

Customer: **NE-DIST**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

For additional information please contact
Cheryl Swanson - Administrator
Jacqueline Savage - Microbiology
Diane Power - Bench Biology
Andrew Tintle - Aquatic Toxicology
Puja Jasrotia, Ph.D. - Molecular Biology
Amelia Rankin - Taxonomy (Invertebrate & Algal)
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8177

Certified by: Puja Jasrotia, Environmental Manager

Date Certified: 07-NOV-2019 14:49



NON-CONFORMANCE REPORT INCLUDED

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: UNNAMED CREEK AT VAN GUNDY

Collection Date/Time: 09/19/2019 09:40

Field ID: G2NE1192

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121667	SM 10200 H (mod.)	Chlorophyll-a, Corrected	21	Q	ug/L	P371645	
		Phaeophytin-a	11	Q	ug/L	P371645	
		Chlorophyll-a, Uncorrected	28	Q	ug/L	P371645	
2121670	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	45		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. See nonconformance report #7968.

Sample Location: BLOCKHOUSE 100M ABV IRMA RD

Collection Date/Time: 09/19/2019 10:50

Field ID: G2NE1159

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121666	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.5	IQ	ug/L	P371645	
		Phaeophytin-a	1.1	UQ	ug/L	P371645	
		Chlorophyll-a, Uncorrected	2.7	Q	ug/L	P371645	
2121669	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	727		MPN/100 mL		
2121672	SOP-PCR-1.0	HF183-qPCR**	460	I	GEU/100 mL	P370882	
	SOP-PCR-1.4	BacR-qPCR**	3.0E+03	U	TSC/100 mL	P370882	LCS

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. See nonconformance report #7968.

SOP-PCR-1.4: Precision data unavailable for Analysis Batch A94945.

Sample Location: DEER CR @ TALLEYRAND AVE.

Collection Date/Time: 09/19/2019 11:25

Field ID: 20030792

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121665	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.5	IQ	ug/L	P371645	
		Phaeophytin-a	1.8	UQ	ug/L	P371645	
		Chlorophyll-a, Uncorrected	4.4	Q	ug/L	P371645	
2121668	ASTM D650399	ENTEROCOCCI-ENTEROLERT	7300		MPN/100 mL		
2121671	SOP-PCR-1.0	HF183-qPCR**	960		GEU/100 mL	P370882	

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. See nonconformance report #7968.

Non-Conformance Report

NCR ID: 7968

Event(s)

Job(s)

Sample(s)

Test(s)

NE-DIST-2019-09-21-02

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: Samples arrived one or more days late by FedEx, samples received within the acceptable temperature range.

Resolution: Customer contacted, email correspondence attached to sample submittal forms.
 Samples will be qualified as appropriate.

Authorized by/Date: Joshua Ayres 10/18/2019

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry Colin Wright (850) 245-8085
Biology Cheryl Swanson (850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P371645

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: P370882

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

Reference Method: SOP-PCR-1.4
Batch ID: P370882

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: P371645

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	102		P	84 - 116

Reference Method: SOP-PCR-1.0
Batch ID: P370882

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	115	90.1	P/P	50 - 175
HF183-qPCR	114	117	P/P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P370882

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	95.1	226	P/F	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P370882

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
---------------	-----------	---------	---------	-----------	----------------

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P370882

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120245	HF183-qPCR	117	117	P/P	50 - 175
2120849	HF183-qPCR	113		P	50 - 175
2121101	HF183-qPCR	121		P	50 - 175
2121102	HF183-qPCR	121		P	50 - 175
2121310	HF183-qPCR	116		P	50 - 175
2121621	HF183-qPCR	88.1		P	50 - 175
2121622	HF183-qPCR	87.8		P	50 - 175
2121671	HF183-qPCR	106		P	50 - 175
2121672	HF183-qPCR	115		P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P370882

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120850	BacR-qPCR	69.8		P	50 - 175
2121672	BacR-qPCR	82.0		P	50 - 175

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P371645

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121731	Chlorophyll-a, Corrected	5.45	Sample	P	0 - 25
2121731	Chlorophyll-a, Uncorrected	5.11	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P370882

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120245	HF183-qPCR	0.178	Spike	P	0 - 25

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

Quality Assurance Report Surrogates

Lab Sample ID: 2121671
Field Sample ID: 20030792

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	109	P	50 - 300

Lab Sample ID: 2121672
Field Sample ID: G2NE1159

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
------------------	-----------	--------	-----------	----------------

Quality Assurance Report Surrogates

Lab Sample ID: 2121672
Field Sample ID: G2NE1159

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	124	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	95.7	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	102							5.45	
	Chlorophyll-a, Uncorrected								5.11	
SOP-PCR-1.0	HF183-qPCR	115	117	114	117	117	113			0.178
		90.1			121					
SOP-PCR-1.4	BacR-qPCR	226	95.1		69.8	82.0				

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
ASTM D650399 / E82502	Enterococci by Enterolert/QT by ALS in Jacksonville	2121668
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2121665, 2121666, 2121667
SM 9223 B Quanti-Tray / E82502	E. coli by Colilert/QT by ALS in Jacksonville	2121669, 2121670
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2121671, 2121672
SOP-PCR-1.4 / E31780	Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction	2121672

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
ASTM D650399	09/19/2019	09/19/2019 13:27		09/20/2019 14:39	ALS Environmental, Jax	2121668
SM 10200 H (mod.)	09/21/2019	09/21/2019 11:50	Peterson Janvier	09/30/2019 13:05	Carina A. Tull	2121665, 2121666, 2121667
SM 9223 B Quanti-Tray	09/19/2019	09/19/2019 13:51		09/20/2019 14:25	ALS Environmental, Jax	2121669, 2121670
SOP-PCR-1.0	09/21/2019	09/21/2019 10:30	Angela Smith	10/10/2019 15:12	Lauren Campbell	2121671, 2121672
SOP-PCR-1.4	09/21/2019	09/21/2019 10:30	Angela Smith	10/11/2019 12:14	Lauren Campbell	2121672