

Biological Analysis Report

NE-DIST-2018-06-20-01

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: **Suwannee North 2**

Request ID: **RQ-2018-06-18-13**

Customer: **NE-DIST**

Project ID: **SMP**

Send Reports to:

FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
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Certified by: Cheryl A. Swanson, Program Administrator

Date Certified: 01-AUG-2018 10:47



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: HUNTERS CREEK AT SR 135

Collection Date/Time: 06/19/2018 11:40

Field ID: 21020063

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2002192	SM 9223 B	Escherichia Coli-Quanti-Tray	97		MPN/100 mL		

Sample Location: LITTLE CREEK AT US 441

Collection Date/Time: 06/19/2018 12:10

Field ID: 21010033

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2002183	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.92	I	ug/L	P347702	
		Phaeophytin-a	0.40	U	ug/L	P347702	
		Chlorophyll-a, Uncorrected	1.1	I	ug/L	P347702	
2002189	SM 9223 B	Escherichia Coli-Quanti-Tray	75		MPN/100 mL		
2002193	SOP-PCR-4.0	HF183 - Human Source Marker**	Below Threshold				

Ref. Method and Comment:

SM 10200 H (mod.): Lab dup result is 0.55 U for Chl-a Corrected, 0.43 I for Chl-a Uncorrected, and 0.40 U for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample.

Sample Location: DEEP CREEK @ HYWY 441

Collection Date/Time: 06/19/2018 10:55

Field ID: 21010051

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2002184	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.62	U	ug/L	P347702	
		Phaeophytin-a	0.45	U	ug/L	P347702	
		Chlorophyll-a, Uncorrected	0.45	U	ug/L	P347702	
2002190	SM 9223 B	Escherichia Coli-Quanti-Tray	10		MPN/100 mL		
2002194	SOP-PCR-1.4	BacR-qPCR**	1.0E+03	U	TSC/100 mL	P347054	LCS
	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.

SOP-PCR-1.4: Precision data unavailable for Analysis Batch A84869.

Sample Location: FALLING CREEK @ US 441

Collection Date/Time: 06/19/2018 09:55

Field ID: 21010064

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2002185	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.55	U	ug/L	P347702	
		Phaeophytin-a	0.40	U	ug/L	P347702	
		Chlorophyll-a, Uncorrected	0.45	I	ug/L	P347702	
2002191	SM 9223 B	Escherichia Coli-Quanti-Tray	199		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.

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)

Batch ID: P347702

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P347702

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-1.4
Batch ID: P347054

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P347702

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	91.0		P	84 - 116

Reference Method: SOP-PCR-1.4
Batch ID: P347054

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	384	76.2	F/P	50 - 175
BacR-qPCR	135	82.8	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.4
Batch ID: P347054

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1996157	BacR-qPCR	125		P	50 - 175
1996529	BacR-qPCR	60.6		P	50 - 175
2000535	BacR-qPCR	59.9		P	50 - 175
2001856	BacR-qPCR	50.1		P	50 - 175
2002194	BacR-qPCR	73.1		P	50 - 175

Quality Assurance Report Surrogates

Lab Sample ID: 2002194
Field Sample ID: 21010051

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.4	SKETA-qPCR	144	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	91.0								
SOP-PCR-1.4	BacR-qPCR	384	82.8	135	60.6	73.1	125			
		76.2			59.9					

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2002183, 2002184, 2002185
SM 9223 B / E82502	Escherichia coli by Colilert Quanti-Tray method by ALS Environmental Laboratory	2002189, 2002190, 2002191, 2002192
SOP-PCR-1.4 / E31780	Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction	2002194
SOP-PCR-4.0 / E31780	Preparation of Samples by Filtration and held for qPCR Analysis	2002193, 2002194

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 10200 H (mod.)	06/20/2018	06/20/2018 15:00	Mariam Hanna	06/27/2018 13:45	Carina A. Tull	2002183, 2002184, 2002185
SM 9223 B	06/19/2018	06/19/2018 15:02		06/20/2018 15:20	ALS Environmental, Jax	2002189, 2002190, 2002191, 2002192
SOP-PCR-1.4	06/20/2018	06/20/2018 13:20	Angela Smith	06/27/2018 11:07	Mailin Lopez	2002194
SOP-PCR-4.0	06/20/2018	06/20/2018 13:20	Angela Smith	07/16/2018 10:36	Puja Jasrotia	2002193, 2002194