

Biological Analysis Report

WQAP-2017-11-15-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Overflow Analyses Performed By:
Sanders Laboratories
10090 Bavaria Road
Ft. Myers, FL 33913
DOH Accreditation E85457

Event Description: **Pollywog OK Roberts & Telegraph**
Request ID: **RQ-2017-11-13-06**
Customer: **WQAP**
Project ID: **SMP**

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Certified by: Jennifer Walters, Environmental Manager

Date Certified: 29-DEC-2017 14:25



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: Pollywog Creek @ SR78

Collection Date/Time: 11/14/2017 13:20

Field ID: G3SD111417-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946363	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.78	I	ug/L	P336214	
		Phaeophytin-a	1.2		ug/L	P336214	
		Chlorophyll-a, Uncorrected	1.6		ug/L	P336214	

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: Pollywog Creek @ SR78

Collection Date/Time: 11/14/2017 13:20

Field ID: G3SD111417-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946368	SOP-PCR-1.0	HF183-qPCR**	110	T	GEU/100 mL	P336561	
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				
1946370	SM 9223 Quanti-Tray	Escherichia Coli-Quanti-Tray**	410.6		MPN/100 mL		

Sample Location: Ok Branch @ Eucalyptus Bld.

Collection Date/Time: 11/14/2017 13:50

Field ID: G3SD111417-2

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946364	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.9		ug/L	P336214	
		Phaeophytin-a	0.87	I	ug/L	P336214	
		Chlorophyll-a, Uncorrected	2.5		ug/L	P336214	

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: Banana Branch @ Ft. Denaud Rd.

Collection Date/Time: 11/14/2017 14:25

Field ID: G3SD111417-3

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946361	SM 10200 H (mod.)	Chlorophyll-a, Corrected	11	A	ug/L	P336151	
		Phaeophytin-a	3.4	A	ug/L	P336151	
		Chlorophyll-a, Uncorrected	14	A	ug/L	P336151	

Sample Location: Telegraph Swamp South Site

Collection Date/Time: 11/14/2017 12:05

Field ID: G3SD111417-4

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946362	SM 10200 H (mod.)	Chlorophyll-a, Corrected	26		ug/L	P336151	
		Phaeophytin-a	2.6		ug/L	P336151	
		Chlorophyll-a, Uncorrected	29		ug/L	P336151	

**Quality Assurance Report
Method Blank Results**

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P336151

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: SM 10200 H (mod.)
Batch ID: P336214

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: P336561

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P336151

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	98.9		P	84 - 116

Reference Method: SM 10200 H (mod.)
Batch ID: P336214

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	92.5		P	84 - 116

Reference Method: SOP-PCR-1.0
Batch ID: P336561

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	108	115	P/P	50 - 175
HF183-qPCR	67.2	110	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P336561

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942583	HF183-qPCR	68.5		P	50 - 175
1943494	HF183-qPCR	67.8		P	50 - 175
1946368	HF183-qPCR	70.3		P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P336561

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1947217	HF183-qPCR	75.7		P	50 - 175
1950320	HF183-qPCR	67.8		P	50 - 175
1950321	HF183-qPCR	67.6		P	50 - 175
1951207	HF183-qPCR	99.7		P	50 - 175
1951442	HF183-qPCR	79.1		P	50 - 175
1951443	HF183-qPCR	75.7	74.3	P/P	50 - 175
1951610	HF183-qPCR	92.2		P	50 - 175
1951702	HF183-qPCR	83.4		P	50 - 175
1951703	HF183-qPCR	76.2		P	50 - 175

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P336151

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946361	Chlorophyll-a, Corrected	9.79	Sample	P	0 - 25
1946361	Chlorophyll-a, Uncorrected	10.5	Sample	P	0 - 25
1946361	Phaeophytin-a	14.5	Sample	P	0 - 25

Reference Method: SM 10200 H (mod.)
Batch ID: P336214

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946668	Chlorophyll-a, Corrected	8.35	Sample	P	0 - 25
1946668	Chlorophyll-a, Uncorrected	9.20	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P336561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951443	HF183-qPCR	1.80	Spike	P	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: 1946368
Field Sample ID: G3SD111417-1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	94.4	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	98.9							9.79	
	Chlorophyll-a, Corrected	92.5							8.35	
	Chlorophyll-a, Uncorrected								10.5	
	Chlorophyll-a, Uncorrected								9.20	
	Phaeophytin-a								14.5	
SOP-PCR-1.0	HF183-qPCR	108	110	67.2	79.1	75.7	74.3			1.80
		115			92.2					

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	1946361, 1946362, 1946363, 1946364
SM 9223 Quanti-Tray / E85457	Escherichia coli by Colilert 18 Quanti-Tray method by Sanders Laboratories for South District	1946370
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	1946368
SOP-PCR-4.0 / E31780	Preparation of Samples by Filtration and held for qPCR Analysis	1946368

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 10200 H (mod.)	11/15/2017	11/15/2017 12:53	Cathy Sherrer	11/30/2017	Kim M. Spencer	1946361, 1946362
	11/15/2017	11/15/2017 12:53	Cathy Sherrer	12/01/2017	Kim M. Spencer	1946363, 1946364
SM 9223 Quanti-Tray	11/14/2017	11/14/2017 15:55		11/15/2017 10:30	Sanders-Fort Myers	1946370
SOP-PCR-1.0	11/15/2017	11/15/2017 13:30	Sarah Menz	12/14/2017	Sarah Menz	1946368
SOP-PCR-4.0	11/15/2017	11/15/2017 13:30	Sarah Menz	12/12/2017	Puja Jasrotia	1946368