

Biological Analysis Report

SW-DIST-2018-05-03-01

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

Overflow Analyses Performed By:
Advanced Environmental Laboratories - Tampa
9610 Princess Palm Avenue
Tampa, Florida 33619
DOH Accreditation E84589

Event Description: **Snug, PP#1, BasinV, Mckay tidal**
Request ID: **RQ-2018-04-30-06**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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Date Certified: 06-JUN-2018 11:32



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: SNUG HARBOR TP428

Collection Date/Time: 05/02/2018 09:50

Field ID: G1SW0099

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1989901	SM 10200 H (mod.)	Chlorophyll-a, Corrected	5.6		ug/L	P345274	RPD
		Phaeophytin-a	2.2		ug/L	P345274	RPD
		Chlorophyll-a, Uncorrected	7.2		ug/L	P345274	
1989910	SM 9222 D	Fecal Coliforms-Membrane Filter	4	U	cfu/100 mL		
	SM 9230 C	Enterococci-Membrane Filter	8	B	cfu/100 mL		

Sample Location: MCKAY CREEK TIDAL OFF HICKORY

Collection Date/Time: 05/02/2018 11:25

Field ID: G5SW0130

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1989912	SM 9230 C	Enterococci-Membrane Filter	184		cfu/100 mL		

Sample Location: PINELLAS PT. BASIN V

Collection Date/Time: 05/02/2018 10:25

Field ID: G1SW0100

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1989902	SM 10200 H (mod.)	Chlorophyll-a, Corrected	11		ug/L	P345274	RPD
		Phaeophytin-a	8.9		ug/L	P345274	RPD
		Chlorophyll-a, Uncorrected	16		ug/L	P345274	
1989911	SM 9222 D	Fecal Coliforms-Membrane Filter	350		cfu/100 mL		
	SM 9230 C	Enterococci-Membrane Filter	1700	B	cfu/100 mL		

Sample Location: PINELLAS PARK DITCH NO.1

Collection Date/Time: 05/02/2018 12:10

Field ID: G5SW0134

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1989900	SM 10200 H (mod.)	Chlorophyll-a, Corrected	6.0		ug/L	P345274	RPD
		Phaeophytin-a	2.6		ug/L	P345274	RPD
		Chlorophyll-a, Uncorrected	7.7		ug/L	P345274	
1989903	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P344387	
1989909	SM 9230 C	Enterococci-Membrane Filter	12	B	cfu/100 mL		

Ref. Method and Comment:
SOP-PCR-1.0: No amplification of HF183 marker.

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P345274

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

Quality Assurance Report Method Blank Results

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

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P345274

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	90.2		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

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

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P345274

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989772	Chlorophyll-a, Corrected	75.9	Sample	F	0 - 25
1989772	Chlorophyll-a, Uncorrected	1.62	Sample	P	0 - 25
1989772	Phaeophytin-a	124	Sample	F	0 - 25

Quality Assurance Report Precision

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

* 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: 1989903
 Field Sample ID: G5SW0134

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	116	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	90.2						75.9	
	Chlorophyll-a, Uncorrected							1.62	
	Phaeophytin-a							124	
SOP-PCR-1.0	HF183-qPCR	119	116	107	103	98.1			0.553
				96.3					

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	1989900, 1989901, 1989902
SM 9222 D / E84589	Fecal coliforms by membrane filter method by Advanced Environmental Overflow Laboratories for SWD	1989910, 1989911
SM 9230 C / E84589	Enterococci by membrane filter method by Advanced Environmental Overflow Laboratories for SWD	1989909, 1989910, 1989911, 1989912
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	1989903

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 10200 H (mod.)	05/03/2018	05/03/2018 14:20	Edwin Gonzalez-Soto	05/09/2018 09:05	Carina A. Tull	1989900, 1989901, 1989902
SM 9222 D	05/02/2018	05/02/2018 16:30		05/03/2018 14:30	AEL - Tampa	1989910, 1989911
SM 9230 C	05/02/2018	05/02/2018 17:00		05/03/2018 15:00	AEL - Tampa	1989909, 1989910, 1989911, 1989912
SOP-PCR-1.0	05/03/2018	05/03/2018 12:45	Puja Jasrotia	05/04/2018 13:01	Mailin Lopez	1989903