

Biological Analysis Report

NE-DIST-2019-02-27-02

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: **Bmap 1**
Request ID: **RQ-2019-02-25-06**
Customer: **NE-DIST**
Project ID: **SMP**

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8800 Baymeadows Way West
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Certified by: Cheryl A. Swanson, Program Administrator

Date Certified: 27-MAR-2019 14:57



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: NW TRIBUTARY TO OPEN CR AT HODGES

Collection Date/Time: 02/26/2019 08:55

Field ID: 20030848

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2065504	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.94	I	ug/L	P359914	
		Phaeophytin-a	0.65	I	ug/L	P359914	
		Chlorophyll-a, Uncorrected	1.4		ug/L	P359914	
2065510	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	313		MPN/100 mL		
2065516	SOP-PCR-1.0	HF183-qPCR**	94	U	GEU/100 mL	P359312	

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: TERRAPIN CR @ FAYE RD.

Collection Date/Time: 02/26/2019 09:40

Field ID: 20030653

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2065505	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.3	I	ug/L	P359914	
		Phaeophytin-a	0.60	U	ug/L	P359914	
		Chlorophyll-a, Uncorrected	1.4		ug/L	P359914	
2065511	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	331		MPN/100 mL		
2065517	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P359312	

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: BUTCHER PEN CR AT WESCONNETT

Collection Date/Time: 02/26/2019 10:30

Field ID: 20030760

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2065503	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.9		ug/L	P359914	
		Phaeophytin-a	0.61	I	ug/L	P359914	
		Chlorophyll-a, Uncorrected	3.4		ug/L	P359914	
2065508	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	676		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: BUTCHER PEN CR AT CONFEDERATE

Collection Date/Time: 02/26/2019 10:50

Field ID: 20030082

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2065513	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	588		MPN/100 mL		

Sample Location: CRAIG CR @ HENDRICKS AVE

Collection Date/Time: 02/26/2019 11:20

Field ID: 20030793

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2065509	ASTM D650399	ENTEROCOCCI-ENTEROLERT	380		MPN/100 mL		
2065515	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P359312	

Sample Location: CRAIG CR. 100M DOWN FROM FOOTBRIDGE IN PARK

Collection Date/Time: 02/26/2019 11:35

Field ID: 20030958

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2065502	SM 10200 H (mod.)	Chlorophyll-a, Corrected	46		ug/L	P359914	
		Phaeophytin-a	0.98	I	ug/L	P359914	
		Chlorophyll-a, Uncorrected	49		ug/L	P359914	
2065507	ASTM D650399	ENTEROCOCCI-ENTEROLERT	300		MPN/100 mL		
2065514	SOP-PCR-1.0	HF183-qPCR**	94	U	GEU/100 mL	P359312	

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: GOODBYS CR ABOVE WEST BRANCH AT SAN CLERC Collection Date/Time: 02/26/2019 12:00

Field ID: 20030891

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2065506	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.4		ug/L	P360113	
		Phaeophytin-a	0.60	U	ug/L	P360113	
		Chlorophyll-a, Uncorrected	2.7		ug/L	P360113	
2065512	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	97		MPN/100 mL		
2065518	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P359312	

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: P359914

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.69	U	ug/L
Chlorophyll-a, Uncorrected	0.50	U	ug/L
Phaeophytin-a	0.75	U	ug/L

Reference Method: SM 10200 H (mod.)

Batch ID: P360113

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.55	U	ug/L
Chlorophyll-a, Uncorrected	0.40	U	ug/L
Phaeophytin-a	0.60	U	ug/L

Reference Method: SOP-PCR-1.0

Batch ID: P359312

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

Quality Assurance Report Laboratory Control Sample Accuracy

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P359914

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	103		P	84 - 116

Reference Method: SM 10200 H (mod.)
Batch ID: P360113

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

Reference Method: SOP-PCR-1.0
Batch ID: P359312

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	125	148	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P359312

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063319	HF183-qPCR	133		P	50 - 175
2063320	HF183-qPCR	149		P	50 - 175
2063859	HF183-qPCR	81.8		P	50 - 175
2064322	HF183-qPCR	113		P	50 - 175
2064323	HF183-qPCR	113	125	P/P	50 - 175
2064776	HF183-qPCR	107		P	50 - 175
2064777	HF183-qPCR	118		P	50 - 175
2064778	HF183-qPCR	126		P	50 - 175
2065514	HF183-qPCR	113		P	50 - 175
2065515	HF183-qPCR	117		P	50 - 175
2065516	HF183-qPCR	109		P	50 - 175
2065517	HF183-qPCR	107		P	50 - 175
2065518	HF183-qPCR	127		P	50 - 175

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P359914

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2065474	Chlorophyll-a, Corrected	1.35	Sample	P	0 - 25
2065474	Chlorophyll-a, Uncorrected	3.37	Sample	P	0 - 25

Reference Method: SM 10200 H (mod.)
Batch ID: P360113

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P360113

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2065558	Chlorophyll-a, Corrected	2.21	Sample	P	0 - 25
2065558	Chlorophyll-a, Uncorrected	1.46	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P359312

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2064323	HF183-qPCR	10.0	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: 2065514
Field Sample ID: 20030958

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	91.5	P	50 - 300

Lab Sample ID: 2065515
Field Sample ID: 20030793

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	104	P	50 - 300

Lab Sample ID: 2065516
Field Sample ID: 20030848

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	99.6	P	50 - 300

Lab Sample ID: 2065517
Field Sample ID: 20030653

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	94.0	P	50 - 300

Lab Sample ID: 2065518
Field Sample ID: 20030891

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	99.1	P	50 - 300

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision	
							LCS	MS
SM 10200 H (mod.)	Chlorophyll-a, Corrected	103					SMP	1.35
	Chlorophyll-a, Corrected	102						2.21
	Chlorophyll-a, Uncorrected							3.37
	Chlorophyll-a, Uncorrected							1.46
SOP-PCR-1.0	HF183-qPCR	148	125	113	125	133		10.0
				149				

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
ASTM D650399 / E82502	Enterococci by Enterolert Quanti-Tray Method by ALS Environmental Laboratory in Jacksonville	2065507, 2065509
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2065502, 2065503, 2065504, 2065505, 2065506
SM 9223 B Quanti-Tray / E82502	Escherichia coli by Colilert Quanti-Tray method by ALS Environmental Laboratory in Jacksonville	2065508, 2065510, 2065511, 2065512, 2065513
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2065514, 2065515, 2065516, 2065517, 2065518

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
ASTM D650399	02/26/2019	02/26/2019 13:24		02/27/2019 14:40	ALS Environmental, Jax	2065507, 2065509
SM 10200 H (mod.)	02/27/2019	02/27/2019 12:10	Jennifer Mihalic	03/05/2019 11:20	Peterson Janvier	2065502, 2065503, 2065504, 2065505
	02/27/2019	02/27/2019 12:10	Jennifer Mihalic	03/06/2019 10:05	Peterson Janvier	2065506
SM 9223 B Quanti-Tray	02/26/2019	02/26/2019 13:45		02/27/2019 13:52	ALS Environmental, Jax	2065508, 2065510, 2065511, 2065512, 2065513
SOP-PCR-1.0	02/27/2019	02/27/2019 15:00	Angela Smith	03/04/2019 12:14	Mailin Lopez	2065514, 2065515, 2065516, 2065517, 2065518