

Biological Analysis Report

NE-DIST-2019-04-16-01

Florida Department of Environmental Protection
Central Laboratory
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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-2019-04-15-16**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Jacqueline Savage, Environmental Administrator

Date Certified: 22-MAY-2019 13:11



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: 04/15/2019 10:50

Field ID: 20030848

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2078265	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.6	U	ug/L	P363026	
		Phaeophytin-a	1.8	U	ug/L	P363026	
		Chlorophyll-a, Uncorrected	1.5	I	ug/L	P363026	
2078270	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	279		MPN/100 mL		
2078277	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P362090	LCS

Sample Location: TERRAPIN CR @ FAYE RD

Collection Date/Time: 04/15/2019 10:15

Field ID: 20030653

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2078266	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.6	U	ug/L	P363027	
		Phaeophytin-a	1.8	U	ug/L	P363027	
		Chlorophyll-a, Uncorrected	1.2	I	ug/L	P363027	
2078271	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	3260		MPN/100 mL		
2078278	SOP-PCR-1.0	HF183-qPCR**	280	U	GEU/100 mL	P362090	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.

Sample Location: GOODBYS CR ABOVE WEST BRANCH AT SAN CLERC

Collection Date/Time: 04/15/2019 14:05

Field ID: 20030891

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2078267	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.6	U	ug/L	P363027	
		Phaeophytin-a	1.8	U	ug/L	P363027	
		Chlorophyll-a, Uncorrected	1.2	U	ug/L	P363027	
2078272	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	743		MPN/100 mL		
2078279	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P362090	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.

Sample Location: BUTCHER PEN CR AT WESCONNETH

Collection Date/Time: 04/15/2019 12:30

Field ID: 20030760

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2078275	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	231		MPN/100 mL		

Sample Location: CRAIG CR @ HENDRICKS AVE

Collection Date/Time: 04/15/2019 13:45

Field ID: 20030793

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2078274	ASTM D650399	ENTEROCOCCI-ENTEROLERT	170		MPN/100 mL		
2078280	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P362090	LCS

Sample Location: BUTCHER PEN CR AT CONFEDERATE

Collection Date/Time: 04/15/2019 12:40

Field ID: 20030082

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2078268	SM 10200 H (mod.)	Chlorophyll-a, Corrected	47		ug/L	P363027	
		Phaeophytin-a	6.5		ug/L	P363027	
		Chlorophyll-a, Uncorrected	53		ug/L	P363027	
2078273	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	355		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: CRAIG CR. 100M DOWN FROM FOOTBRIDGE IN PARK **Collection Date/Time: 04/15/2019 13:25**

Field ID: 20030958

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2078264	SM 10200 H (mod.)	Chlorophyll-a, Corrected	96		ug/L	P363026	
		Phaeophytin-a	8.6		ug/L	P363026	
		Chlorophyll-a, Uncorrected	110		ug/L	P363026	
2078269	ASTM D650399	ENTEROCOCCI-ENTEROLERT	400		MPN/100 mL		
2078276	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P362090	LCS

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P363026

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: SM 10200 H (mod.)
Batch ID: P363027

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: P362090

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: P363026

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	88.1		P	84 - 116

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P363027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	101		P	84 - 116

Reference Method: SOP-PCR-1.0
Batch ID: P362090

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	117	197	P/F	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P362090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074723	HF183-qPCR	92.9		P	50 - 175
2074724	HF183-qPCR	110		P	50 - 175
2078276	HF183-qPCR	84.2		P	50 - 175
2078277	HF183-qPCR	103	103	P/P	50 - 175
2078278	HF183-qPCR	88.2		P	50 - 175
2078279	HF183-qPCR	99.9		P	50 - 175
2078280	HF183-qPCR	101		P	50 - 175
2078707	HF183-qPCR	107		P	50 - 175
2079340	HF183-qPCR	100		P	50 - 175
2079341	HF183-qPCR	94.1		P	50 - 175
2079342	HF183-qPCR	103		P	50 - 175
2079788	HF183-qPCR	99.6		P	50 - 175
2079795	HF183-qPCR	98.1		P	50 - 175

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P363026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078143	Chlorophyll-a, Corrected	6.66	Sample	P	0 - 25
2078143	Chlorophyll-a, Uncorrected	6.38	Sample	P	0 - 25
2078143	Phaeophytin-a	4.77	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P362090

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078277	HF183-qPCR	0.0378	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: 2078276
Field Sample ID: 20030958

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	87.5	P	50 - 300

Lab Sample ID: 2078277
Field Sample ID: 20030848

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

Lab Sample ID: 2078278
Field Sample ID: 20030653

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	94.7	P	50 - 300

Lab Sample ID: 2078279
Field Sample ID: 20030891

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	103	P	50 - 300

Lab Sample ID: 2078280
Field Sample ID: 20030793

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision	MS
							SMP	
SM 10200 H (mod.)	Chlorophyll-a, Corrected	88.1					6.66	
	Chlorophyll-a, Corrected	101						
	Chlorophyll-a, Uncorrected						6.38	
	Phaeophytin-a						4.77	
SOP-PCR-1.0	HF183-qPCR	197	117	92.9	110	84.2		0.0378
				103				

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
ASTM D650399 / E82502	Enterococci by Enterolert Quanti-Tray Method by ALS Environmental Laboratory in Jacksonville	2078269, 2078274
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2078264, 2078265, 2078266, 2078267, 2078268
SM 9223 B Quanti-Tray / E82502	Escherichia coli by Colilert Quanti-Tray method by ALS Environmental Laboratory in Jacksonville	2078270, 2078271, 2078272, 2078273, 2078275
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2078276, 2078277, 2078278, 2078279, 2078280

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
ASTM D650399	04/15/2019	04/15/2019 16:12		04/16/2019 17:48	ALS Environmental, Jax	2078269, 2078274
SM 10200 H (mod.)	04/16/2019	04/16/2019 13:15	Edwin Gonzalez-Soto	04/29/2019 08:32	Carina A. Tull	2078264, 2078265
	04/16/2019	04/16/2019 13:15	Edwin Gonzalez-Soto	04/29/2019 09:13	Carina A. Tull	2078266, 2078267, 2078268
SM 9223 B Quanti-Tray	04/15/2019	04/15/2019 16:46		04/16/2019 17:53	ALS Environmental, Jax	2078270, 2078271, 2078272, 2078273, 2078275
SOP-PCR-1.0	04/16/2019	04/16/2019 15:15	Sarah Menz	04/26/2019 13:12	Mailin Lopez	2078276, 2078277, 2078278, 2078279, 2078280