

Biological Analysis Report

NE-DIST-2019-03-27-01

Florida Department of Environmental Protection
Central Laboratory
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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-2019-03-25-09**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Cheryl A. Swanson, Program Administrator

Date Certified: 09-MAY-2019 10:56



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: BUTCHER PEN CR AT WESCONNETT

Collection Date/Time: 03/26/2019 11:10

Field ID: 20030760

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2072939	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	2760		MPN/100 mL		

Sample Location: CRAIG CR @ HENDRICKS AVE

Collection Date/Time: 03/26/2019 12:55

Field ID: 20030793

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2072938	ASTM D650399	ENTEROCOCCI-ENTEROLERT	640		MPN/100 mL		
2072955	SOP-PCR-1.0	HF183-qPCR**	420	I	GEU/100 mL	P361000	LCS

Sample Location: NW TRIBUTARY TO OPEN CR AT HODGES

Collection Date/Time: 03/26/2019 09:25

Field ID: 20030848

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2072924	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.0	I	ug/L	P362507	
		Phaeophytin-a	1.2	I	ug/L	P362507	
		Chlorophyll-a, Uncorrected	1.8		ug/L	P362507	
2072934	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	683		MPN/100 mL		
2072952	SOP-PCR-1.0	HF183-qPCR**	350	I	GEU/100 mL	P361000	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: 03/26/2019 13:40

Field ID: 20030891

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2072925	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.1	U	ug/L	P362507	
		Phaeophytin-a	1.2	U	ug/L	P362507	
		Chlorophyll-a, Uncorrected	0.88	I	ug/L	P362507	
2072935	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	441		MPN/100 mL		
2072953	SOP-PCR-1.0	HF183-qPCR**	800		GEU/100 mL	P361000	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 CONFEDERATE

Collection Date/Time: 03/26/2019 11:25

Field ID: 20030082

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2072927	SM 10200 H (mod.)	Chlorophyll-a, Corrected	17		ug/L	P362507	
		Phaeophytin-a	5.5		ug/L	P362507	
		Chlorophyll-a, Uncorrected	21		ug/L	P362507	
2072937	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	496		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: TERRAPIN CR @ FAYE RD

Collection Date/Time: 03/26/2019 10:15

Field ID: 20030653

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2072926	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.8		ug/L	P362507	
		Phaeophytin-a	4.4		ug/L	P362507	
		Chlorophyll-a, Uncorrected	6.6		ug/L	P362507	
2072936	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	4350		MPN/100 mL		
2072954	SOP-PCR-1.0	HF183-qPCR**	940	I	GEU/100 mL	P361000	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: CRAIG CR. 100m DOWN FROM FOOTBRIDGE IN PARK Collection Date/Time: 03/26/2019 13:10

Field ID: 20030958

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2072923	SM 10200 H (mod.)	Chlorophyll-a, Corrected	130		ug/L	P362507	
		Phaeophytin-a	6.0	I	ug/L	P362507	
		Chlorophyll-a, Uncorrected	130		ug/L	P362507	
2072933	ASTM D650399	ENTEROCOCCI-ENTEROLERT	700		MPN/100 mL		
2072951	SOP-PCR-1.0	HF183-qPCR**	970		GEU/100 mL	P361000	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.

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)

Batch ID: P362507

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.62	U	ug/L
Chlorophyll-a, Uncorrected	0.45	U	ug/L
Phaeophytin-a	0.68	U	ug/L

Reference Method: SOP-PCR-1.0

Batch ID: P361000

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: P362507

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	98.3		P	84 - 116

Reference Method: SOP-PCR-1.0

Batch ID: P361000

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SOP-PCR-1.0
 Batch ID: P361000

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	121	260	P/F	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
 Batch ID: P361000

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062519	HF183-qPCR	99.5		P	50 - 175
2062520	HF183-qPCR	102	83.9	P/P	50 - 175
2062521	HF183-qPCR	93.2		P	50 - 175
2068505	HF183-qPCR	73.4		P	50 - 175
2068506	HF183-qPCR	69.8		P	50 - 175
2068510	HF183-qPCR	75.3		P	50 - 175
2070103	HF183-qPCR	113		P	50 - 175
2072476	HF183-qPCR	111		P	50 - 175
2072951	HF183-qPCR	93.6		P	50 - 175
2072952	HF183-qPCR	110		P	50 - 175
2072953	HF183-qPCR	106		P	50 - 175
2072954	HF183-qPCR	81.4		P	50 - 175
2072955	HF183-qPCR	125		P	50 - 175

Quality Assurance Report Precision

Reference Method: SOP-PCR-1.0
 Batch ID: P361000

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062520	HF183-qPCR	19.0	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: 2072951
 Field Sample ID: 20030958

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	91.2	P	50 - 300

Lab Sample ID: 2072952
 Field Sample ID: 20030848

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	102	P	50 - 300

Quality Assurance Report Surrogates

Lab Sample ID: 2072953
Field Sample ID: 20030891

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	106	P	50 - 300

Lab Sample ID: 2072954
Field Sample ID: 20030653

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	95.9	P	50 - 300

Lab Sample ID: 2072955
Field Sample ID: 20030793

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	105	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	98.3				
SOP-PCR-1.0	HF183-qPCR	260 121	113 111 99.5 102			19.0

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
ASTM D650399 / E82502	Enterococci by Enterolert Quanti-Tray Method by ALS Environmental Laboratory in Jacksonville	2072933, 2072938
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2072923, 2072924, 2072925, 2072926, 2072927
SM 9223 B Quanti-Tray / E82502	Escherichia coli by Colilert Quanti-Tray method by ALS Environmental Laboratory in Jacksonville	2072934, 2072935, 2072936, 2072937, 2072939
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2072951, 2072952, 2072953, 2072954, 2072955

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
ASTM D650399	03/26/2019	03/26/2019 14:55	Carina A. Tull	03/27/2019 15:23	ALS Environmental, Jax	2072933, 2072938
SM 10200 H (mod.)	03/27/2019	03/27/2019 13:50		04/09/2019 09:00	Jennifer Mihalic	2072923, 2072924, 2072925, 2072926, 2072927
SM 9223 B Quanti-Tray	03/26/2019	03/26/2019 15:06	Sarah Menz	03/27/2019 15:32	ALS Environmental, Jax	2072934, 2072935, 2072936, 2072937, 2072939
SOP-PCR-1.0	03/27/2019	03/27/2019 15:30		03/29/2019 08:38	Mailin Lopez	2072951, 2072952, 2072953, 2072954, 2072955