

Biological Analysis Report

NE-DIST-2019-07-17-01

Florida Department of Environmental Protection
Central Laboratory
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DOH Accreditation E31780

Overflow Analyses Performed By:
ALS Environmental - Jacksonville
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Jacksonville, FL 32256
DOH Accreditation E82502

Event Description: **Bmap 1**
Request ID: **RQ-2019-07-15-11**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Puja Jasrotia, Environmental Manager

Date Certified: 15-AUG-2019 08:00



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 CONFEDERATE

Collection Date/Time: 07/16/2019 10:25

Field ID: 20030082

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2103712	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	98		MPN/100 mL		

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

Collection Date/Time: 07/16/2019 11:55

Field ID: 20030958

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2103701	SM 10200 H (mod.)	Chlorophyll-a, Corrected	47		ug/L	P368093	
		Phaeophytin-a	3.0	U	ug/L	P368093	
		Chlorophyll-a, Uncorrected	50		ug/L	P368093	
2103706	ASTM D650399	ENTEROCOCCI-ENTEROLERT	260		MPN/100 mL		
2103713	SOP-PCR-1.0	HF183-qPCR**	170	I	GEU/100 mL	P367129	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.

SOP-PCR-1.0: Precision data unavailable for Analysis Batch A92935

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

Collection Date/Time: 07/16/2019 12:00

Field ID: 20030958 dup

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2103702	SM 10200 H (mod.)	Chlorophyll-a, Corrected	45	A	ug/L	P368093	
		Phaeophytin-a	3.1	I	ug/L	P368093	
		Chlorophyll-a, Uncorrected	49	A	ug/L	P368093	
2103707	ASTM D650399	ENTEROCOCCI-ENTEROLERT	130		MPN/100 mL		
2103714	SOP-PCR-1.0	HF183-qPCR**	280	I	GEU/100 mL	P367377	LCS

Ref. Method and Comment:

SM 10200 H (mod.): Laboratory duplicate result is 3.0 I for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample.

Sample Location: BUTCHER PEN CR AT WESCONNETT

Collection Date/Time: 07/16/2019 10:50

Field ID: 20030760

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2103705	SM 10200 H (mod.)	Chlorophyll-a, Corrected	7.6		ug/L	P368093	
		Phaeophytin-a	0.90	U	ug/L	P368093	
		Chlorophyll-a, Uncorrected	7.8		ug/L	P368093	
2103710	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	880		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: GOODBYS CR ABOVE WEST BRANCH AT SAN CLERC

Collection Date/Time: 07/16/2019 13:05

Field ID: 20030891

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2103703	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.93	I	ug/L	P368093	

Field ID: 20030891

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2103703	SM 10200 H (mod.)	Phaeophytin-a	0.90	U	ug/L	P368093	
		Chlorophyll-a, Uncorrected	1.1	I	ug/L	P368093	
2103708	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	1060		MPN/100 mL		
2103715	SOP-PCR-1.0	HF183-qPCR**	150	I	GEU/100 mL	P367377	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 @ HENDRICKS AVE

Collection Date/Time: 07/16/2019 12:35

Field ID: 20030793

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2103711	ASTM D650399	ENTEROCOCCI-ENTEROLERT	2200		MPN/100 mL		
2103717	SOP-PCR-1.0	HF183-qPCR**	1.65E+03		GEU/100 mL	P367377	LCS

Sample Location: NW TRIBUTARY TO OPEN CR AT HODGES

Collection Date/Time: 07/16/2019 08:55

Field ID: 20030848

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2103704	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.3		ug/L	P368093	
		Phaeophytin-a	1.2	I	ug/L	P368093	
		Chlorophyll-a, Uncorrected	4.2		ug/L	P368093	
2103709	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	355		MPN/100 mL		
2103716	SOP-PCR-1.0	HF183-qPCR**	300	I	GEU/100 mL	P367377	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: P368093

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: P367129

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

Reference Method: SOP-PCR-1.0

Batch ID: P367377

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: P368093

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	88.2		P	84 - 116

Reference Method: SOP-PCR-1.0
Batch ID: P367129

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	146	185	P/F	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P367377

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	148	258	P/F	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P367129

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099579	HF183-qPCR	127		P	50 - 175
2099580	HF183-qPCR	99.4		P	50 - 175
2103031	HF183-qPCR	123		P	50 - 175
2103085	HF183-qPCR	118		P	50 - 175
2103086	HF183-qPCR	61.2		P	50 - 175
2103713	HF183-qPCR	97.2		P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P367377

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2100794	HF183-qPCR	126		P	50 - 175
2100796	HF183-qPCR	124		P	50 - 175
2101217	HF183-qPCR	133		P	50 - 175
2103714	HF183-qPCR	142	125	P/P	50 - 175
2103715	HF183-qPCR	142		P	50 - 175
2103716	HF183-qPCR	140		P	50 - 175
2103717	HF183-qPCR	130		P	50 - 175
2104382	HF183-qPCR	121		P	50 - 175
2104383	HF183-qPCR	112		P	50 - 175
2104384	HF183-qPCR	134		P	50 - 175
2104641	HF183-qPCR	111		P	50 - 175
2104642	HF183-qPCR	124		P	50 - 175
2104643	HF183-qPCR	132		P	50 - 175

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P368093

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103702	Chlorophyll-a, Corrected	5.84	Sample	P	0 - 25
2103702	Chlorophyll-a, Uncorrected	5.76	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P367377

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103714	HF183-qPCR	12.7	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: 2103713
Field Sample ID: 20030958

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	92.3	P	50 - 300

Lab Sample ID: 2103714
Field Sample ID: 20030958 dup

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

Lab Sample ID: 2103715
Field Sample ID: 20030891

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	116	P	50 - 300

Lab Sample ID: 2103716
Field Sample ID: 20030848

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	112	P	50 - 300

Lab Sample ID: 2103717
Field Sample ID: 20030793

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	108	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	88.2						5.84	
	Chlorophyll-a, Uncorrected							5.76	
SOP-PCR-1.0	HF183-qPCR	185	146	127	99.4	123			
				118					
	HF183-qPCR	258	148	142	125	142			12.7
				140					

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
ASTM D650399 / E82502	Enterococci by Enterolert/QT by ALS in Jacksonville	2103706, 2103707, 2103711
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2103701, 2103702, 2103703, 2103704, 2103705
SM 9223 B Quanti-Tray / E82502	E. coli by Colilert/QT by ALS in Jacksonville	2103708, 2103709, 2103710, 2103712
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2103713, 2103714, 2103715, 2103716, 2103717

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
ASTM D650399	07/16/2019	07/16/2019 14:42		07/17/2019 14:55	ALS Environmental, Jax	2103706, 2103707, 2103711
SM 10200 H (mod.)	07/17/2019	07/17/2019 13:31	Edwin Gonzalez-Soto	07/26/2019 10:31	Yuliya Danyuk	2103701, 2103702, 2103703, 2103704, 2103705
SM 9223 B Quanti-Tray	07/16/2019	07/16/2019 14:27		07/17/2019 14:50	ALS Environmental, Jax	2103708, 2103709, 2103710, 2103712
SOP-PCR-1.0	07/17/2019	07/17/2019 12:05	Angela Smith	07/22/2019 10:15	Mailin Lopez	2103713
	07/17/2019	07/17/2019 12:05	Angela Smith	08/01/2019 15:05	Mailin Lopez	2103716, 2103717
	07/17/2019	07/17/2019 15:45	Angela Smith	08/01/2019 15:05	Mailin Lopez	2103714, 2103715