

Biological Analysis Report

NE-DIST-2019-09-21-01

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 2**
Request ID: **RQ-2019-09-16-15**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

For additional information please contact
Cheryl Swanson - Administrator
Jacqueline Savage - Microbiology
Diane Power - Bench Biology
Andrew Tintle - Aquatic Toxicology
Puja Jasrotia, Ph.D. - Molecular Biology
Amelia Rankin - Taxonomy (Invertebrate & Algal)
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8177

Certified by: Cheryl A. Swanson, Program Administrator

Date Certified: 18-OCT-2019 15:58



NON-CONFORMANCE REPORT INCLUDED

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: TROUT R @ DINSMORE BOAT RAMP DOCK
 NR US 1**

Collection Date/Time: 09/19/2019 09:20

Field ID: 20030123

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121612	SM 10200 H (mod.)	Chlorophyll-a, Corrected	13	Q	ug/L	P371645	
		Phaeophytin-a	1.5	UQ	ug/L	P371645	
		Chlorophyll-a, Uncorrected	13	Q	ug/L	P371645	
2121616	ASTM D650399	ENTEROCOCCI-ENTEROLERT	52		MPN/100 mL		
2121621	SOP-PCR-1.0	HF183-qPCR**	140	UQ	GEU/100 mL	P370882	

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. See nonconformance report #7918.

SOP-PCR-1.0: Precision data unavailable for Analysis Batch A95024.

Sample Location: TROUT RIVER AT OLD KINGS RD

Collection Date/Time: 09/19/2019 09:45

Field ID: 20030753

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121613	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.4	UQ	ug/L	P371645	
		Phaeophytin-a	1.5	UQ	ug/L	P371645	
		Chlorophyll-a, Uncorrected	1.0	UQ	ug/L	P371645	
2121617	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	435		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. See nonconformance report #7918.

Sample Location: MONCRIEF CR @ 21ST ST

Collection Date/Time: 09/19/2019 10:35

Field ID: 20030897

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121619	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	1990		MPN/100 mL		

Sample Location: MONCRIEF CR AT MONCRIEF ROAD

Collection Date/Time: 09/19/2019 10:50

Field ID: 20030726

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121611	SM 10200 H (mod.)	Chlorophyll-a, Corrected	17	Q	ug/L	P371645	
		Phaeophytin-a	2.2	IQ	ug/L	P371645	
		Chlorophyll-a, Uncorrected	19	Q	ug/L	P371645	
2121615	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	137		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. See nonconformance report #7918.

Sample Location: BIG FISHWEIR CR SF @ HAMILTON ST

Collection Date/Time: 09/19/2019 11:55

Field ID: 20030801

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121610	SM 10200 H (mod.)	Chlorophyll-a, Corrected	17		ug/L	P371703	
		Phaeophytin-a	2.7	I	ug/L	P371703	
		Chlorophyll-a, Uncorrected	19		ug/L	P371703	

Field ID: 20030801

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121614	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	2419.6	J	MPN/100 mL		
2121620	SOP-PCR-1.0	HF183-qPCR**	140	I	GEU/100 mL	P371086	

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. See nonconformance report #7918.

SM 9223 B Quanti-Tray: All Quanti-Tray wells were positive. Result may be higher than reported.

SOP-PCR-1.0: Precision data unavailable for Analysis Batch A95022.

Sample Location: LITTLE FISHWEIR AT OAK ST

Collection Date/Time: 09/19/2019 11:30

Field ID: 20030953

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121618	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	2419.6	J	MPN/100 mL		
2121622	SOP-PCR-1.0	HF183-qPCR**	280	I	GEU/100 mL	P370882	

Ref. Method and Comment:

SM 9223 B Quanti-Tray: All Quanti-Tray wells were positive. Result may be higher than reported.

Non-Conformance Report

NCR ID: 7918

Event(s)

NE-DIST-2019-09-21-01

Job(s)

Sample(s)

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: Samples arrived one or more days late, samples received within the acceptable temperature range.

Resolution: Customer contacted, email correspondence attached to sample submittal forms.

Authorized by/Date: Joshua Ayres 9/30/2019

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
 Please address questions to:

Chemistry Colin Wright (850) 245-8085
 Biology Cheryl Swanson (850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)

Batch ID: P371645

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: P371703

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

Quality Assurance Report Method Blank Results

Reference Method: SOP-PCR-1.0
Batch ID: P370882

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

Reference Method: SOP-PCR-1.0
Batch ID: P371086

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: P371645

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

Reference Method: SM 10200 H (mod.)
Batch ID: P371703

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	104		P	84 - 116

Reference Method: SOP-PCR-1.0
Batch ID: P370882

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	115	90.1	P/P	50 - 175
HF183-qPCR	114	117	P/P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P371086

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	90.3	130	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P370882

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120245	HF183-qPCR	117	117	P/P	50 - 175
2120849	HF183-qPCR	113		P	50 - 175
2121101	HF183-qPCR	121		P	50 - 175
2121102	HF183-qPCR	121		P	50 - 175
2121310	HF183-qPCR	116		P	50 - 175
2121621	HF183-qPCR	88.1		P	50 - 175
2121622	HF183-qPCR	87.8		P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P370882

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121671	HF183-qPCR	106		P	50 - 175
2121672	HF183-qPCR	115		P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P371086

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121620	HF183-qPCR	95.1		P	50 - 175
2121759	HF183-qPCR	112		P	50 - 175
2121825	HF183-qPCR	99.5		P	50 - 175
2121826	HF183-qPCR	104		P	50 - 175

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P371645

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121731	Chlorophyll-a, Corrected	5.45	Sample	P	0 - 25
2121731	Chlorophyll-a, Uncorrected	5.11	Sample	P	0 - 25

Reference Method: SM 10200 H (mod.)
Batch ID: P371703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121430	Chlorophyll-a, Corrected	4.29	Sample	P	0 - 25
2121430	Chlorophyll-a, Uncorrected	3.82	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P370882

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120245	HF183-qPCR	0.178	Spike	P	0 - 25

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2121620
Field Sample ID: 20030801

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	79.0	P	50 - 300

Quality Assurance Report Surrogates

Lab Sample ID: 2121621
Field Sample ID: 20030123

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	86.4	P	50 - 300

Lab Sample ID: 2121622
Field Sample ID: 20030953

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	64.9	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	102							5.45	
	Chlorophyll-a, Corrected	104							4.29	
	Chlorophyll-a, Uncorrected								5.11	
	Chlorophyll-a, Uncorrected								3.82	
SOP-PCR-1.0	HF183-qPCR	115	117	114	117	117	113			0.178
		90.1			121					
	HF183-qPCR	130	90.3		95.1	112	99.5			
					104					

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
ASTM D650399 / E82502	Enterococci by Enterolert/QT by ALS in Jacksonville	2121616
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2121610, 2121611, 2121612, 2121613
SM 9223 B Quanti-Tray / E82502	E. coli by Colilert/QT by ALS in Jacksonville	2121614, 2121615, 2121617, 2121618, 2121619
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2121620, 2121621, 2121622

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
ASTM D650399	09/19/2019	09/19/2019 13:27		09/20/2019 14:39	ALS Environmental, Jax	2121616
SM 10200 H (mod.)	09/21/2019	09/21/2019 11:50	Peterson Janvier	09/30/2019 12:20	Carina A. Tull	2121610
	09/21/2019	09/21/2019 11:50	Peterson Janvier	09/30/2019 13:05	Carina A. Tull	2121611, 2121612, 2121613
SM 9223 B Quanti-Tray	09/19/2019	09/19/2019 13:51		09/20/2019 14:25	ALS Environmental, Jax	2121614, 2121615, 2121617, 2121618, 2121619
SOP-PCR-1.0	09/21/2019	09/21/2019 10:30	Angela Smith	10/10/2019 15:12	Lauren Campbell	2121622
	09/21/2019	09/21/2019 10:30	Angela Smith	10/16/2019 12:17	Lauren Campbell	2121621
	09/21/2019	09/21/2019 10:30	Sarah Menz	10/16/2019 12:17	Lauren Campbell	2121620