

Biological Analysis Report

NE-DIST-2019-07-19-01

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-2019-07-15-15**
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: Jacqueline Savage, Environmental Administrator

Date Certified: 16-AUG-2019 13:00



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: BIG FISHWEIR CR SF @ HAMILTON ST

Collection Date/Time: 07/18/2019 08:45

Field ID: 20030801

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104619	SM 10200 H (mod.)	Chlorophyll-a, Corrected	12	I	ug/L	P368149	
		Phaeophytin-a	7.3	I	ug/L	P368149	
		Chlorophyll-a, Uncorrected	17		ug/L	P368149	
2104636	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	959		MPN/100 mL		
2104641	SOP-PCR-1.0	HF183-qPCR**	970	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: LITTLE FISHWEIR @ OAK ST

Collection Date/Time: 07/18/2019 09:25

Field ID: 20030953

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104639	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	1440		MPN/100 mL		
2104643	SOP-PCR-1.0	HF183-qPCR**	1.23E+03		GEU/100 mL	P367377	LCS

Sample Location: MONCRIEF CR @ 21ST ST

Collection Date/Time: 07/18/2019 10:25

Field ID: 20030897

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104640	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	301		MPN/100 mL		

Sample Location: MONCRIEF CR AT MONCRIEF ROAD

Collection Date/Time: 07/18/2019 10:55

Field ID: 20030726

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104620	SM 10200 H (mod.)	Chlorophyll-a, Corrected	10		ug/L	P368149	
		Phaeophytin-a	1.8	I	ug/L	P368149	
		Chlorophyll-a, Uncorrected	12		ug/L	P368149	
2104637	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	63		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: TROUT R @ DINSMORE BOAT RAMP DOCK
NR US 1**

Collection Date/Time: 07/18/2019 11:30

Field ID: 20030123

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104621	SM 10200 H (mod.)	Chlorophyll-a, Corrected	28		ug/L	P368149	
		Phaeophytin-a	3.3	I	ug/L	P368149	
		Chlorophyll-a, Uncorrected	30		ug/L	P368149	
2104638	ASTM D650399	ENTEROCOCCI-ENTEROLERT	73		MPN/100 mL		
2104642	SOP-PCR-1.0	HF183-qPCR**	250	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: P368149

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: 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: P368149

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	86.5		P	84 - 116

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: 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: P368149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104578	Chlorophyll-a, Uncorrected	16.7	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: 2104641
 Field Sample ID: 20030801

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

Lab Sample ID: 2104642
 Field Sample ID: 20030123

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	107	P	50 - 300

Lab Sample ID: 2104643
 Field Sample ID: 20030953

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	113	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	86.5							
	Chlorophyll-a, Uncorrected							16.7	
SOP-PCR-1.0	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	2104638
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2104619, 2104620, 2104621

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 9223 B Quanti-Tray / E82502	E. coli by Colilert/QT by ALS in Jacksonville	2104636, 2104637, 2104639, 2104640
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2104641, 2104642, 2104643

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
ASTM D650399	07/18/2019	07/18/2019 13:13		07/19/2019 13:16	ALS Environmental, Jax	2104638
SM 10200 H (mod.)	07/19/2019	07/19/2019 13:58	Edwin Gonzalez-Soto	07/30/2019 10:32	Yuliya Danyuk	2104619, 2104620, 2104621
SM 9223 B Quanti-Tray	07/18/2019	07/18/2019 13:07		07/19/2019 13:08	ALS Environmental, Jax	2104636, 2104637, 2104639, 2104640
SOP-PCR-1.0	07/19/2019	07/19/2019 13:10	Angela Smith	08/01/2019 15:05	Mailin Lopez	2104641, 2104642, 2104643