

Biological Analysis Report

NW-DIST-2019-12-04-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Overflow Analyses Performed By:
University of West Florida
11000 University Parkway
Pensacola, FL 32514
DOH Accreditation E71969

Event Description: **Perdido/Bridge**
Request ID: **RQ-2019-11-25-10**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Cheryl A. Swanson, Program Administrator

Date Certified: 26-DEC-2019 15:50



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: BAYOU CHICO

Collection Date/Time: 12/03/2019 10:30

Field ID: G4NW0483

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2140324	Enterolert/QT	Enterococci-Quanti-Tray	20		MPN/100 mL		
2140327	SOP-PCR-1.0	HF183-qPCR**	740		GEU/100 mL	P375116	

Sample Location: Sanders Beach off I Street Dock

Collection Date/Time: 12/03/2019 11:20

Field ID: G4NW0492

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2140325	Enterolert/QT	Enterococci-Quanti-Tray	10	U	MPN/100 mL		
2140328	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P375116	

Sample Location: Weekly Bayou Creek @ County Rd 293

Collection Date/Time: 12/03/2019 12:05

Field ID: G4NW0482

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2140321	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.62	U	ug/L	P376341	
		Phaeophytin-a	0.68	U	ug/L	P376341	
		Chlorophyll-a, Uncorrected	0.51	I	ug/L	P376341	

Sample Location: Weekly Bayou Creek @ County Rd 293

Collection Date/Time: 12/03/2019 12:10

Field ID: G4NW0482_Dup

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2140322	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.82	U	ug/L	P375720	
		Phaeophytin-a	0.90	U	ug/L	P375720	
		Chlorophyll-a, Uncorrected	0.60	U	ug/L	P375720	

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: P375720

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.89	U	ug/L
Chlorophyll-a, Uncorrected	0.65	U	ug/L
Phaeophytin-a	0.98	U	ug/L

Reference Method: SM 10200 H (mod.)

Batch ID: P376341

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

Quality Assurance Report Method Blank Results

Reference Method: SOP-PCR-1.0
 Batch ID: P375116

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: P375720

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	92.7		P	84 - 116

Reference Method: SM 10200 H (mod.)
 Batch ID: P376341

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	93.4		P	84 - 116

Reference Method: SOP-PCR-1.0
 Batch ID: P375116

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	121	96.8	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
 Batch ID: P375116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140043	HF183-qPCR	94.1	89.6	P/P	50 - 175
2140112	HF183-qPCR	116		P	50 - 175
2140186	HF183-qPCR	114		P	50 - 175
2140207	HF183-qPCR	109		P	50 - 175
2140208	HF183-qPCR	124		P	50 - 175
2140256	HF183-qPCR	114		P	50 - 175
2140327	HF183-qPCR	116		P	50 - 175
2140328	HF183-qPCR	107		P	50 - 175

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
 Batch ID: P376341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140094	Chlorophyll-a, Corrected	5.04	Sample	P	0 - 25
2140094	Chlorophyll-a, Uncorrected	4.84	Sample	P	0 - 25
2140094	Phaeophytin-a	2.94	Sample	P	0 - 25

Quality Assurance Report Precision

Reference Method: SOP-PCR-1.0
 Batch ID: P375116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140043	HF183-qPCR	4.86	Spike	P	0 - 25

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

Quality Assurance Report Surrogates

Lab Sample ID: 2140327
 Field Sample ID: G4NW0483

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	94.5	P	50 - 300

Lab Sample ID: 2140328
 Field Sample ID: G4NW0492

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	92.8	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	92.7								
	Chlorophyll-a, Corrected	93.4							5.04	
	Chlorophyll-a, Uncorrected								4.84	
	Phaeophytin-a								2.94	
SOP-PCR-1.0	HF183-qPCR	96.8	121		94.1	89.6	116	114		4.86

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
Enterolert/QT / E71969	Enterococci by Enterolert/QT by UWF in Pensacola	2140324, 2140325
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2140321, 2140322
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2140327, 2140328

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
Enterolert/QT	12/03/2019	12/03/2019 14:10		12/04/2019 15:40	UWF Lab	2140324, 2140325
SM 10200 H (mod.)	12/04/2019	12/04/2019 15:10	Jessica Fetgatter	12/11/2019 14:20	Peterson Janvier	2140321
	12/04/2019	12/04/2019 15:10	Jessica Fetgatter	12/12/2019 10:30	Yuliya Danyuk	2140322
SOP-PCR-1.0	12/04/2019	12/04/2019 15:45	Angela Smith	12/16/2019 12:17	Lauren Campbell	2140327, 2140328