

Biological Analysis Report

NE-DIST-2019-12-17-03

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: **GTM NERR-Guana River SMP = 7 Sites + 1 Field Blank**
Request ID: **RQ-2019-12-09-12**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd.
MS 3560
Tallahassee, FL 32399-2400
Attn: Alicia Hogue

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: Puja Jasrotia, Environmental Manager

Date Certified: 10-JAN-2020 09:49



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 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: DEPGR3

Collection Date/Time: 12/16/2019 13:08

Field ID: GTMGR3NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144605	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.9		ug/L	P376570	
		Phaeophytin-a	0.90	U	ug/L	P376570	
		Chlorophyll-a, Uncorrected	5.5		ug/L	P376570	
2144614	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	U	MPN/100 mL		
2144621	SM 9222 D	Fecal Coliforms-Membrane Filter	10	B	cfu/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: DEPGR2

Collection Date/Time: 12/16/2019 13:30

Field ID: GTMGRNUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144606	SM 10200 H (mod.)	Chlorophyll-a, Corrected	5.0		ug/L	P376570	
		Phaeophytin-a	0.90	U	ug/L	P376570	
		Chlorophyll-a, Uncorrected	5.4		ug/L	P376570	
2144615	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	U	MPN/100 mL		
2144622	SM 9222 D	Fecal Coliforms-Membrane Filter	30	B	cfu/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: DEPGR1

Collection Date/Time: 12/16/2019 13:48

Field ID: GTMGR1NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144607	SM 10200 H (mod.)	Chlorophyll-a, Corrected	16		ug/L	P376570	
		Phaeophytin-a	0.98	I	ug/L	P376570	
		Chlorophyll-a, Uncorrected	18		ug/L	P376570	
2144616	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	U	MPN/100 mL		
2144623	SM 9222 D	Fecal Coliforms-Membrane Filter	72		cfu/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: DEPL4

Collection Date/Time: 12/16/2019 09:42

Field ID: GTMGL4NUT

Matrix: W-BRACKISH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144608	SM 10200 H (mod.)	Chlorophyll-a, Corrected	22		ug/L	P376570	
		Phaeophytin-a	1.8	U	ug/L	P376570	
		Chlorophyll-a, Uncorrected	23		ug/L	P376570	
2144617	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	U	MPN/100 mL		
2144624	SM 9222 D	Fecal Coliforms-Membrane Filter	21	Q	cfu/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: DEPL3

Collection Date/Time: 12/16/2019 10:12

Field ID: GTMLMNUT

Matrix: W-BRACKISH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144609	SM 10200 H (mod.)	Chlorophyll-a, Corrected	23		ug/L	P376570	
		Phaeophytin-a	4.5	U	ug/L	P376570	
		Chlorophyll-a, Uncorrected	25		ug/L	P376570	
2144618	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	U	MPN/100 mL		
2144625	SM 9222 D	Fecal Coliforms-Membrane Filter	39	B	cfu/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: DEPLG2**Collection Date/Time: 12/16/2019 10:30****Field ID: GTMGL2NUT**

Matrix: W-BRACKISH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144610	SM 10200 H (mod.)	Chlorophyll-a, Corrected	29		ug/L	P376570	
		Phaeophytin-a	5.0		ug/L	P376570	
		Chlorophyll-a, Uncorrected	33		ug/L	P376570	
2144619	ASTM D650399	ENTEROCOCCI-ENTEROLERT	20		MPN/100 mL		
2144626	SM 9222 D	Fecal Coliforms-Membrane Filter	18	B	cfu/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: DEPLG1**Collection Date/Time: 12/16/2019 10:53****Field ID: GTMGL1NUT**

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144611	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.1	I	ug/L	P376570	
		Phaeophytin-a	2.6	I	ug/L	P376570	
		Chlorophyll-a, Uncorrected	3.8		ug/L	P376570	
2144620	ASTM D650399	ENTEROCOCCI-ENTEROLERT	51		MPN/100 mL		
2144627	SM 9222 D	Fecal Coliforms-Membrane Filter	50		cfu/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: Field Blank**Collection Date/Time: 12/16/2019 09:42****Field ID: Field Blank**

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144612	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.82	U	ug/L	P376570	
		Phaeophytin-a	0.90	U	ug/L	P376570	
		Chlorophyll-a, Uncorrected	0.60	U	ug/L	P376570	

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: DEPGR3**Collection Date/Time: 12/16/2019 13:13****Field ID: GTMGR3NUT_Dup**

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
-----------	-------------	-----------	--------	------	-------	----------	----------

Field ID: GTMGR3NUT_Dup

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144613	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.1		ug/L	P376570	
		Phaeophytin-a	0.90	U	ug/L	P376570	
		Chlorophyll-a, Uncorrected	4.6		ug/L	P376570	
2144628	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	U	MPN/100 mL		
2144629	SM 9222 D	Fecal Coliforms-Membrane Filter	31	B	cfu/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.

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)
 Batch ID: P376570

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 Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
 Batch ID: P376570

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	91.7		P	84 - 116

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
SM 10200 H (mod.)	Chlorophyll-a, Corrected	91.7				

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
ASTM D650399 / E82502	Enterococci by Enterolert/QT by ALS in Jacksonville	2144614, 2144615, 2144616, 2144617, 2144618, 2144619, 2144620, 2144628
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2144605, 2144606, 2144607, 2144608, 2144609, 2144610, 2144611, 2144612, 2144613
SM 9222 D / E82502	Fecal coliforms by MF by ALS in Jacksonville	2144621, 2144622, 2144623, 2144624, 2144625, 2144626, 2144627, 2144629

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
ASTM D650399	12/16/2019	12/16/2019 17:26	Peterson Janvier	12/17/2019 17:47	ALS Environmental, Jax	2144614, 2144615, 2144616, 2144617, 2144618, 2144619, 2144620, 2144628
SM 10200 H (mod.)	12/17/2019	12/17/2019 13:40		12/27/2019 09:24	Yuliya Danyuk	2144605, 2144606, 2144607, 2144608, 2144609, 2144610, 2144611, 2144612, 2144613
SM 9222 D	12/16/2019	12/16/2019 18:02		12/17/2019 16:13	ALS Environmental, Jax	2144621, 2144622, 2144623, 2144624, 2144625, 2144626, 2144627, 2144629