

Biological Analysis Report

SO-DIST-2019-10-25-01

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

Event Description: **CALOOSA LT**
Request ID: **RQ-2019-10-07-10**
Customer: **SO-DIST**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: John Barrington

For additional information please contact
Cheryl Swanson - Administrator
Jacqueline Savage - Microbiology
Diane Power - Bench Biology
Andrew Tintle - Aquatic Toxicology
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Phone (850) 245-8177

Certified by: Puja Jasrotia, Environmental Manager

Date Certified: 22-NOV-2019 13:10



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 and Microbiology.

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: USGSStation-Punta Blanca

Collection Date/Time: 10/24/2019 09:50

Field ID: FB_10242019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131713	SM 5210 B	Biochemical Oxygen Demand-5 Day	0.23	I V	mg/L	P374291	
2131730	SM 9222 D	Fecal Coliforms-Membrane Filter	No Result	Z	cfu/100 mL	P373118	

Ref. Method and Comment:

SM 5210 B: Dilution water blank exceeds laboratory historical limit of 0.50 mg/L.

SM 9222 D: See Non-Conformance Report #8011.

Sample Location: USGSStation-PuntaBlanca

Collection Date/Time: 10/24/2019 09:55

Field ID: G3SD0108

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131701	SM 5210 B	Biochemical Oxygen Demand-5 Day	2.2	V	mg/L	P374291	
2131714	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.4	I	ug/L	P373716	
		Phaeophytin-a	1.0	I	ug/L	P373716	
		Chlorophyll-a, Uncorrected	3.1		ug/L	P373716	
2131718	SM 9222 D	Fecal Coliforms-Membrane Filter	2	UQ	cfu/100 mL	P373673	

Ref. Method and Comment:

SM 5210 B: Dilution water blank exceeds laboratory historical limit of 0.50 mg/L. Test dilutions show more than 30% difference between high and low values. Smallest dilution reported due to blank contamination.

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.

SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: USGS Station-ShellPoint

Collection Date/Time: 10/24/2019 10:25

Field ID: G3SD0109

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131702	SM 5210 B	Biochemical Oxygen Demand-5 Day	2.6	V	mg/L	P374291	
2131715	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.8		ug/L	P373716	
		Phaeophytin-a	1.2	I	ug/L	P373716	
		Chlorophyll-a, Uncorrected	4.6		ug/L	P373716	
2131719	SM 9222 D	Fecal Coliforms-Membrane Filter	2	UQ	cfu/100 mL	P373673	

Ref. Method and Comment:

SM 5210 B: Dilution water blank exceeds laboratory historical limit of 0.50 mg/L. Test dilutions show more than 30% difference between high and low values. Smallest dilution reported due to blank contamination.

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.

SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: Marker # 76

Collection Date/Time: 10/24/2019 10:50

Field ID: G3SD0110

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131703	SM 5210 B	Biochemical Oxygen Demand-5 Day	4.3	V	mg/L	P374291	
2131716	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.0	I	ug/L	P373716	
		Phaeophytin-a	1.3	U	ug/L	P373716	
		Chlorophyll-a, Uncorrected	3.8		ug/L	P373716	
2131720	SM 9222 D	Fecal Coliforms-Membrane Filter	2	UQ	cfu/100 mL	P373673	

Field ID: G3SD0110

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
Ref. Method and Comment: SM 5210 B: Dilution water blank exceeds laboratory historical limit of 0.50 mg/L. Test dilutions show more than 30% difference between high and low values. Smallest dilution reported due to blank contamination. 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. SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.							

Sample Location: Marker # 52

Collection Date/Time: 10/24/2019 11:25

Field ID: G3SD0111

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131704	SM 5210 B	Biochemical Oxygen Demand-5 Day	4.2	AV	mg/L	P374291	
2131717	SM 10200 H (mod.)	Chlorophyll-a, Corrected	18		ug/L	P373716	
		Phaeophytin-a	3.4		ug/L	P373716	
		Chlorophyll-a, Uncorrected	21		ug/L	P373716	
2131721	SM 9222 D	Fecal Coliforms-Membrane Filter	2	UQ	cfu/100 mL	P373673	
Ref. Method and Comment: SM 5210 B: Dilution water blank exceeds laboratory historical limit of 0.50 mg/L. 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. SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.							

Sample Location: US 41, Marker # 38

Collection Date/Time: 10/24/2019 11:50

Field ID: G3SD0112

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131705	SM 5210 B	Biochemical Oxygen Demand-5 Day	2.5	V	mg/L	P374291	
2131722	SM 9222 D	Fecal Coliforms-Membrane Filter	5	BQ	cfu/100 mL	P373673	
Ref. Method and Comment: SM 5210 B: Dilution water blank exceeds laboratory historical limit of 0.50 mg/L. SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.							

Sample Location: Marker # 28

Collection Date/Time: 10/24/2019 12:00

Field ID: G3SD0113

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131706	SM 5210 B	Biochemical Oxygen Demand-5 Day	3.1	V	mg/L	P374291	
2131723	SM 9222 D	Fecal Coliforms-Membrane Filter	9	UQ	cfu/100 mL	P373673	
Ref. Method and Comment: SM 5210 B: Dilution water blank exceeds laboratory historical limit of 0.50 mg/L. SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.							

Sample Location: Marker # 22

Collection Date/Time: 10/24/2019 12:10

Field ID: G3SD0114

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131707	SM 5210 B	Biochemical Oxygen Demand-5 Day	3.9	V	mg/L	P374291	
2131724	SM 9222 D	Fecal Coliforms-Membrane Filter	8	BQ	cfu/100 mL	P373673	
Ref. Method and Comment: SM 5210 B: Dilution water blank exceeds laboratory historical limit of 0.50 mg/L. SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.							

Sample Location: Old Swing Bridge

Collection Date/Time: 10/24/2019 12:25

Field ID: G3SD0115

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131708	SM 5210 B	Biochemical Oxygen Demand-5 Day	3.2	V	mg/L	P374291	
2131725	SM 9222 D	Fecal Coliforms-Membrane Filter	7	BQ	cfu/100 mL	P373673	

Ref. Method and Comment:

SM 5210 B: Dilution water blank exceeds laboratory historical limit of 0.50 mg/L.

SM 9222 D: Laboratory duplicate result is 6 B. Precision data for this duplicate is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: MidChannel@OrangeRiver**Collection Date/Time: 10/24/2019 12:35****Field ID: G3SD0116**

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131709	SM 5210 B	Biochemical Oxygen Demand-5 Day	3.3	V	mg/L	P374291	
2131726	SM 9222 D	Fecal Coliforms-Membrane Filter	36	BQ	cfu/100 mL	P373673	

Ref. Method and Comment:

SM 5210 B: Dilution water blank exceeds laboratory historical limit of 0.50 mg/L.

SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: Upstream of Power Plant**Collection Date/Time: 10/24/2019 12:45****Field ID: G3SD0117**

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131710	SM 5210 B	Biochemical Oxygen Demand-5 Day	3.2	V	mg/L	P374291	
2131727	SM 9222 D	Fecal Coliforms-Membrane Filter	42	Q	cfu/100 mL	P373673	

Ref. Method and Comment:

SM 5210 B: Dilution water blank exceeds laboratory historical limit of 0.50 mg/L.

SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: Mid Channel off Oxbow**Collection Date/Time: 10/24/2019 13:00****Field ID: G3SD0118**

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131711	SM 5210 B	Biochemical Oxygen Demand-5 Day	2.8	V	mg/L	P374291	
2131728	SM 9222 D	Fecal Coliforms-Membrane Filter	16	BQ	cfu/100 mL	P373673	

Ref. Method and Comment:

SM 5210 B: Dilution water blank exceeds laboratory historical limit of 0.50 mg/L.

SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: Mid channel off point**Collection Date/Time: 10/24/2019 13:15****Field ID: G3SD0119**

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131712	SM 5210 B	Biochemical Oxygen Demand-5 Day	3.6	V	mg/L	P374291	
2131729	SM 9222 D	Fecal Coliforms-Membrane Filter	2	UQ	cfu/100 mL	P373673	

Ref. Method and Comment:

SM 5210 B: Dilution water blank exceeds laboratory historical limit of 0.50 mg/L.

SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Non-Conformance Report**NCR ID: 8011**Event(s)Job(s)Sample(s)Test(s)

Non-Conformance Report

NCR ID: 8011

Event(s)

SO-DIST-2019-10-25-01

Job(s)

TLH-2019-10-25-57

Sample(s)

2131730

Test(s)

FCOLI-MF

NCR Type: ANALYSIS

NCR Category: Analytical Measurement

Observation: Confluent negative growth on all dilutions.

Resolution: The customer has been notified. The data will be reported as "No Result" with a "Z" qualifier.

Authorized by/Date: Cheryl A. Swanson 11/15/2019

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: P373716

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 5210 B

Batch ID: P374291

Component	Result	Code	Units
Biochemical Oxygen Demand-5 Day	1.2	I	mg/L

Reference Method: SM 9222 D

Batch ID: P373673

Component	Result	Code	Units
Fecal Coliforms-Membrane Filter	2	U	cfu/100 mL

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)

Batch ID: P373716

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	105		P	84 - 116

Reference Method: SM 5210 B

Batch ID: P374291

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Biochemical Oxygen Demand-5 Day	112		P	84 - 116

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: SM 5210 B
Batch ID: P374291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131704	Biochemical Oxygen Demand-5 Day	11.7	Sample	P	0 - 25

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
SM 10200 H (mod.)	Chlorophyll-a, Corrected	105				
SM 5210 B	Biochemical Oxygen Demand-5 Day	112			11.7	

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2131714, 2131715, 2131716, 2131717
SM 5210 B / E31780	BOD, NOT nitrogen-inhibited	2131701, 2131702, 2131703, 2131704, 2131705, 2131706, 2131707, 2131708, 2131709, 2131710, 2131711, 2131712, 2131713
SM 9222 D / E31780	Fecal coliforms by membrane filter method - non-chlorinated water systems	2131718, 2131719, 2131720, 2131721, 2131722, 2131723, 2131724, 2131725, 2131726, 2131727, 2131728, 2131729, 2131730

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 10200 H (mod.)	10/25/2019	10/25/2019 14:15	Jessica Fetgatter	11/05/2019 08:25	Yuliya Danyuk	2131714, 2131715, 2131716, 2131717
SM 5210 B	10/25/2019	10/25/2019 13:35	Jennifer Mihalic	10/25/2019 13:35	Jennifer Mihalic	2131701, 2131702, 2131703, 2131704, 2131705, 2131706, 2131707, 2131708, 2131709, 2131710, 2131711, 2131712, 2131713
SM 9222 D	10/25/2019	10/25/2019 14:00	Peterson Janvier	10/26/2019 13:25	Jennifer Mihalic	2131718, 2131719, 2131720, 2131721
	10/25/2019	10/25/2019 14:30	Peterson Janvier	10/26/2019 13:25	Jennifer Mihalic	2131722, 2131723, 2131724, 2131725, 2131726, 2131727, 2131728, 2131729, 2131730