Biological Analysis Report

SW-DIST-2020-07-23-01

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

Event Description: **Chaz, Bluebird, Highland**
Request ID: **RQ-2020-06-08-05**
Customer: **SW-DIST**
Project ID: **SMP**

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Date Certified: 18-AUG-2020 15:08

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: Chassahowitzka River @ Start of WBID **Collection Date/Time: 07/22/2020 11:45**

Field ID: G5SW0064 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2185273	Enterolert/QT	Enterococci-Quanti-Tray	20.0	Q	MPN/100 mL	P385247	
2185276	SM 9222 D	Fecal Coliforms-Membrane Filter	140	BQ	cfu/100 mL	P385248	

Ref. Method and Comment:
Enterolert/QT: Precision data is unavailable due to the small amount of analyte in the QC sample.
SM 9222 D: Laboratory duplicate result is 130 B. Precision data for this duplicate is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: Chassahowitzka River @ Island Compou **Collection Date/Time: 07/22/2020 11:25**

Field ID: G5SW0066 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2185274	Enterolert/QT	Enterococci-Quanti-Tray	10	UQ	MPN/100 mL	P385247	
2185277	SM 9222 D	Fecal Coliforms-Membrane Filter	16	BQ	cfu/100 mL	P385248	

Ref. Method and Comment:
Enterolert/QT: Precision data is unavailable due to the small amount of analyte in the QC sample.
SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: Blue Bird Spring **Collection Date/Time: 07/22/2020 13:00**

Field ID: G5SW0028 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2185089	SM 10200 H (mod.)	Chlorophyll-a, Corrected	30	A	ug/L	P385364	
		Phaeophytin-a	2.6	I	ug/L	P385364	
		Chlorophyll-a, Uncorrected	32	A	ug/L	P385364	

Ref. Method and Comment:
SM 10200 H (mod.): Laboratory duplicate result is 2.3 I for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample.

Sample Location: Field_Blank **Collection Date/Time: 07/22/2020 08:10**

Field ID: FB 07222020 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2185090	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.82	U	ug/L	P385364	
		Phaeophytin-a	0.90	U	ug/L	P385364	
		Chlorophyll-a, Uncorrected	0.60	U	ug/L	P385364	

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: Chassahowitzka River Downstream of H **Collection Date/Time: 07/22/2020 11:05**

Field ID: G5SW0065 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2185275	Enterolert/QT	Enterococci-Quanti-Tray	20.0	Q	MPN/100 mL	P385247	
2185278	SM 9222 D	Fecal Coliforms-Membrane Filter	74	Q	cfu/100 mL	P385248	

Ref. Method and Comment:
Enterolert/QT: Precision data is unavailable due to the small amount of analyte in the QC sample.
SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Quality Assurance Report
Method Blank Results

Reference Method: Enterolert/QT
Batch ID: P385247

Component	Result	Code	Units
Enterococci-Quanti-Tray	1.0	U	MPN/100 mL

Reference Method: SM 10200 H (mod.)
Batch ID: P385364

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 9222 D
Batch ID: P385248

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: P385364

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	111		P	84 - 116

Quality Assurance Report
Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P385364

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2185089	Chlorophyll-a, Corrected	4.91	Sample	P	0 - 25
2185089	Chlorophyll-a, Uncorrected	5.24	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	Precision		
				LCS	SMP	MS
SM 10200 H (mod.)	Chlorophyll-a, Corrected	111			4.91	
	Chlorophyll-a, Uncorrected				5.24	

Reference Method Descriptions

Method	Description	Associated Samples
Enterolert/QT	Enterococci by Enterolert Quanti-Tray method - non-chlorinated water systems	2185273, 2185274, 2185275
SM 10200 H (mod.)	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2185089, 2185090
SM 9222 D	Fecal coliforms by membrane filter method - non-chlorinated water systems	2185276, 2185277, 2185278

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
Enterolert/QT	07/23/2020	07/23/2020 14:53	Jessica Sherman	07/24/2020 15:18	Jessica Sherman	2185273, 2185274, 2185275
SM 10200 H (mod.)	07/23/2020	07/23/2020 14:45	Jessica Fetgatter	07/29/2020 08:56	Yuliya Danyuk	2185089, 2185090
SM 9222 D	07/23/2020	07/23/2020 15:09	Carina A. Tull	07/24/2020 13:42	Jessica Sherman	2185276, 2185277, 2185278