Biological Analysis Report

WTRSHD-MGT-2012-05-03-01

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

Event Description: **TMDL SW Sampling - Upper Wacissa Algal Study**
Request ID: **RQ-2012-04-30-39**
Customer: **WTRSHD-MGT**
Project ID: **TMDL**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400
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Certified by: Elizabeth Miller, Environmental Manager

Date Certified: 17-MAY-2012 16:45

Abbreviations and data remark codes

CERT # - NELAP (National Environmental Laboratory Accreditation Program) Certification Number of the laboratory that performed the analysis.
LCS – Laboratory Control Sample; in the QC Failures column, this notation indicates a batch recovery failure.
MS – Matrix Spike; in the QC Failures column, this notation indicates a batch recovery failure.
RPD – Relative Percent Difference; in the QC Failures column, this notation indicates a batch failure for precision.
CCV – Continuing Calibration Verification; in the QC Failures column, this notation indicates a failure of the calibration verification check sample.
RSD – Relative Standard Deviation expressed as a percentage.
SMP – Sample.
** - The laboratory is not NELAP certified for this analyte/method, or certification is not applicable.

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
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).

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.

Precision is reported as relative percent difference unless otherwise noted.

Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published test performance acceptance criteria.

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.

All sample collection performed by Bureau of Laboratories staff followed the field Standard Operating Procedures adopted by reference in Rule 62-160 FAC unless otherwise noted.

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.

Results for NELAP accredited tests contained in this report meet the requirements specified by the National Environmental Laboratory Accreditation Conference (NELAC). All samples received were in acceptable condition and met NELAC requirements unless otherwise noted. Results generated in this report pertain to the samples collected and submitted for analysis.

Job: TLH-2012-05-03-02	Group: Chlorophyll/Grain Size/BOD
Job: TLH-2012-05-03-03	Group: Chlorophyll/Grain Size/BOD

Sample Location: WR-1 **Collection Date/Time: 05/02/2012 11:42 AM**

Field ID: WR-1 Matrix: W-OTHER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1426298	SM 5210 B	Biochemical Oxygen Demand-5 Day	0.74	I	mg/L	P239587	
1426302	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.81	I	ug/L	P239531	
		Phaeophytin-a	1.6		ug/L	P239531	

Sample Location: WR-2 **Collection Date/Time: 05/02/2012 01:57 PM**

Field ID: WR-2 Matrix: W-OTHER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1426299	SM 5210 B	Biochemical Oxygen Demand-5 Day	0.73	I	mg/L	P239587	
1426303	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.7		ug/L	P239531	
		Phaeophytin-a	2.0		ug/L	P239531	

Sample Location: WR-3 **Collection Date/Time: 05/02/2012 02:52 PM**

Field ID: WR-3 Matrix: W-OTHER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1426300	SM 5210 B	Biochemical Oxygen Demand-5 Day	0.80	I	mg/L	P239587	
1426304	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.0	I	ug/L	P239608	
		Phaeophytin-a	0.93	I	ug/L	P239608	

Sample Location: WR-4 **Collection Date/Time: 05/02/2012 03:33 PM**

Field ID: WR-4 Matrix: W-OTHER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1426301	SM 5210 B	Biochemical Oxygen Demand-5 Day	0.96	I	mg/L	P239587	
1426305	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.1	I	ug/L	P239608	
		Phaeophytin-a	0.62	I	ug/L	P239608	

Quality Assurance Report
Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P239531

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.55	U	ug/L
Phaeophytin-a	0.40	U	ug/L

Reference Method: SM 10200 H (mod.)
Batch ID: P239608

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.55	U	ug/L
Phaeophytin-a	0.40	U	ug/L

Reference Method: SM 5210 B
Batch ID: P239587

Component	Result	Code	Units

Quality Assurance Report
Method Blank Results

Reference Method: SM 5210 B
Batch ID: P239587

Component	Result	Code	Units
Biochemical Oxygen Demand-5 Day	0.20	U	mg/L

Quality Assurance Report
Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P239531

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1425978	Chlorophyll-a, Corrected	12.4	Sample	P	0 - 25
1425978	Phaeophytin-a	18.1	Sample	P	0 - 25

Reference Method: SM 10200 H (mod.)
Batch ID: P239608

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1426512	Chlorophyll-a, Corrected	0.368	Sample	P	0 - 25
1426512	Phaeophytin-a	10.5	Sample	P	0 - 25

Reference Method: SM 5210 B
Batch ID: P239587

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1426390	Biochemical Oxygen Demand-5 Day	4.26	Sample	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
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision		
				LCS	SMP	MS
SM 10200 H (mod.)	Chlorophyll-a, Corrected				12.4	
	Chlorophyll-a, Corrected				0.368	
	Phaeophytin-a				18.1	
	Phaeophytin-a				10.5	
SM 5210 B	Biochemical Oxygen Demand-5 Day				4.26	

Reference Method Descriptions

Method / NELAC Cert. #	Description	Associated Samples
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a (corrected for phaeophytin) and phaeophytin by spectrophotometry	1426302, 1426303, 1426304, 1426305
SM 5210 B / E31780	BOD, NOT nitrogen-inhibited	1426298, 1426299, 1426300, 1426301

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 10200 H (mod.)	05/03/2012	05/03/2012 13:45	Amelia G. Rankin	05/08/2012	Amelia G. Rankin	1426302, 1426303
	05/03/2012	05/03/2012 13:45	Amelia G. Rankin	05/09/2012	Amelia G. Rankin	1426304, 1426305
SM 5210 B	05/03/2012			05/04/2012 08:20	Jonathan M. Woods	1426298, 1426299, 1426300, 1426301