Biological Analysis Report

SO-DIST-2013-02-21-01

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

Event Description: **Tamiami Canal Criteria**
Request ID: **RQ-2013-02-11-19**
Customer: **SO-DIST**
Project ID: **SMP**

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

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Certified by: Cheryl A. Swanson, Environmental Manager

Date Certified: 07-MAR-2013 13:34

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.
SUR – Surrogate; in the QC Failures column, this notation indicates a recovery failure for the associated surrogate.
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-2013-02-21-61	Group: Chlorophyll/Grain Size/BOD
Job: TLH-2013-02-21-62	Group: Chlorophyll/Grain Size/BOD

Sample Location: RQ-2013-01-21-26 SITE #6 TMT **Collection Date/Time: 02/20/2013 10:19 AM**

Field ID: SD022013-1 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1485615	SM 5210 B	Biochemical Oxygen Demand-5 Day	2.3		mg/L	P249804	
1485621	SM 10200 H (mod.)	Chlorophyll-a, Corrected	19		ug/L	P249826	
		Phaeophytin-a	6.9		ug/L	P249826	
		Chlorophyll/Phaeophytin Ratio	1.5			P249826	
		Chlorophyll-a, Uncorrected	24		ug/L	P249826	

Sample Location: RQ-2013-01-21-26 SITE #7 TMT **Collection Date/Time: 02/20/2013 11:00 AM**

Field ID: SD022013-2 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1485616	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.1	I	mg/L	P249804	
1485622	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.1		ug/L	P249826	
		Phaeophytin-a	1.1	I	ug/L	P249826	
		Chlorophyll/Phaeophytin Ratio	1.5			P249826	
		Chlorophyll-a, Uncorrected	3.8		ug/L	P249826	

Sample Location: RQ-2013-01-21-26 SITE #7B TMT **Collection Date/Time: 02/20/2013 12:02 PM**

Field ID: SD022013-4 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1485618	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.6	I	mg/L	P249804	
1485624	SM 10200 H (mod.)	Chlorophyll-a, Corrected	8.6		ug/L	P249826	
		Phaeophytin-a	1.5		ug/L	P249826	
		Chlorophyll/Phaeophytin Ratio	1.6			P249826	
		Chlorophyll-a, Uncorrected	9.7		ug/L	P249826	

Sample Location: RQ-2013-01-21-26 SITE #7C TMT **Collection Date/Time: 02/20/2013 11:35 AM**

Field ID: SD022013-3 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1485617	SM 5210 B	Biochemical Oxygen Demand-5 Day	0.96	I	mg/L	P249804	
1485623	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.7		ug/L	P249826	
		Phaeophytin-a	0.55	U	ug/L	P249826	
		Chlorophyll/Phaeophytin Ratio	1.6			P249826	
		Chlorophyll-a, Uncorrected	2.9		ug/L	P249826	

Sample Location: RQ-2013-01-21-26 SITE #8 TMT **Collection Date/Time: 02/20/2013 01:00 PM**

Field ID: SD022013-6 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1485620	SM 5210 B	Biochemical Oxygen Demand-5 Day	5.8		mg/L	P249805	
1485626	SM 10200 H (mod.)	Chlorophyll-a, Corrected	41		ug/L	P249826	
		Phaeophytin-a	5.8		ug/L	P249826	
		Chlorophyll/Phaeophytin Ratio	1.6			P249826	
		Chlorophyll-a, Uncorrected	47		ug/L	P249826	

Field ID: SD022013-6 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures

Ref. Method and Comment:
SM 5210 B: Dilution water blank exceeds method limit of 0.20 mg/L but is within laboratory historical limit of 0.50 mg/L.

Sample Location: RQ-2013-01-21-26 SITE BR #78 TMT **Collection Date/Time: 02/20/2013 12:23 PM**

Field ID: SD022013-5 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1485619	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I	mg/L	P249805	
1485625	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.4		ug/L	P249826	
		Phaeophytin-a	0.45	U	ug/L	P249826	
		Chlorophyll/Phaeophytin Ratio	1.6			P249826	
		Chlorophyll-a, Uncorrected	2.7		ug/L	P249826	

Ref. Method and Comment:
SM 5210 B: Dilution water blank exceeds method limit of 0.20 mg/L but is within laboratory historical limit of 0.50 mg/L.

Quality Assurance Report
Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P249826

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.69	U	ug/L
Chlorophyll-a, Uncorrected	0.50	U	ug/L
Phaeophytin-a	0.50	U	ug/L

Reference Method: SM 5210 B
Batch ID: P249804

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

Reference Method: SM 5210 B
Batch ID: P249805

Component	Result	Code	Units
Biochemical Oxygen Demand-5 Day	0.32	I	mg/L

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P249826

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	94.1		P	85 - 115

Reference Method: SM 5210 B
Batch ID: P249804

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Biochemical Oxygen Demand-5 Day	106		P	84 - 116

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 5210 B
Batch ID: P249805

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Biochemical Oxygen Demand-5 Day	85.9		P	84 - 116

Quality Assurance Report
Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P249826

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1485585	Chlorophyll/Phaeophytin Ratio	0.0	Sample	P	0 - 25
1485585	Chlorophyll-a, Corrected	11.2	Sample	P	0 - 25
1485585	Chlorophyll-a, Uncorrected	11.0	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/Phaeophytin Ratio				0.0	
	Chlorophyll-a, Corrected	94.1			11.2	
	Chlorophyll-a, Uncorrected				11.0	
SM 5210 B	Biochemical Oxygen Demand-5 Day	106				
	Biochemical Oxygen Demand-5 Day	85.9				

Reference Method Descriptions

Method / NELAC Cert. #	Description	Associated Samples
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, phaeophytin and ratio by spectrophotometry	1485621, 1485622, 1485623, 1485624, 1485625, 1485626
SM 5210 B / E31780	BOD, NOT nitrogen-inhibited	1485615, 1485616, 1485617, 1485618, 1485619, 1485620

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 10200 H (mod.)	02/21/2013	02/21/2013 14:10	Meiqin Chen	02/27/2013	Meiqin Chen	1485621, 1485622, 1485623, 1485624, 1485625, 1485626
SM 5210 B	02/21/2013			02/22/2013 08:15	Jonathan M. Woods	1485615, 1485616, 1485617, 1485618, 1485619, 1485620