

Biological Analysis Report

NW-DIST-2016-07-12-01

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

Event Description: **WBID 76 40A 101 35A 269**
Request ID: **RQ-2016-07-11-32**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government St
Suite 208A
Pensacola, FL 32502-5794
Attn: Michael King

For additional information please contact
Cheryl Swanson - Administrator
J. Marshall Faircloth - Aquatic Toxicology
Jacqueline Savage - Bench Biology
Jacqueline Savage - Microbiology
Daisys Matthews - Molecular Biology
Cheryl Swanson - Taxonomy (Invertebrate & Algal)
Thekkekalathil Chandrasekhar, PhD, QA Officer
Phone (850) 245-8177

Certified by: Daisys Matthews,

Date Certified: 04-AUG-2016 20:53

A handwritten signature in cursive script that reads "D Matthews". The signature is written in dark ink on a white background.

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 group are included in this report: Chlorophyll/Grain Size/BOD.

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 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: West Sandy Creek Abv CR183 NE of Defuniak **Collection Date/Time: 07/11/2016 11:10**

Field ID: G3NW0053

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815030	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.1	I	ug/L	P308320	
		Phaeophytin-a	0.50	U	ug/L	P308320	
		Chlorophyll/Phaeophytin Ratio	1.6			P308320	
		Chlorophyll-a, Uncorrected	1.3	I	ug/L	P308320	

Ref. Method and Comment:

SM 10200 H (mod.): Lab dup result is 1.5 for Chl:Ph Ratio, 1.1 I for Chl-a Corrected, 1.3 I for Chl-a Uncorrected, and 0.50 U for Phaeophytin-a.

Precision data is unavailable due to the small amount of analyte in the QC sample.

Sample Location: West Sandy Creek Above Old Landfill Rd. **Collection Date/Time: 07/11/2016 11:40**

Field ID: G3NW0054

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815031	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.2		ug/L	P308320	
		Phaeophytin-a	0.96	I	ug/L	P308320	
		Chlorophyll/Phaeophytin Ratio	1.5			P308320	
		Chlorophyll-a, Uncorrected	2.9		ug/L	P308320	

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: Pine Log Creek S.R. 2 Walton Co. **Collection Date/Time: 07/11/2016 13:25**

Field ID: G4NW0317

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815032	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.70	I	ug/L	P308320	
		Phaeophytin-a	0.40	U	ug/L	P308320	
		Chlorophyll/Phaeophytin Ratio	1.5			P308320	
		Chlorophyll-a, Uncorrected	0.87	I	ug/L	P308320	

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: Pine Log Creek Upstream of Long Road **Collection Date/Time: 07/11/2016 13:40**

Field ID: G4NW0315

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815033	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.2	I	ug/L	P308321	
		Phaeophytin-a	0.81	I	ug/L	P308321	
		Chlorophyll/Phaeophytin Ratio	1.4			P308321	
		Chlorophyll-a, Uncorrected	1.8		ug/L	P308321	

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: Long Creek Upstream of Long Road **Collection Date/Time: 07/11/2016 14:00**

Field ID: G4NW0308

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815034	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.8	I	ug/L	P308321	

Field ID: G4NW0308

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815034	SM 10200 H (mod.)	Phaeophytin-a	1.0	I	ug/L	P308321	
		Chlorophyll/Phaeophytin Ratio	1.4			P308321	
		Chlorophyll-a, Uncorrected	2.5	I	ug/L	P308321	

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: Juniper CR FLA 393**Collection Date/Time: 07/11/2016 14:30****Field ID: G4NW0349**

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815035	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.7		ug/L	P308321	
		Phaeophytin-a	0.83	I	ug/L	P308321	
		Chlorophyll/Phaeophytin Ratio	1.5			P308321	
		Chlorophyll-a, Uncorrected	2.3		ug/L	P308321	

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: Pond Creek in McCloud Bay Upstream of Lake Ella Road**Collection Date/Time: 07/11/2016 14:45****Field ID: G4NW0350**

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815036	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.6	I	ug/L	P308321	
		Phaeophytin-a	0.71	I	ug/L	P308321	
		Chlorophyll/Phaeophytin Ratio	1.5			P308321	
		Chlorophyll-a, Uncorrected	2.1		ug/L	P308321	

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: Pond Creek in McCloud Bay at Pipeline off Sunset Drive**Collection Date/Time: 07/11/2016 15:00****Field ID: G4NW0351**

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815037	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.5	I	ug/L	P308321	
		Phaeophytin-a	0.74	I	ug/L	P308321	
		Chlorophyll/Phaeophytin Ratio	1.5			P308321	
		Chlorophyll-a, Uncorrected	2.0		ug/L	P308321	

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: Natural Bridge Cr. Hwy. 181**Collection Date/Time: 07/11/2016 12:15****Field ID: G3NW0082**

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815367	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.55	U	ug/L	P308895	

Field ID: G3NW0082

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815367	SM 10200 H (mod.)	Phaeophytin-a	0.40	U	ug/L	P308895	
		Chlorophyll/Phaeophytin Ratio	1.5			P308895	
		Chlorophyll-a, Uncorrected	0.69	I	ug/L	P308895	

Sample Location: Long Creek Abv. Campground Rd.

Collection Date/Time: 07/11/2016 12:45

Field ID: G4NW0303

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815368	SM 10200 H (mod.)	Chlorophyll-a, Corrected	5.2		ug/L	P308895	
		Phaeophytin-a	1.5	IV	ug/L	P308895	
		Chlorophyll/Phaeophytin Ratio	1.5			P308895	
		Chlorophyll-a, Uncorrected	6.3		ug/L	P308895	

Ref. Method and Comment:

SM 10200 H (mod.): Result is V-qualified due to laboratory blank failure for Phaeophytin-a component.

Sample Location: Long Creek Upstream of CR2

Collection Date/Time: 07/11/2016 13:10

Field ID: G4NW0304

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815369	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.8	I	ug/L	P308895	
		Phaeophytin-a	0.60	IV	ug/L	P308895	
		Chlorophyll/Phaeophytin Ratio	1.5			P308895	
		Chlorophyll-a, Uncorrected	2.3		ug/L	P308895	

Ref. Method and Comment:

SM 10200 H (mod.): Result is V-qualified due to laboratory blank failure for Phaeophytin-a component.

Non-Conformance Report

NCR ID: 5938

Event(s)

Job(s)

Sample(s)

Test(s)

NW-DIST-2016-07-12-01

NCR Type: SHIPPING/RECEIVING

NCR Category: Receiving

- Observation: 1) Submittal form indicates 4 coolers were shipped for RQ-2016-07-11-32, only 3 were received. Samples for the following Field IDs were not received:
 G3NW0082
 G4NW0303
 G4NW0304
 2) Sample container collected for Field ID G4NW0349 was not preserved to pH < 2.
- Resolution: 1) Customers (Rick Abad/Nathan Mulkey) were contacted.
 Second cooler received on 7/13/2016 containing samples for the missing Field IDs. Samples were within temp. range (<6 degrees C) and short holds were logged in prior to expiration.
 2) Sample was preserved in the lab with Sulfuric Acid on 7/12/2016.

Authorised by/Date: Kathryn Holland 7/19/2016

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
 Please address questions to:

Chemistry Tim Fitzpatrick (850) 245-8085
 Biology Cheryl Swanson (850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P308320

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

Reference Method: SM 10200 H (mod.)
Batch ID: P308321

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

Reference Method: SM 10200 H (mod.)
Batch ID: P308895

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.55	U	ug/L
Chlorophyll-a, Uncorrected	0.40	U	ug/L
Phaeophytin-a	0.46	I	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P308320

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	114		P	84 - 116

Reference Method: SM 10200 H (mod.)
Batch ID: P308321

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	114		P	84 - 116

Reference Method: SM 10200 H (mod.)
Batch ID: P308895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	104		P	84 - 116

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P308321

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815189	Chlorophyll/Phaeophytin Ratio	0.0	Sample	P	0 - 25
1815189	Chlorophyll-a, Corrected	3.59	Sample	P	0 - 25

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
 Batch ID: P308321

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815189	Chlorophyll-a, Uncorrected	4.80	Sample	P	0 - 25

Reference Method: SM 10200 H (mod.)
 Batch ID: P308895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815408	Chlorophyll/Phaeophytin Ratio	0.0	Sample	P	0 - 25
1815408	Chlorophyll-a, Corrected	3.69	Sample	P	0 - 25
1815408	Chlorophyll-a, Uncorrected	4.61	Sample	P	0 - 25
1815408	Phaeophytin-a	10.9	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	LCS	Precision SMP	MS
SM 10200 H (mod.)	Chlorophyll/Phaeophytin Ratio				0.0	
	Chlorophyll/Phaeophytin Ratio				0.0	
	Chlorophyll-a, Corrected	114				
	Chlorophyll-a, Corrected	114			3.59	
	Chlorophyll-a, Corrected	104			3.69	
	Chlorophyll-a, Uncorrected				4.80	
	Chlorophyll-a, Uncorrected				4.61	
	Phaeophytin-a				10.9	

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, phaeophytin and ratio by spectrophotometry	1815030, 1815031, 1815032, 1815033, 1815034, 1815035, 1815036, 1815037, 1815367, 1815368, 1815369

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 10200 H (mod.)	07/12/2016	07/12/2016 14:40	Amelia G. Rankin	07/20/2016	Kim M. Spencer	1815030, 1815031, 1815032, 1815033, 1815034, 1815035, 1815036, 1815037
	07/13/2016	07/13/2016 11:20	Brian Cumbie	07/21/2016	Kim M. Spencer	1815367, 1815368, 1815369