Biological Analysis Report

NW-DIST-2013-03-05-02

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

Overflow Analyses Performed By:
University of West Florida
11000 University Parkway
Pensacola, FL 32514
DOH Accreditation E71969

Event Description: **Project Greenshores**
Request ID: **RQ-2013-02-25-11**
Customer: **NW-DIST**
Project ID: **DISCRTNARY**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

For additional information please contact
David D. Whiting - Administrator
Elizabeth Miller - Bench Biology
Cheryl Swanson - Taxonomy (Invertebrate & Algal)
J. Marshall Faircloth - Aquatic Toxicology
Daisys Tamayo - Microbiology
Thekkekalathil Chandrasekhar, PhD, QA Officer
Phone (850) 245-8177

Certified by: Elizabeth Miller, Environmental Manager

Date Certified: 20-MAR-2013 10:01

NON-CONFORMANCE REPORT INCLUDED

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-2013-03-05-34	Group: Chlorophyll/Grain Size/BOD
Job: TLH-2013-03-05-37	Group: Chlorophyll/Grain Size/BOD
Job: TLH-2013-03-05-40	Group: Overflow

Sample Location: HAWKSHAW LAGOON **Collection Date/Time: 03/04/2013 12:58 PM**

Field ID: 13 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1487309	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.8	I	mg/L	P250179	
1487337	SM 10200 H (mod.)	Chlorophyll-a, Corrected	8.2		ug/L	P250254	
		Phaeophytin-a	0.95	I	ug/L	P250254	
		Chlorophyll/Phaeophytin Ratio	1.6			P250254	
		Chlorophyll-a, Uncorrected	9.1		ug/L	P250254	
1487354	EPA 1600 (MF)	Enterococci-Membrane Filter	2	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	14	B	cfu/100 mL		

Sample Location: PEN BAY @ RANGE MARKER **Collection Date/Time: 03/04/2013 10:40 AM**

Field ID: 1 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1487297	SM 5210 B	Biochemical Oxygen Demand-5 Day	0.94	I	mg/L	P250179	
1487325	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.3	I	ug/L	P250253	
		Phaeophytin-a	0.57	U	ug/L	P250253	
		Chlorophyll/Phaeophytin Ratio	1.6			P250253	
		Chlorophyll-a, Uncorrected	1.6	I	ug/L	P250253	
1487342	EPA 1600 (MF)	Enterococci-Membrane Filter	16	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	66		cfu/100 mL		

Sample Location: PEN BAY 1/2 BRIDGE / MUSCOGEE **Collection Date/Time: 03/04/2013 10:55 AM**

Field ID: 2 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1487298	SM 5210 B	Biochemical Oxygen Demand-5 Day	0.86	I	mg/L	P250179	
1487326	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.5		ug/L	P250253	
		Phaeophytin-a	0.40	U	ug/L	P250253	
		Chlorophyll/Phaeophytin Ratio	1.7			P250253	
		Chlorophyll-a, Uncorrected	2.7		ug/L	P250253	
1487343	EPA 1600 (MF)	Enterococci-Membrane Filter	4	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	16	B	cfu/100 mL		

Sample Location: PEN BAY 1/2 BRIDGE AND PORT **Collection Date/Time: 03/04/2013 12:10 PM**

Field ID: 7 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1487303	SM 5210 B	Biochemical Oxygen Demand-5 Day	0.99	I	mg/L	P250179	
1487331	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.5		ug/L	P250253	
		Phaeophytin-a	0.40	U	ug/L	P250253	
		Chlorophyll/Phaeophytin Ratio	1.7			P250253	
		Chlorophyll-a, Uncorrected	3.6		ug/L	P250253	
1487348	EPA 1600 (MF)	Enterococci-Membrane Filter	10	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	6	B	cfu/100 mL		

Sample Location: PEN BAY 1/2 BTW MUSCOGEE AND HAWKSHAW **Collection Date/Time: 03/04/2013 12:05 PM**

Field ID: 6 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1487302	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.1	I	mg/L	P250179	
1487330	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.9		ug/L	P250253	
		Phaeophytin-a	0.40	U	ug/L	P250253	
		Chlorophyll/Phaeophytin Ratio	1.7			P250253	
		Chlorophyll-a, Uncorrected	4.1		ug/L	P250253	
1487347	EPA 1600 (MF)	Enterococci-Membrane Filter	8	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	20	B	cfu/100 mL		

Ref. Method and Comment:
SM 5210 B: See nonconformance report #4417.

Sample Location: PEN BAY 100FT SO. OF STORM DRAIN **Collection Date/Time: 03/04/2013 11:30 AM**

Field ID: 4 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1487300	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.3	I	mg/L	P250179	
1487328	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.3		ug/L	P250253	
		Phaeophytin-a	0.40	U	ug/L	P250253	
		Chlorophyll/Phaeophytin Ratio	1.7			P250253	
		Chlorophyll-a, Uncorrected	3.4		ug/L	P250253	
1487345	EPA 1600 (MF)	Enterococci-Membrane Filter	8	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	41	B	cfu/100 mL		

Sample Location: PEN BAY BTW BRIDGE AND PORT **Collection Date/Time: 03/04/2013 12:19 PM**

Field ID: 12 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1487308	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.0	I	mg/L	P250179	
1487336	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.4		ug/L	P250253	
		Phaeophytin-a	0.40	U	ug/L	P250253	
		Chlorophyll/Phaeophytin Ratio	1.7			P250253	
		Chlorophyll-a, Uncorrected	3.6		ug/L	P250253	
1487353	EPA 1600 (MF)	Enterococci-Membrane Filter	4	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	5	B	cfu/100 mL		

Sample Location: PEN BAY BTW MARINA AND OUTFALL **Collection Date/Time: 03/04/2013 12:32 PM**

Field ID: 10 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1487306	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.1	I	mg/L	P250179	
1487334	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.0		ug/L	P250253	
		Phaeophytin-a	0.40	U	ug/L	P250253	
		Chlorophyll/Phaeophytin Ratio	1.7			P250253	
		Chlorophyll-a, Uncorrected	4.2		ug/L	P250253	
1487351	EPA 1600 (MF)	Enterococci-Membrane Filter	4	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	5	B	cfu/100 mL		

Sample Location: PEN BAY EAST OF PRIMARY STORM DRAIN **Collection Date/Time: 03/04/2013 11:20 AM**

Field ID: 3 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1487299	SM 5210 B	Biochemical Oxygen Demand-5 Day	0.96	I	mg/L	P250179	
1487327	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.0		ug/L	P250253	
		Phaeophytin-a	0.40	U	ug/L	P250253	
		Chlorophyll/Phaeophytin Ratio	1.7			P250253	
		Chlorophyll-a, Uncorrected	3.2		ug/L	P250253	
1487344	EPA 1600 (MF)	Enterococci-Membrane Filter	4	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	21	B	cfu/100 mL		

Sample Location: PEN BAY END OF CHASE ST **Collection Date/Time: 03/04/2013 11:50 AM**

Field ID: 5 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1487301	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.1	I	mg/L	P250179	
1487329	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.6		ug/L	P250253	
		Phaeophytin-a	0.40	U	ug/L	P250253	
		Chlorophyll/Phaeophytin Ratio	1.7			P250253	
		Chlorophyll-a, Uncorrected	2.8		ug/L	P250253	
1487346	EPA 1600 (MF)	Enterococci-Membrane Filter	2	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	15	B	cfu/100 mL		

Sample Location: PEN BAY ENTRANCE OF MARINA **Collection Date/Time: 03/04/2013 12:25 PM**

Field ID: 11 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1487307	SM 5210 B	Biochemical Oxygen Demand-5 Day	0.91	I	mg/L	P250179	
1487335	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.6		ug/L	P250253	
		Phaeophytin-a	0.40	U	ug/L	P250253	
		Chlorophyll/Phaeophytin Ratio	1.7			P250253	
		Chlorophyll-a, Uncorrected	3.7		ug/L	P250253	
1487352	EPA 1600 (MF)	Enterococci-Membrane Filter	2	U	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	6	B	cfu/100 mL		

Sample Location: PEN BAY INSIDE SITE 2 **Collection Date/Time: 03/04/2013 01:15 PM**

Field ID: 14 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1487310	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I	mg/L	P250179	
1487338	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.9		ug/L	P250254	
		Phaeophytin-a	0.40	U	ug/L	P250254	
		Chlorophyll/Phaeophytin Ratio	1.6			P250254	
		Chlorophyll-a, Uncorrected	3.3		ug/L	P250254	
1487355	EPA 1600 (MF)	Enterococci-Membrane Filter	10	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	11	B	cfu/100 mL		

Sample Location: PEN BAY WEST END OF HAWKSHAW **Collection Date/Time: 03/04/2013 12:40 PM**

Field ID: 9 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1487305	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.3	I	mg/L	P250179	
1487333	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.4		ug/L	P250253	
		Phaeophytin-a	0.40	U	ug/L	P250253	
		Chlorophyll/Phaeophytin Ratio	1.7			P250253	
		Chlorophyll-a, Uncorrected	4.6		ug/L	P250253	
1487350	EPA 1600 (MF)	Enterococci-Membrane Filter	10	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	8	B	cfu/100 mL		

Sample Location: PEN BAY WEST OF STORM DRAIN **Collection Date/Time: 03/04/2013 11:45 AM**

Field ID: 8 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1487304	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I	mg/L	P250179	
1487332	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.3		ug/L	P250253	
		Phaeophytin-a	0.40	U	ug/L	P250253	
		Chlorophyll/Phaeophytin Ratio	1.7			P250253	
		Chlorophyll-a, Uncorrected	3.4		ug/L	P250253	
1487349	EPA 1600 (MF)	Enterococci-Membrane Filter	6	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	7	B	cfu/100 mL		

Non-Conformance Report

NCR ID: 4417

Event(s) **Job(s)** **Sample(s)** **Test(s)**

NW-DIST-2013-03-05-02

NCR Type: SHIPPING/RECEIVING **NCR Category: Receiving**

Observation: There was no collection date or time on the field sheet for site PEN BAY 1/2 BTW MUSCOGEE AND HAWKSHAW.

Resolution: A message was left for Cheryl Bunch on 03-05-13. She responded and said the collection date/time for this sample is 3/4/13, 11:05am ct. The collection date/time was written in by receiving staff, Shawn Kitchen. LIMS was updated.

Authorised by/Date: Kathryn Brackett 3/11/2013

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 David D. Whiting (850) 245-8177

Quality Assurance Report
Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P250253

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P250254

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 5210 B
Batch ID: P250179

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P250253

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	89.9		P	85 - 115

Reference Method: SM 10200 H (mod.)
Batch ID: P250254

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	92.3		P	85 - 115

Reference Method: SM 5210 B
Batch ID: P250179

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Biochemical Oxygen Demand-5 Day	111		P	84 - 116

Quality Assurance Report
Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P250253

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1487288	Chlorophyll-a, Uncorrected	8.12	Sample	P	0 - 25

Reference Method: SM 10200 H (mod.)
Batch ID: P250254

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1487438	Chlorophyll/Phaeophytin Ratio	0.0	Sample	P	0 - 25
1487438	Chlorophyll-a, Corrected	1.29	Sample	P	0 - 25
1487438	Chlorophyll-a, Uncorrected	1.17	Sample	P	0 - 25

Quality Assurance Report
Precision

* 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	89.9				
	Chlorophyll-a, Corrected	92.3			1.29	
	Chlorophyll-a, Uncorrected				8.12	
	Chlorophyll-a, Uncorrected				1.17	
SM 5210 B	Biochemical Oxygen Demand-5 Day	111				

Reference Method Descriptions

Method / NELAC Cert. #	Description	Associated Samples
EPA 1600 (MF) / E71969	Enterococci by membrane filter method by UWF Overflow Laboratory for NWD	1487342, 1487343, 1487344, 1487345, 1487346, 1487347, 1487348, 1487349, 1487350, 1487351, 1487352, 1487353, 1487354, 1487355
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, phaeophytin and ratio by spectrophotometry	1487325, 1487326, 1487327, 1487328, 1487329, 1487330, 1487331, 1487332, 1487333, 1487334, 1487335, 1487336, 1487337, 1487338
SM 5210 B / E31780	BOD, NOT nitrogen-inhibited	1487297, 1487298, 1487299, 1487300, 1487301, 1487302, 1487303, 1487304, 1487305, 1487306, 1487307, 1487308, 1487309, 1487310
SM 9222 D / E71969	Fecal coliforms by membrane filter method by UWF Overflow Laboratory for NWD	1487342, 1487343, 1487344, 1487345, 1487346, 1487347, 1487348, 1487349, 1487350, 1487351, 1487352, 1487353, 1487354, 1487355

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 1600 (MF)	03/04/2013			03/04/2013 15:20	UWF Lab	1487342
	03/04/2013			03/04/2013 15:23	UWF Lab	1487343
	03/04/2013			03/04/2013 15:26	UWF Lab	1487344
	03/04/2013			03/04/2013 15:29	UWF Lab	1487345
	03/04/2013			03/04/2013 15:32	UWF Lab	1487346
	03/04/2013			03/04/2013 15:35	UWF Lab	1487347
	03/04/2013			03/04/2013 15:41	UWF Lab	1487348
	03/04/2013			03/04/2013 15:47	UWF Lab	1487349
	03/04/2013			03/04/2013 15:50	UWF Lab	1487350
	03/04/2013			03/04/2013 15:53	UWF Lab	1487351
	03/04/2013			03/04/2013 15:56	UWF Lab	1487352
	03/04/2013			03/04/2013 15:59	UWF Lab	1487353
	03/04/2013			03/04/2013 16:05	UWF Lab	1487354
	03/04/2013			03/04/2013 16:08	UWF Lab	1487355
SM 10200 H (mod.)	03/05/2013	03/05/2013 13:30	Kim M. Spencer	03/12/2013	Kim M. Spencer	1487325, 1487326, 1487327, 1487328, 1487329, 1487330, 1487331, 1487332, 1487333, 1487334, 1487335, 1487336, 1487337, 1487338
SM 5210 B	03/05/2013			03/06/2013 08:30	Jonathan M. Woods	1487297, 1487298, 1487299, 1487300, 1487301, 1487302, 1487303, 1487304, 1487305, 1487306, 1487307, 1487308, 1487309, 1487310
SM 9222 D	03/04/2013			03/04/2013 15:33	UWF Lab	1487342
	03/04/2013			03/04/2013 15:37	UWF Lab	1487343
	03/04/2013			03/04/2013 15:40	UWF Lab	1487344
	03/04/2013			03/04/2013 15:43	UWF Lab	1487345
	03/04/2013			03/04/2013 15:46	UWF Lab	1487346
	03/04/2013			03/04/2013 15:50	UWF Lab	1487347
	03/04/2013			03/04/2013 15:56	UWF Lab	1487348
	03/04/2013			03/04/2013 16:03	UWF Lab	1487349
	03/04/2013			03/04/2013 16:06	UWF Lab	1487350
	03/04/2013			03/04/2013 16:09	UWF Lab	1487351
	03/04/2013			03/04/2013 16:13	UWF Lab	1487352
	03/04/2013			03/04/2013 16:16	UWF Lab	1487353
	03/04/2013			03/04/2013 16:23	UWF Lab	1487354
	03/04/2013			03/04/2013 16:27	UWF Lab	1487355