Biological Analysis Report

NW-DIST-2012-08-21-03

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-2012-08-20-12**
Customer: **NW-DIST**
Project ID: **DISCRTNARY**

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Certified by: Elizabeth Miller, Environmental Manager

Date Certified: 07-SEP-2012 10:51

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-2012-08-21-20	Group: Chlorophyll/Grain Size/BOD
Job: TLH-2012-08-21-32	Group: Chlorophyll/Grain Size/BOD
Job: TLH-2012-08-21-34	Group: Overflow

Sample Location: 1/2 BETWEEN BRIDGE AND PORT **Collection Date/Time: 08/20/2012 10:26 AM**

Field ID: 7 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449006	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I	mg/L	P243548	
1449072	SM 10200 H (mod.)	Chlorophyll-a, Corrected	10		ug/L	P243623	
		Phaeophytin-a	1.6		ug/L	P243623	
		Chlorophyll/Phaeophytin Ratio	1.6			P243623	
		Chlorophyll-a, Uncorrected	12		ug/L	P243623	
1449086	EPA 1600 (MF)	Enterococci-Membrane Filter	16	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	5	B	cfu/100 mL		

Sample Location: 1/2 MUSCOGEE AND HAWKSHAW + 400 FT FROM SHORE **Collection Date/Time: 08/20/2012 11:15 AM**

Field ID: 6 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449005	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.0	I	mg/L	P243548	
1449071	SM 10200 H (mod.)	Chlorophyll-a, Corrected	12		ug/L	P243623	
		Phaeophytin-a	1.0	I	ug/L	P243623	
		Chlorophyll/Phaeophytin Ratio	1.6			P243623	
		Chlorophyll-a, Uncorrected	13		ug/L	P243623	
1449085	EPA 1600 (MF)	Enterococci-Membrane Filter	93		cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	164		cfu/100 mL		

Sample Location: 1/4 BETWEEN PORT/BRIDGE **Collection Date/Time: 08/20/2012 10:30 AM**

Field ID: 12 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449003	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I	mg/L	P243548	
1449069	SM 10200 H (mod.)	Chlorophyll-a, Corrected	10		ug/L	P243623	
		Phaeophytin-a	1.3		ug/L	P243623	
		Chlorophyll/Phaeophytin Ratio	1.6			P243623	
		Chlorophyll-a, Uncorrected	11		ug/L	P243623	
1449083	EPA 1600 (MF)	Enterococci-Membrane Filter	46	V	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	24	B	cfu/100 mL		

Ref. Method and Comment:
EPA 1600 (MF): Analyte detected in method blank >= Limit of Detection and > 1/10th the concentration in the sample.

Sample Location: 100 FT SOUTH OF STORM DRAIN **Collection Date/Time: 08/20/2012 10:11 AM**

Field ID: 4 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449011	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.3	I	mg/L	P243548	
1449077	SM 10200 H (mod.)	Chlorophyll-a, Corrected	9.0		ug/L	P243623	
		Phaeophytin-a	1.0	I	ug/L	P243623	
		Chlorophyll/Phaeophytin Ratio	1.6			P243623	
		Chlorophyll-a, Uncorrected	10		ug/L	P243623	
1449091	EPA 1600 (MF)	Enterococci-Membrane Filter	182		cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	271	B	cfu/100 mL		

Sample Location: BETWEEN MARINA AND OUTFALL **Collection Date/Time: 08/20/2012 10:41 AM**

Field ID: 10 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449001	SM 5210 B	Biochemical Oxygen Demand-5 Day	0.96	I	mg/L	P243548	
1449067	SM 10200 H (mod.)	Chlorophyll-a, Corrected	10	A	ug/L	P243623	
		Phaeophytin-a	1.1	I	ug/L	P243623	
		Chlorophyll/Phaeophytin Ratio	1.6	A		P243623	
		Chlorophyll-a, Uncorrected	11	A	ug/L	P243623	
1449081	EPA 1600 (MF)	Enterococci-Membrane Filter	40	V	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	95		cfu/100 mL		

Ref. Method and Comment:
SM 10200 H (mod.): Laboratory duplicate result is 0.94 I for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample.
EPA 1600 (MF): Analyte detected in method blank >= Limit of Detection and > 1/10th the concentration in the sample.

Sample Location: EAST OF PRIMARY STORM DRAIN **Collection Date/Time: 08/20/2012 10:06 AM**

Field ID: 3 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449010	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I	mg/L	P243548	
1449076	SM 10200 H (mod.)	Chlorophyll-a, Corrected	9.9		ug/L	P243623	
		Phaeophytin-a	0.88	I	ug/L	P243623	
		Chlorophyll/Phaeophytin Ratio	1.6			P243623	
		Chlorophyll-a, Uncorrected	11		ug/L	P243623	
1449090	EPA 1600 (MF)	Enterococci-Membrane Filter	128		cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	229		cfu/100 mL		

Sample Location: EAST OF STRORM DRAIN INSIDE PGS 2 **Collection Date/Time: 08/20/2012 11:07 AM**

Field ID: 14 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449013	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.4	I	mg/L	P243549	
1449079	SM 10200 H (mod.)	Chlorophyll-a, Corrected	13		ug/L	P243623	
		Phaeophytin-a	1.7		ug/L	P243623	
		Chlorophyll/Phaeophytin Ratio	1.6			P243623	
		Chlorophyll-a, Uncorrected	14		ug/L	P243623	
1449093	EPA 1600 (MF)	Enterococci-Membrane Filter	1480	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	600	Z	cfu/100 mL		

Sample Location: END OF CHASE ST **Collection Date/Time: 08/20/2012 10:20 AM**

Field ID: 5 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449004	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I	mg/L	P243548	
1449070	SM 10200 H (mod.)	Chlorophyll-a, Corrected	11		ug/L	P243623	
		Phaeophytin-a	1.1	I	ug/L	P243623	
		Chlorophyll/Phaeophytin Ratio	1.6			P243623	
		Chlorophyll-a, Uncorrected	12		ug/L	P243623	
1449084	EPA 1600 (MF)	Enterococci-Membrane Filter	260		cfu/100 mL		

Field ID: 5 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449084	SM 9222 D	Fecal Coliforms-Membrane Filter	670	B	cfu/100 mL		

Sample Location: ENTRANCE OF MARINA **Collection Date/Time: 08/20/2012 10:35 AM**

Field ID: 11 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449002	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.3	I	mg/L	P243548	
1449068	SM 10200 H (mod.)	Chlorophyll-a, Corrected	21		ug/L	P243623	
		Phaeophytin-a	3.9		ug/L	P243623	
		Chlorophyll/Phaeophytin Ratio	1.6			P243623	
		Chlorophyll-a, Uncorrected	24		ug/L	P243623	
1449082	EPA 1600 (MF)	Enterococci-Membrane Filter	600	Z	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	600	Z	cfu/100 mL		

Sample Location: INSIDE HAWKSHAW LAGOON **Collection Date/Time: 08/20/2012 11:00 AM**

Field ID: 13 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449012	SM 5210 B	Biochemical Oxygen Demand-5 Day	2.4		mg/L	P243548	
1449078	SM 10200 H (mod.)	Chlorophyll-a, Corrected	30		ug/L	P243623	
		Phaeophytin-a	6.7		ug/L	P243623	
		Chlorophyll/Phaeophytin Ratio	1.6			P243623	
		Chlorophyll-a, Uncorrected	35		ug/L	P243623	
1449092	EPA 1600 (MF)	Enterococci-Membrane Filter	210		cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	1390	B	cfu/100 mL		

Sample Location: PENSACOLA BAY-E OF RANGE MARKER **Collection Date/Time: 08/20/2012 09:52 AM**

Field ID: 1 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449008	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.1	I	mg/L	P243548	
1449074	SM 10200 H (mod.)	Chlorophyll-a, Corrected	9.0		ug/L	P243623	
		Phaeophytin-a	1.5		ug/L	P243623	
		Chlorophyll/Phaeophytin Ratio	1.6			P243623	
		Chlorophyll-a, Uncorrected	10		ug/L	P243623	
1449088	EPA 1600 (MF)	Enterococci-Membrane Filter	6	BV	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	18	B	cfu/100 mL		

Ref. Method and Comment:
EPA 1600 (MF): Analyte detected in method blank >= Limit of Detection and > 1/10th the concentration in the sample.

Sample Location: PNS BAY 1/2 BRIDGE-MUSCOGEE **Collection Date/Time: 08/20/2012 10:00 AM**

Field ID: 2 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449009	SM 5210 B	Biochemical Oxygen Demand-5 Day	0.85	I	mg/L	P243548	
1449075	SM 10200 H (mod.)	Chlorophyll-a, Corrected	9.9		ug/L	P243623	
		Phaeophytin-a	1.3		ug/L	P243623	

Field ID: 2 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449075	SM 10200 H (mod.)	Chlorophyll/Phaeophytin Ratio	1.6			P243623	
		Chlorophyll-a, Uncorrected	11		ug/L	P243623	
1449089	EPA 1600 (MF)	Enterococci-Membrane Filter	2	BV	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	4	B	cfu/100 mL		

Ref. Method and Comment:
EPA 1600 (MF): Analyte detected in method blank >= Limit of Detection and > 1/10th the concentration in the sample.

Sample Location: W OF STORMDRAIN- INSIDE ROCKS **Collection Date/Time: 08/20/2012 10:16 AM**

Field ID: 8 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449007	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.4	I	mg/L	P243548	
1449073	SM 10200 H (mod.)	Chlorophyll-a, Corrected	7.9		ug/L	P243623	
		Phaeophytin-a	1.0	I	ug/L	P243623	
		Chlorophyll/Phaeophytin Ratio	1.6			P243623	
		Chlorophyll-a, Uncorrected	8.8		ug/L	P243623	
1449087	EPA 1600 (MF)	Enterococci-Membrane Filter	210		cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	400		cfu/100 mL		

Sample Location: WEST OF HAWKSHAW 100 FT S OF OUTFALL **Collection Date/Time: 08/20/2012 10:45 AM**

Field ID: 9 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1449000	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.3	I	mg/L	P243548	
1449066	SM 10200 H (mod.)	Chlorophyll-a, Corrected	10		ug/L	P243609	
		Phaeophytin-a	0.96	I	ug/L	P243609	
		Chlorophyll/Phaeophytin Ratio	1.6			P243609	
		Chlorophyll-a, Uncorrected	11		ug/L	P243609	
1449080	EPA 1600 (MF)	Enterococci-Membrane Filter	990	B	cfu/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	600	Z	cfu/100 mL		

Quality Assurance Report
Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P243609

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: P243623

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 5210 B
Batch ID: P243548

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

Reference Method: SM 5210 B
Batch ID: P243549

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: P243623

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1449067	Chlorophyll/Phaeophytin Ratio	0.0	Sample	P	0 - 25
1449067	Chlorophyll-a, Corrected	6.75	Sample	P	0 - 25
1449067	Chlorophyll-a, Uncorrected	7.13	Sample	P	0 - 25

Reference Method: SM 5210 B
Batch ID: P243548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1448940	Biochemical Oxygen Demand-5 Day	13.3	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				6.75	
	Chlorophyll-a, Uncorrected				7.13	
SM 5210 B	Biochemical Oxygen Demand-5 Day				13.3	

Reference Method Descriptions

Method / NELAC Cert. #	Description	Associated Samples
EPA 1600 (MF) / E71969	Enterococci by membrane filter method by UWF Overflow Laboratory for NWD	1449080, 1449081, 1449082, 1449083, 1449084, 1449085, 1449086, 1449087, 1449088, 1449089, 1449090, 1449091, 1449092, 1449093

Reference Method Descriptions

Method / NELAC Cert. #	Description	Associated Samples
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, phaeophytin and ratio by spectrophotometry	1449066, 1449067, 1449068, 1449069, 1449070, 1449071, 1449072, 1449073, 1449074, 1449075, 1449076, 1449077, 1449078, 1449079
SM 5210 B / E31780	BOD, NOT nitrogen-inhibited	1449000, 1449001, 1449002, 1449003, 1449004, 1449005, 1449006, 1449007, 1449008, 1449009, 1449010, 1449011, 1449012, 1449013
SM 9222 D / E71969	Fecal coliforms by membrane filter method by UWF Overflow Laboratory for NWD	1449080, 1449081, 1449082, 1449083, 1449084, 1449085, 1449086, 1449087, 1449088, 1449089, 1449090, 1449091, 1449092, 1449093

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 1600 (MF)	08/20/2012			08/20/2012 16:22	UWF Lab	1449088
	08/20/2012			08/20/2012 16:25	UWF Lab	1449089
	08/20/2012			08/20/2012 16:28	UWF Lab	1449090
	08/20/2012			08/20/2012 16:31	UWF Lab	1449091
	08/20/2012			08/20/2012 16:34	UWF Lab	1449084
	08/20/2012			08/20/2012 16:37	UWF Lab	1449085
	08/20/2012			08/20/2012 16:40	UWF Lab	1449086
	08/20/2012			08/20/2012 16:43	UWF Lab	1449087
	08/20/2012			08/20/2012 16:51	UWF Lab	1449080
	08/20/2012			08/20/2012 16:57	UWF Lab	1449081
	08/20/2012			08/20/2012 17:00	UWF Lab	1449082
	08/20/2012			08/20/2012 17:03	UWF Lab	1449083
	08/20/2012			08/20/2012 17:06	UWF Lab	1449092
	08/20/2012			08/20/2012 17:09	UWF Lab	1449093
SM 10200 H (mod.)	08/21/2012	08/21/2012 13:20	Amelia G. Rankin	08/27/2012	Amelia G. Rankin	1449066
	08/21/2012	08/21/2012 13:20	Amelia G. Rankin	08/28/2012	Amelia G. Rankin	1449067, 1449068, 1449069, 1449070, 1449071, 1449072, 1449073, 1449074, 1449075, 1449076, 1449077, 1449078, 1449079
SM 5210 B	08/21/2012			08/22/2012 08:20	Jonathan M. Woods	1449000, 1449001, 1449002, 1449003, 1449004, 1449005, 1449006, 1449007, 1449008, 1449009, 1449010, 1449011, 1449012, 1449013
SM 9222 D	08/20/2012			08/20/2012 15:58	UWF Lab	1449088
	08/20/2012			08/20/2012 16:01	UWF Lab	1449089
	08/20/2012			08/20/2012 16:04	UWF Lab	1449090
	08/20/2012			08/20/2012 16:08	UWF Lab	1449091
	08/20/2012			08/20/2012 16:12	UWF Lab	1449084
	08/20/2012			08/20/2012 16:15	UWF Lab	1449085
	08/20/2012			08/20/2012 16:18	UWF Lab	1449086
	08/20/2012			08/20/2012 16:22	UWF Lab	1449087
	08/20/2012			08/20/2012 16:31	UWF Lab	1449080
	08/20/2012			08/20/2012 16:34	UWF Lab	1449081
	08/20/2012			08/20/2012 16:38	UWF Lab	1449082
	08/20/2012			08/20/2012 16:41	UWF Lab	1449083
	08/20/2012			08/20/2012 16:44	UWF Lab	1449092
	08/20/2012			08/20/2012 16:50	UWF Lab	1449093