

Biological Analysis Report

NW-DIST-2009-02-24-01

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-2009-02-23-17**
Customer: **NW-DIST**
Project ID: **DISCRTNARY**

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

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Certified by: Elizabeth Miller, Environmental Manager

Date Certified: 19-MAR-2009 13:35



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.

* - Item was outside the QC Limits.

** - 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).

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-2009-02-24-01
Job: TLH-2009-02-24-02
Job: TLH-2009-02-24-03

Group: Chlorophyll/Grain Size/BOD
Group: Chlorophyll/Grain Size/BOD
Group: Overflow

Sample Location: INSIDE HAWSHAW LAGOON

Collection Date/Time: 02/23/2009 01:31 PM

Field ID: #13

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1168010	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I		mg/L	E31780
1168024	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.3	I		ug/L	
		Phaeophytin-a	0.24	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.6				
		Chlorophyll-a, Uncorrected	1.4			ug/L	
1168038	EPA 1600	Enterococci-Membrane Filter	4	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	4	B		#/100 mL	

Sample Location: PENSACOLA BAY 1/2 BRIDGE AND PORT

Collection Date/Time: 02/23/2009 12:36 PM

Field ID: #7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1168004	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.3	I		mg/L	E31780
1168018	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.4			ug/L	
		Phaeophytin-a	0.24	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	4.7			ug/L	
1168032	EPA 1600	Enterococci-Membrane Filter	2	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	2	B		#/100 mL	

Sample Location: PENSACOLA BAY 1/2 BRIDGE AND MUSCOGEE

Collection Date/Time: 02/23/2009 11:40 AM

Field ID: #2

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1167999	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I		mg/L	E31780
1168013	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.1			ug/L	
		Phaeophytin-a	0.31	I		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	4.5			ug/L	
1168027	EPA 1600	Enterococci-Membrane Filter	2	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	1	B		#/100 mL	

Field ID: #2

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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Sample Location: PENSACOLA BAY 1/2 MUSCOGEE AND HAWK SHAW

Collection Date/Time: 02/23/2009 01:43 PM

Field ID: #6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1168003	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.3	I		mg/L	E31780
1168017	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.5			ug/L	
		Phaeophytin-a	0.38	I		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.6				
		Chlorophyll-a, Uncorrected	3.8			ug/L	
1168031	EPA 1600	Enterococci-Membrane Filter	8	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	5	B		#/100 mL	

Sample Location: PENSACOLA BAY 100'S OF OUTFALL

Collection Date/Time: 02/23/2009 12:07 PM

Field ID: #4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1168001	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.7	I		mg/L	E31780
1168015	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.5			ug/L	
		Phaeophytin-a	0.24	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	3.7			ug/L	
1168029	EPA 1600	Enterococci-Membrane Filter	2	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	1	U		#/100 mL	

Sample Location: PENSACOLA BAY B/E BRIDGE AND PORT

Collection Date/Time: 02/23/2009 12:16 PM

Field ID: #12

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1168009	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.4	I		mg/L	E31780
1168023	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.1			ug/L	
		Phaeophytin-a	0.27	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	4.2			ug/L	
1168037	EPA 1600	Enterococci-Membrane Filter	2	U		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	1	U		#/100 mL	

Field ID: #12

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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Sample Location: PENSACOLA BAY E OF STORM DRAIN

Collection Date/Time: 02/23/2009 11:50 AM

Field ID: #3

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1168000	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I		mg/L	E31780
1168014	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.0			ug/L	
		Phaeophytin-a	0.24	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	4.2			ug/L	
1168028	EPA 1600	Enterococci-Membrane Filter	6	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	2	B		#/100 mL	

Sample Location: PENSACOLA BAY E OF TEXAR

Collection Date/Time: 02/23/2009 11:27 AM

Field ID: #1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1167998	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.6	I		mg/L	E31780
1168012	SM 10200 H (mod.)	Chlorophyll-a, Corrected	5.1			ug/L	
		Phaeophytin-a	1.7			ug/L	
		Chlorophyll/Phaeophytin Ratio	1.5				
		Chlorophyll-a, Uncorrected	6.4			ug/L	
1168026	EPA 1600	Enterococci-Membrane Filter	2	U		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	1	U		#/100 mL	

Sample Location: PENSACOLA BAY E. OF OUTFALL

Collection Date/Time: 02/23/2009 01:39 PM

Field ID: #14

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1168011	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I		mg/L	E31780
1168025	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.5			ug/L	
		Phaeophytin-a	0.27	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	3.7			ug/L	
1168039	EPA 1600	Enterococci-Membrane Filter	2	U		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	2	B		#/100 mL	

Field ID: #14

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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Sample Location: PENSACOLA BAY END OF CHASE ST

Collection Date/Time: 02/23/2009 12:24 PM

Field ID: #5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1168002	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.4	I		mg/L	E31780
1168016	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.0			ug/L	
		Phaeophytin-a	0.24	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	4.3			ug/L	
1168030	EPA 1600	Enterococci-Membrane Filter	4	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	1	B		#/100 mL	

Sample Location: PENSACOLA BAY ENTRANCE OF MARINA

Collection Date/Time: 02/23/2009 12:57 PM

Field ID: #11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1168008	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.3	I		mg/L	E31780
1168022	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.9			ug/L	
		Phaeophytin-a	0.27	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	4.2			ug/L	
1168036	EPA 1600	Enterococci-Membrane Filter	2	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	1	U		#/100 mL	

Sample Location: PENSACOLA BAY INSIDE ROCKS

Collection Date/Time: 02/23/2009 12:18 PM

Field ID: #8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1168005	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.5	I		mg/L	E31780
1168019	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.8			ug/L	
		Phaeophytin-a	0.24	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	2.9			ug/L	
1168033	EPA 1600	Enterococci-Membrane Filter	6	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	5	B		#/100 mL	

Field ID: #8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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Sample Location: PENSACOLA BAY MARINA & OUTFALL

Collection Date/Time: 02/23/2009 01:07 PM

Field ID: #10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1168007	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I		mg/L	E31780
1168021	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.7			ug/L	
		Phaeophytin-a	0.24	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	3.8			ug/L	
1168035	EPA 1600	Enterococci-Membrane Filter	4	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	1	U		#/100 mL	

Sample Location: PENSACOLA BUY W OF HAWKSHAW

Collection Date/Time: 02/23/2009 01:20 PM

Field ID: #9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1168006	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.3	I		mg/L	E31780
1168020	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.8	A		ug/L	
		Phaeophytin-a	0.30	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7	A			
		Chlorophyll-a, Uncorrected	4.0	A		ug/L	
1168034	EPA 1600	Enterococci-Membrane Filter	2	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	1	U		#/100 mL	

Ref. Method and Comment:

SM 10200 H (mod.) Laboratory duplicate result is 0.30 U for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample.

Quality Control Report

Ref. Method	Analyte	LCS %Recovery	MS %Recovery	LCS	Precision SMP	MS
SM 5210 B	Biochemical Oxygen Demand-5 Day				15.4	
SM 10200 H (mod.)	Chlorophyll-a, Corrected				9.18	
	Chlorophyll-a, Uncorrected				8.15	
	Chlorophyll/Phaeophytin Ratio				0.0	
	Chlorophyll-a, Corrected				9.28	
	Chlorophyll-a, Uncorrected				8.19	
	Chlorophyll/Phaeophytin Ratio				0.0	

Reference Method Descriptions

Ref. Method:	Description
EPA 1600	Enterococci by membrane filter method by UWF Overflow Laboratory for NWD
SM 10200 H (mod.)	Phytoplankton chlorophyll-a and phaeophytin and ratio by spectrophotometry
SM 5210 B	BOD, NOT nitrogen-inhibited
SM 9222 D	Fecal coliforms by membrane filter method by UWF Overflow Laboratory for NWD

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared by	Analysis Date/Time	Analyzed by	Associated Samples
EPA 1600	2/23/2009			02/23/2009 16:10	UWF Lab	1168026
EPA 1600	2/23/2009			02/23/2009 16:12	UWF Lab	1168027
EPA 1600	2/23/2009			02/23/2009 16:15	UWF Lab	1168028
EPA 1600	2/23/2009			02/23/2009 16:17	UWF Lab	1168029
EPA 1600	2/23/2009			02/23/2009 16:20	UWF Lab	1168030
EPA 1600	2/23/2009			02/23/2009 16:22	UWF Lab	1168031
EPA 1600	2/23/2009			02/23/2009 16:27	UWF Lab	1168032
EPA 1600	2/23/2009			02/23/2009 16:32	UWF Lab	1168033
EPA 1600	2/23/2009			02/23/2009 16:35	UWF Lab	1168034
EPA 1600	2/23/2009			02/23/2009 16:37	UWF Lab	1168035
EPA 1600	2/23/2009			02/23/2009 16:40	UWF Lab	1168036
EPA 1600	2/23/2009			02/23/2009 16:42	UWF Lab	1168037
EPA 1600	2/23/2009			02/23/2009 16:45	UWF Lab	1168038
EPA 1600	2/23/2009			02/23/2009 16:47	UWF Lab	1168039
SM 10200 H (mod.)	2/24/2009	02/24/2009 13:30	Jonathan M. Woods	02/25/2009	Jonathan M. Woods	1168012, 1168013, 1168014, 1168015
SM 10200 H (mod.)	2/24/2009	02/24/2009 13:30	Jonathan M. Woods	02/27/2009	Amelia G. Rankin	1168016, 1168017, 1168018, 1168019, 1168020, 1168021, 1168022, 1168023, 1168024, 1168025
SM 5210 B	2/24/2009			02/25/2009 07:30	Chelsea A. French	1167998, 1167999, 1168000, 1168001, 1168002, 1168003, 1168004, 1168005, 1168006, 1168007, 1168008, 1168009, 1168010, 1168011
SM 9222 D	2/23/2009			02/23/2009 16:01	UWF Lab	1168026
SM 9222 D	2/23/2009			02/23/2009 16:06	UWF Lab	1168027
SM 9222 D	2/23/2009			02/23/2009 16:08	UWF Lab	1168028
SM 9222 D	2/23/2009			02/23/2009 16:11	UWF Lab	1168029
SM 9222 D	2/23/2009			02/23/2009 16:13	UWF Lab	1168030
SM 9222 D	2/23/2009			02/23/2009 16:15	UWF Lab	1168031

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared by	Analysis Date/Time	Analyzed by	Associated Samples
SM 9222 D	2/23/2009			02/23/2009 16:23	UWF Lab	1168032
SM 9222 D	2/23/2009			02/23/2009 16:25	UWF Lab	1168033
SM 9222 D	2/23/2009			02/23/2009 16:27	UWF Lab	1168034
SM 9222 D	2/23/2009			02/23/2009 16:30	UWF Lab	1168035
SM 9222 D	2/23/2009			02/23/2009 16:32	UWF Lab	1168036
SM 9222 D	2/23/2009			02/23/2009 16:34	UWF Lab	1168037
SM 9222 D	2/23/2009			02/23/2009 16:36	UWF Lab	1168038
SM 9222 D	2/23/2009			02/23/2009 16:38	UWF Lab	1168039