

Biological Analysis Report

NW-DIST-2009-11-17-03

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

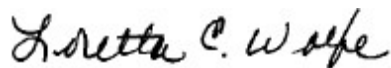
Overflow Analyses Performed By:
University of West Florida
11000 University Parkway
Pensacola, FL 32514
DOH Accreditation E71969

Event Description: **Project Greenshores**
Request ID: **RQ-2009-11-16-22**
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

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Certified by: Loretta E. Wolfe, Environmental Manager



Date Certified: 08-DEC-2009 15:20

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-2009-11-17-55

Job: TLH-2009-11-17-56

Job: TLH-2009-11-17-57

Group: Chlorophyll/Grain Size/BOD

Group: Chlorophyll/Grain Size/BOD

Group: Overflow

Sample Location: PENSACOLA 3302J2GS3

Collection Date/Time: 11/16/2009 11:13 AM

Field ID: 3

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1230126	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.6	I		mg/L	E31780
1230140	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.6		RPD	ug/L	
		Phaeophytin-a	0.40	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	4.7		RPD	ug/L	
1230154	EPA 1600	Enterococci-Membrane Filter	10	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	20	B		#/100 mL	

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: PENSACOLA BAY 3302H32GSI

Collection Date/Time: 11/16/2009 10:55 AM

Field ID: 1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1230124	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.6	I		mg/L	E31780
1230138	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.2		RPD	ug/L	
		Phaeophytin-a	0.42	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	2.3		RPD	ug/L	
1230152	EPA 1600	Enterococci-Membrane Filter	20	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	58			#/100 mL	

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: PENSACOLA BAY 3302J1GS6

Collection Date/Time: 11/16/2009 12:22 PM

Field ID: 6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1230129	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.5	I		mg/L	E31780
1230143	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.8		RPD	ug/L	
		Phaeophytin-a	0.40	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	2.9		RPD	ug/L	
1230157	EPA 1600	Enterococci-Membrane Filter	12	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	25	B		#/100 mL	

Field ID: 6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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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: PENSACOLA BAY 3302J1GS9

Collection Date/Time: 11/16/2009 11:55 AM

Field ID: 9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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1230132	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I		mg/L	E31780
1230146	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.3			ug/L	
		Phaeophytin-a	0.43	I		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.6				
		Chlorophyll-a, Uncorrected	3.7			ug/L	
1230160	EPA 1600	Enterococci-Membrane Filter	30	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	18	B		#/100 mL	

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: PENSACOLA BAY 3302J1HL1

Collection Date/Time: 11/16/2009 12:03 PM

Field ID: 13

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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1230136	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.4	I		mg/L	E31780
1230150	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.4			ug/L	
		Phaeophytin-a	0.70	I		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.5				
		Chlorophyll-a, Uncorrected	2.9			ug/L	
1230164	EPA 1600	Enterococci-Membrane Filter	46			#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	82			#/100 mL	

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: PENSACOLA BAY 3302J2GS4

Collection Date/Time: 11/16/2009 11:19 AM

Field ID: 4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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1230127	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.7	I		mg/L	E31780
1230141	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.1		RPD	ug/L	
		Phaeophytin-a	0.40	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	3.3		RPD	ug/L	
1230155	EPA 1600	Enterococci-Membrane Filter	14	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	21	B		#/100 mL	

Field ID: 4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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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: PENSACOLA BAY 3302J2GS8

Collection Date/Time: 11/16/2009 11:27 AM

Field ID: 8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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1230131	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I		mg/L	E31780
1230145	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.2			ug/L	
		Phaeophytin-a	0.40	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	3.5			ug/L	
1230159	EPA 1600	Enterococci-Membrane Filter	10	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	24	B		#/100 mL	

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: PENSACOLA BAY 3302J7GS10

Collection Date/Time: 11/16/2009 11:49 AM

Field ID: 10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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1230133	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.3	I		mg/L	E31780
1230147	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.3			ug/L	
		Phaeophytin-a	0.47	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	3.6			ug/L	
1230161	EPA 1600	Enterococci-Membrane Filter	16	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	28	B		#/100 mL	

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: PENSACOLA BAY 3302J7GS11

Collection Date/Time: 11/16/2009 11:43 AM

Field ID: 11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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1230134	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.3	I		mg/L	E31780
1230148	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.7	A		ug/L	
		Phaeophytin-a	0.40	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.6	A			
		Chlorophyll-a, Uncorrected	2.9	A		ug/L	
1230162	EPA 1600	Enterococci-Membrane Filter	20	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	48			#/100 mL	

Field ID: 11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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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.

SM 10200 H (mod.) Laboratory duplicate result is 0.40 U for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample.

Sample Location: PENSACOLA BAY 3302J7GS12

Collection Date/Time: 11/16/2009 11:40 AM

Field ID: 12

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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1230135	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.2	I		mg/L	E31780
1230149	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.7			ug/L	
		Phaeophytin-a	0.40	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.6				
		Chlorophyll-a, Uncorrected	2.9			ug/L	
1230163	EPA 1600	Enterococci-Membrane Filter	14	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	29	B		#/100 mL	

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: PENSACOLA BAY 3302J8GS2

Collection Date/Time: 11/16/2009 11:00 AM

Field ID: 2

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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1230125	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.1	I		mg/L	E31780
1230139	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.0		RPD	ug/L	
		Phaeophytin-a	0.40	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	2.1		RPD	ug/L	
1230153	EPA 1600	Enterococci-Membrane Filter	16	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	29	B		#/100 mL	

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: PENSACOLA BAY 3302J8GS7

Collection Date/Time: 11/16/2009 11:34 AM

Field ID: 7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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1230130	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.1	I		mg/L	E31780
1230144	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.8			ug/L	
		Phaeophytin-a	0.40	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	3.0			ug/L	
1230158	EPA 1600	Enterococci-Membrane Filter	28	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	86			#/100 mL	

Field ID: 7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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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: PENSACOLA BAY 3302JIGS7

Collection Date/Time: 11/16/2009 12:13 PM

Field ID: 14

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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1230137	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.4	I		mg/L	E31780
1230151	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.0			ug/L	
		Phaeophytin-a	0.40	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	4.3			ug/L	
1230165	EPA 1600	Enterococci-Membrane Filter	8	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	18	B		#/100 mL	

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: PENSACOLA BAY 3302J2GS5

Collection Date/Time: 11/16/2009 11:23 AM

Field ID: 5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
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1230128	SM 5210 B	Biochemical Oxygen Demand-5 Day	1.3	I		mg/L	E31780
1230142	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.2		RPD	ug/L	
		Phaeophytin-a	0.40	U		ug/L	
		Chlorophyll/Phaeophytin Ratio	1.7				
		Chlorophyll-a, Uncorrected	2.3		RPD	ug/L	
1230156	EPA 1600	Enterococci-Membrane Filter	24	B		#/100 mL	E71969
	SM 9222 D	Fecal Coliforms-Membrane Filter	32	B		#/100 mL	

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. Laboratory duplicate result is 1.3 I mg/L. 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 10200 H (mod.)	Chlorophyll-a, Corrected				32.0*	
	Chlorophyll-a, Uncorrected				29.5*	
	Chlorophyll/Phaeophytin Ratio				0.0	
	Phaeophytin-a				7.58	
	Chlorophyll-a, Corrected				1.31	
	Chlorophyll-a, Uncorrected				2.13	
	Chlorophyll/Phaeophytin Ratio				6.06	

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	11/16/2009			11/16/2009 15:33	UWF Lab	1230152
EPA 1600	11/16/2009			11/16/2009 15:35	UWF Lab	1230153
EPA 1600	11/16/2009			11/16/2009 15:37	UWF Lab	1230154
EPA 1600	11/16/2009			11/16/2009 15:41	UWF Lab	1230155
EPA 1600	11/16/2009			11/16/2009 15:44	UWF Lab	1230156
EPA 1600	11/16/2009			11/16/2009 15:46	UWF Lab	1230157
EPA 1600	11/16/2009			11/16/2009 16:01	UWF Lab	1230158
EPA 1600	11/16/2009			11/16/2009 16:04	UWF Lab	1230159
EPA 1600	11/16/2009			11/16/2009 16:09	UWF Lab	1230160
EPA 1600	11/16/2009			11/16/2009 16:11	UWF Lab	1230161
EPA 1600	11/16/2009			11/16/2009 16:14	UWF Lab	1230162
EPA 1600	11/16/2009			11/16/2009 16:16	UWF Lab	1230163
EPA 1600	11/16/2009			11/16/2009 16:19	UWF Lab	1230164
EPA 1600	11/16/2009			11/16/2009 16:21	UWF Lab	1230165
SM 10200 H (mod.)	11/17/2009	11/17/2009 13:50	Chelsea A. French	11/20/2009	Jonathan M. Woods	1230138, 1230139, 1230140, 1230141, 1230142, 1230143
SM 10200 H (mod.)	11/17/2009	11/17/2009 13:50	Chelsea A. French	11/23/2009	Chelsea A. French	1230144, 1230145, 1230146, 1230147, 1230148, 1230149, 1230150, 1230151
SM 5210 B	11/17/2009			11/18/2009 08:10	Jacqueline Shim	1230124, 1230125, 1230126, 1230127, 1230128, 1230129, 1230130, 1230131, 1230132, 1230133, 1230134, 1230135, 1230136, 1230137
SM 9222 D	11/16/2009			11/16/2009 16:22	UWF Lab	1230152
SM 9222 D	11/16/2009			11/16/2009 16:25	UWF Lab	1230153
SM 9222 D	11/16/2009			11/16/2009 16:27	UWF Lab	1230154
SM 9222 D	11/16/2009			11/16/2009 16:32	UWF Lab	1230155
SM 9222 D	11/16/2009			11/16/2009 16:35	UWF Lab	1230156
SM 9222 D	11/16/2009			11/16/2009 16:37	UWF Lab	1230157

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared by	Analysis Date/Time	Analyzed by	Associated Samples
SM 9222 D	11/16/2009			11/16/2009 16:40	UWF Lab	1230158
SM 9222 D	11/16/2009			11/16/2009 16:45	UWF Lab	1230159
SM 9222 D	11/16/2009			11/16/2009 16:47	UWF Lab	1230160
SM 9222 D	11/16/2009			11/16/2009 16:52	UWF Lab	1230161
SM 9222 D	11/16/2009			11/16/2009 16:55	UWF Lab	1230162
SM 9222 D	11/16/2009			11/16/2009 16:57	UWF Lab	1230163
SM 9222 D	11/16/2009			11/16/2009 17:00	UWF Lab	1230164
SM 9222 D	11/16/2009			11/16/2009 17:02	UWF Lab	1230165