

Chemical 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

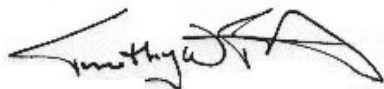
Event Description: **Project Greenshores**
Request ID: **RQ-2009-11-16-22**
Customer: **NW-DIST**
Project ID: **DISCRTNARY**

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: Timothy Fitzpatrick, Program Administrator

Date Certified: 11-DEC-2009 15:52



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.

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 #
1230168	EPA 180.1 Rev. 2.0	Turbidity	4.4			NTU	E31780
	SM 2120 B-01	Color (apparent)	60	A		PCU	
	SM 2540 D-97	TSS	10	I		mg/L	
1230182	EPA 350.1 Rev. 2.0	Ammonia-N	0.016	I		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43			mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.048			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.015			mg P/L	

Ref. Method and Comment:

SM 2120 B-01 The pH of the aliquot used to measure the color is 7.6 A units. This value does not represent the field pH.

SM 2540 D-97 The precision data is unavailable due to the small amount of analyte in the QC sample.

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 #
1230166	EPA 180.1 Rev. 2.0	Turbidity	6.6			NTU	E31780
	SM 2120 B-01	Color (apparent)	60			PCU	
	SM 2540 D-97	TSS	10	I		mg/L	
1230180	EPA 350.1 Rev. 2.0	Ammonia-N	0.013	I		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.043			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.016	A		mg P/L	

Ref. Method and Comment:

SM 2120 B-01 The pH of the aliquot used to measure the color is 6.1 units. This value does not represent the field pH.

SM 2540 D-97 The precision data is unavailable due to the small amount of analyte in the QC sample.

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 #
1230171	EPA 180.1 Rev. 2.0	Turbidity	5.3			NTU	E31780
	SM 2120 B-01	Color (apparent)	60			PCU	
	SM 2540 D-97	TSS	11	I		mg/L	
1230185	EPA 350.1 Rev. 2.0	Ammonia-N	0.019	I		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63			mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.046			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.014			mg P/L	

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 2120 B-01 The pH of the aliquot used to measure the color is 7.6 units. This value does not represent the field pH.

SM 2540 D-97 The precision data is unavailable due to the small amount of analyte in the QC sample.

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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1230174	EPA 180.1 Rev. 2.0	Turbidity	5.5			NTU	E31780
	SM 2120 B-01	Color (apparent)	80			PCU	
	SM 2540 D-97	TSS	5	I		mg/L	
1230188	EPA 350.1 Rev. 2.0	Ammonia-N	0.011	I		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.042			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.013			mg P/L	

Ref. Method and Comment:

SM 2120 B-01 The pH of the aliquot used to measure the color is 7.6 units. This value does not represent the field pH.

SM 2540 D-97 The precision data is unavailable due to the small amount of analyte in the QC sample.

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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1230178	EPA 180.1 Rev. 2.0	Turbidity	2.8			NTU	E31780
	SM 2120 B-01	Color (apparent)	30	A		PCU	
	SM 2540 D-97	TSS	11	I		mg/L	
1230192	EPA 350.1 Rev. 2.0	Ammonia-N	0.022			mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45			mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I		mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.016			mg P/L	

Ref. Method and Comment:

SM 2120 B-01 The pH of the aliquot used to measure the color is 7.3 A units. This value does not represent the field pH.

SM 2540 D-97 The precision data is unavailable due to the small amount of analyte in the QC sample.

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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1230169	EPA 180.1 Rev. 2.0	Turbidity	5.0			NTU	E31780
	SM 2120 B-01	Color (apparent)	60			PCU	
	SM 2540 D-97	TSS	9	I		mg/L	
1230183	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.045			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.012			mg P/L	

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 2120 B-01 The pH of the aliquot used to measure the color is 7.6 units. This value does not represent the field pH.

SM 2540 D-97 The precision data is unavailable due to the small amount of analyte in the QC sample.

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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1230170	EPA 180.1 Rev. 2.0	Turbidity	5.2			NTU	E31780
	SM 2120 B-01	Color (apparent)	60			PCU	
	SM 2540 D-97	TSS	10	I		mg/L	
1230184	EPA 350.1 Rev. 2.0	Ammonia-N	0.014	I		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41			mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.046			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.012			mg P/L	

Ref. Method and Comment:

SM 2120 B-01 The pH of the aliquot used to measure the color is 7.6 units. This value does not represent the field pH.

SM 2540 D-97 The precision data is unavailable due to the small amount of analyte in the QC sample.

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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1230173	EPA 180.1 Rev. 2.0	Turbidity	4.6			NTU	E31780
	SM 2120 B-01	Color (apparent)	80			PCU	
	SM 2540 D-97	TSS	11	I		mg/L	
1230187	EPA 350.1 Rev. 2.0	Ammonia-N	0.021			mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.045			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.011			mg P/L	

Ref. Method and Comment:

SM 2120 B-01 The pH of the aliquot used to measure the color is 7.6 units. This value does not represent the field pH.

SM 2540 D-97 The precision data is unavailable due to the small amount of analyte in the QC sample.

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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1230175	EPA 180.1 Rev. 2.0	Turbidity	5.2			NTU	E31780
	SM 2120 B-01	Color (apparent)	80			PCU	
	SM 2540 D-97	TSS	10	I		mg/L	
1230189	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43			mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.040			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.013			mg P/L	

Field ID: 10

Matrix: W-SURF-SLT

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

SM 2120 B-01 The pH of the aliquot used to measure the color is 7.6 units. This value does not represent the field pH.

SM 2540 D-97 The precision data is unavailable due to the small amount of analyte in the QC sample.

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 #
1230176	EPA 180.1 Rev. 2.0	Turbidity	5.4			NTU	E31780
	SM 2120 B-01	Color (apparent)	80			PCU	
	SM 2540 D-97	TSS	8	I		mg/L	
1230190	EPA 350.1 Rev. 2.0	Ammonia-N	0.018	I		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44			mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.041			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.012	A		mg P/L	

Ref. Method and Comment:

SM 2120 B-01 The pH of the aliquot used to measure the color is 7.6 units. This value does not represent the field pH.

SM 2540 D-97 The 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 #
1230177	EPA 180.1 Rev. 2.0	Turbidity	5.5	A		NTU	E31780
	SM 2120 B-01	Color (apparent)	60			PCU	
	SM 2540 D-97	TSS	10	I		mg/L	
1230191	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43			mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.041			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.012			mg P/L	

Ref. Method and Comment:

SM 2120 B-01 The pH of the aliquot used to measure the color is 7.6 units. This value does not represent the field pH.

SM 2540 D-97 The precision data is unavailable due to the small amount of analyte in the QC sample.

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 #
1230167	EPA 180.1 Rev. 2.0	Turbidity	5.5	A		NTU	E31780
	SM 2120 B-01	Color (apparent)	60	A		PCU	
	SM 2540 D-97	TSS	9	I		mg/L	
1230181	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.044			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.013			mg P/L	

Field ID: 2

Matrix: W-SURF-SLT

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

SM 2120 B-01 The pH of the aliquot used to measure the color is 7.1 A units. This value does not represent the field pH.
 SM 2540 D-97 The precision data is unavailable due to the small amount of analyte in the QC sample.

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 #
1230172	EPA 180.1 Rev. 2.0	Turbidity	5.5			NTU	E31780
	SM 2120 B-01	Color (apparent)	80			PCU	
	SM 2540 D-97	TSS	10	I		mg/L	
1230186	EPA 350.1 Rev. 2.0	Ammonia-N	0.015	I		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41			mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.012			mg P/L	

Ref. Method and Comment:

SM 2120 B-01 The pH of the aliquot used to measure the color is 7.6 units. This value does not represent the field pH.
 SM 2540 D-97 The precision data is unavailable due to the small amount of analyte in the QC sample.

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 #
1230179	EPA 180.1 Rev. 2.0	Turbidity	5.1			NTU	E31780
	SM 2120 B-01	Color (apparent)	60			PCU	
	SM 2540 D-97	TSS	11	I		mg/L	
1230193	EPA 350.1 Rev. 2.0	Ammonia-N	0.017	I		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.047			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.012			mg P/L	

Ref. Method and Comment:

SM 2120 B-01 The pH of the aliquot used to measure the color is 7.4 units. This value does not represent the field pH.
 SM 2540 D-97 The 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
EPA 180.1 Rev. 2.0	Turbidity				2.67	
	Turbidity				2.71	
	Turbidity				0.905	
SM 2120 B-01	Color (apparent)				0.0	
	Color (apparent)				0.0	
	Color (apparent)				0.0	
EPA 350.1 Rev. 2.0	Ammonia-N	96.0	94.8	96.2		1.32
	Ammonia-N	95.6	100	94.5		5.34
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	96.6	97.1		0.454
	NO2NO3-N	98.0	96.8	95.3		1.28
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.0	99.3	105		4.75
	Kjeldahl Nitrogen	104	106	102		3.49
EPA 365.1 Rev. 2.0	Total-P	95.0	92.1	92.2	3.82	
	Total-P	90.7	93.4	91.4	6.50	

Reference Method Descriptions

Ref. Method:

EPA 180.1 Rev. 2.0
EPA 350.1 Rev. 2.0
EPA 351.2 Rev. 2.0
EPA 353.2 Rev. 2.0
EPA 365.1 Rev. 2.0
SM 2120 B-01
SM 2540 D-97

Description

Turbidity in aqueous matrices
Ammonia in aqueous matrices as mg N/L
Total Kjeldahl Nitrogen in aqueous matrices
Nitrite/Nitrate in aqueous matrices as mg N/L
Low Level Total Phosphorus in fresh water matrices
Apparent color in water samples
Total Suspended Solids in aqueous matrices

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared by	Analysis Date/Time	Analyzed by	Associated Samples
EPA 180.1 Rev. 2.0	11/17/2009			11/17/2009 16:10	Ping Hua	1230166, 1230167, 1230168, 1230169, 1230170, 1230171, 1230172, 1230173, 1230174, 1230175, 1230176, 1230177, 1230178, 1230179
EPA 350.1 Rev. 2.0	11/17/2009			11/18/2009	Peter D. Kaus	1230180, 1230181, 1230182, 1230183, 1230184, 1230185, 1230186, 1230187, 1230188, 1230189, 1230190, 1230191, 1230192, 1230193
EPA 351.2 Rev. 2.0	11/17/2009	11/25/2009	Bryan A. Werth	11/25/2009	Christopher Armour	1230180, 1230181, 1230182, 1230183, 1230184, 1230185, 1230186, 1230187
EPA 351.2 Rev. 2.0	11/17/2009	11/30/2009	Christopher Armour	12/01/2009	Christopher Armour	1230188, 1230189, 1230190, 1230191, 1230192, 1230193
EPA 353.2 Rev. 2.0	11/17/2009			11/20/2009	Sima Feizi	1230180, 1230181, 1230182, 1230183, 1230184, 1230185, 1230186, 1230187, 1230188, 1230189, 1230190, 1230191, 1230192, 1230193
EPA 365.1 Rev. 2.0	11/17/2009	11/30/2009	Megan E. Faircloth	12/01/2009	Megan E. Faircloth	1230180, 1230181, 1230182, 1230183, 1230184, 1230185, 1230186, 1230187, 1230188, 1230189, 1230190, 1230191, 1230192, 1230193
SM 2120 B-01	11/17/2009			11/17/2009 17:30	Rochelle Y Jackson	1230166, 1230167, 1230168, 1230169, 1230170, 1230171, 1230172, 1230173, 1230174, 1230175, 1230176, 1230177, 1230178, 1230179
SM 2540 D-97	11/17/2009			11/19/2009	Yijie Li	1230166, 1230167, 1230168, 1230169, 1230170, 1230171, 1230172, 1230173, 1230174, 1230175, 1230176, 1230177, 1230178, 1230179