

Chemical Analysis Report

NW-DIST-2011-05-24-03

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

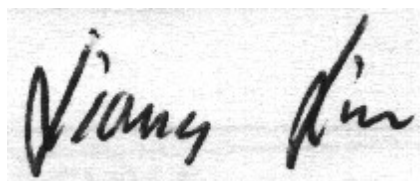
Event Description: **Project Greenshores**
Request ID: **RQ-2011-05-23-17**
Customer: **NW-DIST**
Project ID: **DISCRTNARY**

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

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 13-JUN-2011 17:45

A handwritten signature in black ink, appearing to read "Liang Lin", is written over a light gray, textured background.

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: HAWKSHAW LAGOON

Collection Date/Time: 05/23/2011 12:40 PM

Field ID: 13

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1353008	EPA 180.1 Rev. 2.0	Turbidity	2.1			NTU	E31780
	SM 2120 B	Color (true)	13	A		PCU	
	SM 2540 D-97	TSS	18			mg/L	
1353022	EPA 350.1 Rev. 2.0	Ammonia-N	0.011	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	0.005	U		mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.019	I		mg P/L	

Ref. Method and Comment:

SM 2120 B: The pH of the aliquot used to measure the color is between 4 and 10 units. This value does not represent the field pH.

Sample Location: PENASACOLA BAY

Collection Date/Time: 05/23/2011 11:14 AM

Field ID: 1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1352996	EPA 180.1 Rev. 2.0	Turbidity	1.0			NTU	E31780
	SM 2120 B	Color (true)	2.0	U		PCU	
	SM 2540 D-97	TSS	18			mg/L	
1353010	EPA 350.1 Rev. 2.0	Ammonia-N	0.013	I		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	U		mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.015	I		mg P/L	

Ref. Method and Comment:

SM 2120 B: The pH of the aliquot used to measure the color is between 4 and 10 units. This value does not represent the field pH.

Sample Location: PENASACOLA BAY

Collection Date/Time: 05/23/2011 12:25 PM

Field ID: 10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1353005	EPA 180.1 Rev. 2.0	Turbidity	1.4	A		NTU	E31780
	SM 2120 B	Color (true)	2.0	U		PCU	
	SM 2540 D-97	TSS	15	A		mg/L	
1353019	EPA 350.1 Rev. 2.0	Ammonia-N	0.011	I		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.020			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.015	I		mg P/L	

Ref. Method and Comment:

SM 2120 B: The pH of the aliquot used to measure the color is between 4 and 10 units. This value does not represent the field pH.

Sample Location: PENASACOLA BAY

Collection Date/Time: 05/23/2011 12:15 PM

Field ID: 11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1353006	EPA 180.1 Rev. 2.0	Turbidity	0.95			NTU	E31780
	SM 2120 B	Color (true)	3.3	I		PCU	
	SM 2540 D-97	TSS	16			mg/L	
1353020	EPA 350.1 Rev. 2.0	Ammonia-N	0.084			mg N/L	

Field ID: 11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1353020	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30	I		mg N/L	E31780
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.2			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.055			mg P/L	

Ref. Method and Comment:

SM 2120 B: The pH of the aliquot used to measure the color is between 4 and 10 units. This value does not represent the field pH.

Sample Location: PENASACOLA BAY**Collection Date/Time: 05/23/2011 12:07 PM****Field ID: 12**

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1353007	EPA 180.1 Rev. 2.0	Turbidity	1.3			NTU	E31780
	SM 2120 B	Color (true)	2.0	U		PCU	
	SM 2540 D-97	TSS	15			mg/L	
1353021	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U		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	0.005	U		mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.012	I		mg P/L	

Ref. Method and Comment:

SM 2120 B: The pH of the aliquot used to measure the color is between 4 and 10 units. This value does not represent the field pH.

Sample Location: PENASACOLA BAY**Collection Date/Time: 05/23/2011 12:52 PM****Field ID: 14**

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1353009	EPA 180.1 Rev. 2.0	Turbidity	1.7			NTU	E31780
	SM 2120 B	Color (true)	2.7	I		PCU	
	SM 2540 D-97	TSS	14	A		mg/L	
1353023	EPA 350.1 Rev. 2.0	Ammonia-N	0.013	I		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.010	I		mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.017	I		mg P/L	

Ref. Method and Comment:

SM 2120 B: The pH of the aliquot used to measure the color is between 4 and 10 units. This value does not represent the field pH.

Sample Location: PENASACOLA BAY**Collection Date/Time: 05/23/2011 11:25 AM****Field ID: 2**

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1352997	EPA 180.1 Rev. 2.0	Turbidity	0.65			NTU	E31780
	SM 2120 B	Color (true)	2.0	U		PCU	
	SM 2540 D-97	TSS	22			mg/L	
1353011	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I		mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.010	I		mg P/L	

Ref. Method and Comment:

SM 2120 B: The pH of the aliquot used to measure the color is between 4 and 10 units. This value does not represent the field pH.

Sample Location: PENASACOLA BAY**Collection Date/Time: 05/23/2011 11:30 AM**

Field ID: 3

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1352998	EPA 180.1 Rev. 2.0	Turbidity	1.0			NTU	E31780
	SM 2120 B	Color (true)	2.0	U		PCU	
	SM 2540 D-97	TSS	15			mg/L	
1353012	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U		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	0.005	U		mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.013	I		mg P/L	

Ref. Method and Comment:

SM 2120 B: The pH of the aliquot used to measure the color is between 4 and 10 units. This value does not represent the field pH.

Sample Location: PENASACOLA BAY

Collection Date/Time: 05/23/2011 11:35 AM

Field ID: 4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1352999	EPA 180.1 Rev. 2.0	Turbidity	1.4			NTU	E31780
	SM 2120 B	Color (true)	2.0	U		PCU	
	SM 2540 D-97	TSS	10	I		mg/L	
1353013	EPA 350.1 Rev. 2.0	Ammonia-N	0.028			mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.29	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.018	I		mg P/L	

Ref. Method and Comment:

SM 2120 B: The pH of the aliquot used to measure the color is between 4 and 10 units. This value does not represent the field pH.

Sample Location: PENASACOLA BAY

Collection Date/Time: 05/23/2011 11:42 AM

Field ID: 5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1353000	EPA 180.1 Rev. 2.0	Turbidity	1.7	A		NTU	E31780
	SM 2120 B	Color (true)	3.2	I		PCU	
	SM 2540 D-97	TSS	12			mg/L	
1353014	EPA 350.1 Rev. 2.0	Ammonia-N	0.030			mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.040			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.017	I		mg P/L	

Ref. Method and Comment:

SM 2120 B: The pH of the aliquot used to measure the color is between 4 and 10 units. This value does not represent the field pH.

Sample Location: PENASACOLA BAY

Collection Date/Time: 05/23/2011 01:03 PM

Field ID: 6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1353001	EPA 180.1 Rev. 2.0	Turbidity	0.80			NTU	E31780
	SM 2120 B	Color (true)	2.0	U		PCU	
	SM 2540 D-97	TSS	13			mg/L	
1353015	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	U		mg N/L	

Field ID: 6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1353015	EPA 365.1 Rev. 2.0	Total-P	0.010	I		mg P/L	E31780

Ref. Method and Comment:

SM 2120 B: The pH of the aliquot used to measure the color is between 4 and 10 units. This value does not represent the field pH.

Sample Location: PENASACOLA BAY

Collection Date/Time: 05/23/2011 12:00 PM

Field ID: 7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1353002	EPA 180.1 Rev. 2.0	Turbidity	0.90			NTU	E31780
	SM 2120 B	Color (true)	2.0	U		PCU	
	SM 2540 D-97	TSS	24			mg/L	
1353016	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.26	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	U		mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.013	I		mg P/L	

Ref. Method and Comment:

SM 2120 B: The pH of the aliquot used to measure the color is between 4 and 10 units. This value does not represent the field pH.

Sample Location: PENASACOLA BAY

Collection Date/Time: 05/23/2011 11:50 AM

Field ID: 8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1353003	EPA 180.1 Rev. 2.0	Turbidity	2.3			NTU	E31780
	SM 2120 B	Color (true)	3.5	I		PCU	
	SM 2540 D-97	TSS	16			mg/L	
1353017	EPA 350.1 Rev. 2.0	Ammonia-N	0.028			mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.029			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.020	I		mg P/L	

Ref. Method and Comment:

SM 2120 B: The pH of the aliquot used to measure the color is between 4 and 10 units. This value does not represent the field pH.

Sample Location: PENASACOLA BAY

Collection Date/Time: 05/23/2011 12:30 PM

Field ID: 9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1353004	EPA 180.1 Rev. 2.0	Turbidity	1.6			NTU	E31780
	SM 2120 B	Color (true)	2.5	I		PCU	
	SM 2540 D-97	TSS	19			mg/L	
1353018	EPA 350.1 Rev. 2.0	Ammonia-N	0.016	I		mg N/L	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I		mg N/L	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.020			mg N/L	
	EPA 365.1 Rev. 2.0	Total-P	0.017	I		mg P/L	

Ref. Method and Comment:

SM 2120 B: The pH of the aliquot used to measure the color is between 4 and 10 units. This value does not represent the field pH.

Quality Control Report

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	
						SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					4.65	
	Turbidity					0.697	
EPA 350.1 Rev. 2.0	Ammonia-N	99.9	109	106			2.60
	Ammonia-N	98.7	103	100			1.25
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	100	93.2			6.23
	Kjeldahl Nitrogen	107	96.9	104			4.99
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5	99.5	101			1.50
	NO ₂ NO ₃ -N	98.0	100	99.9			0.454
EPA 365.1 Rev. 2.0	Total-P	106	98.5	102			2.94
	Total-P	101	96.0	97.1			1.06
SM 2120 B	Color (true)					8.18	
	Color (true)					0.762	
SM 2540 D-97	TSS					0.0	
	TSS					5.56	

Reference Method Descriptions

Method:

EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L
EPA 365.1 Rev. 2.0	Low Level Total Phosphorus in fresh water matrices
SM 2120 B	True Color measured at 450 nm or Apparent Color
SM 2540 D-97	Total Suspended Solids in aqueous matrices

Description

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	05/24/2011			05/24/2011 15:49	Blanca Fach	1352996, 1352997, 1352998, 1352999, 1353000, 1353001, 1353002, 1353003, 1353004, 1353005, 1353006, 1353007, 1353008, 1353009
EPA 350.1 Rev. 2.0	05/24/2011			05/25/2011	Diana M. Dunbar	1353010, 1353011, 1353012, 1353013, 1353014, 1353015, 1353016, 1353017, 1353018, 1353019, 1353020, 1353021, 1353022, 1353023
EPA 351.2 Rev. 2.0	05/24/2011	05/25/2011	Bryan A. Werth	05/26/2011	Christopher Armour	1353010, 1353011, 1353012, 1353013, 1353014, 1353015, 1353016, 1353017, 1353018, 1353019, 1353020, 1353021, 1353022, 1353023
EPA 353.2 Rev. 2.0	05/24/2011			05/27/2011	Sima Feizi	1353010, 1353011, 1353012, 1353013, 1353014, 1353015, 1353016, 1353017, 1353018, 1353019, 1353020, 1353021, 1353022, 1353023
EPA 365.1 Rev. 2.0	05/24/2011	05/25/2011	Megan E. Faircloth	05/26/2011	Megan E. Faircloth	1353010, 1353011, 1353012, 1353013, 1353014, 1353015, 1353016, 1353017, 1353018, 1353019, 1353020, 1353021, 1353022, 1353023
SM 2120 B	05/24/2011			05/24/2011 12:34	Rochelle Y Jackson	1352996
	05/24/2011			05/24/2011 12:35	Rochelle Y Jackson	1352997
	05/24/2011			05/24/2011 12:38	Rochelle Y Jackson	1352998
	05/24/2011			05/24/2011 12:39	Rochelle Y Jackson	1352999
	05/24/2011			05/24/2011 12:40	Rochelle Y Jackson	1353000
	05/24/2011			05/24/2011 12:41	Rochelle Y Jackson	1353001
	05/24/2011			05/24/2011 12:42	Rochelle Y Jackson	1353002
	05/24/2011			05/24/2011 12:43	Rochelle Y Jackson	1353003
	05/24/2011			05/24/2011 12:44	Rochelle Y Jackson	1353004
	05/24/2011			05/24/2011 12:45	Rochelle Y Jackson	1353005, 1353006
	05/24/2011			05/24/2011 12:46	Rochelle Y Jackson	1353007
	05/24/2011			05/24/2011 12:50	Rochelle Y Jackson	1353008
	05/24/2011			05/24/2011 12:51	Rochelle Y Jackson	1353009
SM 2540 D-97	05/24/2011			05/27/2011	Yijie Li	1352996, 1352997, 1352998, 1352999, 1353000, 1353001, 1353002, 1353003, 1353004, 1353005, 1353006, 1353007, 1353008, 1353009