

Chemical Analysis Report

NW-DIST-2011-11-30-02

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

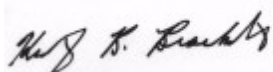
Event Description: **Project Greenshores**
Request ID: **RQ-2011-11-21-11**
Customer: **NW-DIST**
Project ID: **DISCRTNARY**

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

For additional information please contact
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Certified by: Kathryn Brackett, Environmental Administrator

Date Certified: 19-DEC-2011 16:35



NON-CONFORMANCE REPORT INCLUDED

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.

** - 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-2011-11-30-47

Group: Nutrients

Job: TLH-2011-12-01-10

Group: Nutrients

Sample Location: 1/2 BTW BRIDGE & PORT

Collection Date/Time: 11/29/2011 11:24 AM

Field ID: 7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393446	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P233558	
	SM 2120 B	Color (true)	4.0	U	PCU	P233523	
	SM 2540 D-97	TSS	10		mg/L	P233833	
1393457	EPA 350.1 Rev. 2.0	Ammonia-N	0.050	U	mg N/L	P233727	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28	I	mg N/L	P233707	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	U	mg N/L	P233688	
	EPA 365.1 Rev. 2.0	Total-P	0.013	I	mg P/L	P233691	

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. The precision data is unavailable due to the low analyte concentration in the QC sample. The MDL was elevated due to sample matrix interference.

EPA 350.1 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Sample Location: 1/2 BTW MUSCOGEE + HAWKSHAWK

Collection Date/Time: 11/29/2011 01:33 PM

Field ID: 6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393676	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P233607	
	SM 2120 B	Color (true)	5.0	UQ	PCU	P233573	
	SM 2540 D-97	TSS	10		mg/L	P233834	
1393679	EPA 350.1 Rev. 2.0	Ammonia-N	0.050	U	mg N/L	P233728	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	U	mg N/L	P233712	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	U	mg N/L	P233954	
	EPA 365.1 Rev. 2.0	Total-P	0.015	I	mg P/L	P233692	

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. The MDL was elevated due to sample matrix interference. Sample expired prior to or upon receipt.

EPA 350.1 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Sample Location: 1/4 BTW BRIDGE & PORT

Collection Date/Time: 11/29/2011 11:35 AM

Field ID: 12

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393451	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P233558	
	SM 2120 B	Color (true)	2.0	U	PCU	P233523	
	SM 2540 D-97	TSS	12		mg/L	P233834	
1393462	EPA 350.1 Rev. 2.0	Ammonia-N	0.055	I	mg N/L	P233728	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	U	mg N/L	P233712	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	U	mg N/L	P233688	
	EPA 365.1 Rev. 2.0	Total-P	0.015	I	mg P/L	P233692	

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. The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 350.1 Rev. 2.0: The PQL was elevated due to sample matrix interference.

Sample Location: 100 FT SOUTH OF STORM DRAIN

Collection Date/Time: 11/29/2011 02:00 PM

Field ID: 4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
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Field ID: 4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393674	EPA 180.1 Rev. 2.0	Turbidity	0.90		NTU	P233607	
	SM 2120 B	Color (true)	7.5	UQ	PCU	P233573	
	SM 2540 D-97	TSS	16		mg/L	P233834	
1393677	EPA 350.1 Rev. 2.0	Ammonia-N	0.050	U	mg N/L	P233728	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P233712	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.010	I	mg N/L	P233954	
	EPA 365.1 Rev. 2.0	Total-P	0.013	I	mg P/L	P233692	

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. The MDL was elevated due to sample matrix interference. Sample expired prior to or upon receipt.

EPA 350.1 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Sample Location: BTW MARINA & OUTFALL

Collection Date/Time: 11/29/2011 12:40 PM

Field ID: 10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393449	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P233558	
	SM 2120 B	Color (true)	4.0	U	PCU	P233523	
	SM 2540 D-97	TSS	10		mg/L	P233833	
1393460	EPA 350.1 Rev. 2.0	Ammonia-N	0.050	U	mg N/L	P233727	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24	I	mg N/L	P233707	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.010	I	mg N/L	P233688	
	EPA 365.1 Rev. 2.0	Total-P	0.016	I	mg P/L	P233691	

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. The precision data is unavailable due to the low analyte concentration in the QC sample. The MDL was elevated due to sample matrix interference.

EPA 350.1 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Sample Location: EAST OF PRIMARY STORM DRAIN

Collection Date/Time: 11/29/2011 02:10 PM

Field ID: 3

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393445	EPA 180.1 Rev. 2.0	Turbidity	1.6	A	NTU	P233558	
	SM 2120 B	Color (true)	4.0	U	PCU	P233522	
	SM 2540 D-97	TSS	9	I	mg/L	P233833	
1393456	EPA 350.1 Rev. 2.0	Ammonia-N	0.050	U	mg N/L	P233727	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28	I	mg N/L	P233707	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P233688	
	EPA 365.1 Rev. 2.0	Total-P	0.019	I	mg P/L	P233691	

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. The MDL was elevated due to sample matrix interference.

EPA 350.1 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Sample Location: INSIDE HAWKSHAW

Collection Date/Time: 11/29/2011 01:10 PM

Field ID: 13

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393452	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P233558	
	SM 2120 B	Color (true)	2.6	I	PCU	P233523	

Field ID: 13

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393452	SM 2540 D-97	TSS	11		mg/L	P233834	
1393463	EPA 350.1 Rev. 2.0	Ammonia-N	0.058	I	mg N/L	P233728	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.20	I	mg N/L	P233712	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	U	mg N/L	P233688	
	EPA 365.1 Rev. 2.0	Total-P	0.019	I	mg P/L	P233692	

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. The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 350.1 Rev. 2.0: The PQL was elevated due to sample matrix interference.

Sample Location: PEN BAY - END OF CHASE ST .

Collection Date/Time: 11/29/2011 01:55 PM

Field ID: 5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393675	EPA 180.1 Rev. 2.0	Turbidity	1.2	A	NTU	P233607	
	SM 2120 B	Color (true)	7.5	UQ	PCU	P233573	
	SM 2540 D-97	TSS	8	I	mg/L	P233834	
1393678	EPA 350.1 Rev. 2.0	Ammonia-N	0.050	U	mg N/L	P233728	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P233712	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P233954	
	EPA 365.1 Rev. 2.0	Total-P	0.015	I	mg P/L	P233692	

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. The MDL was elevated due to sample matrix interference. Sample expired prior to or upon receipt.

EPA 350.1 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Sample Location: PEN BAY . RANGE MARKER E.OF TEXAR

Collection Date/Time: 11/29/2011 10:40 AM

Field ID: 1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393443	EPA 180.1 Rev. 2.0	Turbidity	0.85		NTU	P233557	
	SM 2120 B	Color (true)	7.5	U	PCU	P233555	
	SM 2540 D-97	TSS	14		mg/L	P233833	
1393454	EPA 350.1 Rev. 2.0	Ammonia-N	0.050	U	mg N/L	P233727	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P233707	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P233688	
	EPA 365.1 Rev. 2.0	Total-P	0.016	I	mg P/L	P233691	

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. The MDL was elevated due to sample matrix interference.

EPA 350.1 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Sample Location: PENSACOLA BAY

Collection Date/Time: 11/29/2011 11:49 AM

Field ID: 11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393450	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P233558	
	SM 2120 B	Color (true)	2.0	U	PCU	P233523	
	SM 2540 D-97	TSS	9	I	mg/L	P233833	
1393461	EPA 350.1 Rev. 2.0	Ammonia-N	0.050	U	mg N/L	P233727	

Field ID: 11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393461	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22	I	mg N/L	P233707	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P233688	
	EPA 365.1 Rev. 2.0	Total-P	0.014	I	mg P/L	P233691	

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. The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 350.1 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Sample Location: PENSACOLA BAY**Collection Date/Time: 11/29/2011 10:59 AM****Field ID: 2**

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393444	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P233557	
	SM 2120 B	Color (true)	4.0	U	PCU	P233522	
	SM 2540 D-97	TSS	5	I	mg/L	P233833	
1393455	EPA 350.1 Rev. 2.0	Ammonia-N	0.050	U	mg N/L	P233727	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21	I	mg N/L	P233707	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	U	mg N/L	P233688	
	EPA 365.1 Rev. 2.0	Total-P	0.016	I	mg P/L	P233691	

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. The MDL was elevated due to sample matrix interference.

EPA 350.1 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Sample Location: PGS SITE 2- E . OF STORM DRAIN**Collection Date/Time: 11/29/2011 01:24 PM****Field ID: 14**

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393453	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P233558	
	SM 2120 B	Color (true)	2.0	U	PCU	P233523	
	SM 2540 D-97	TSS	6	I	mg/L	P233834	
1393464	EPA 350.1 Rev. 2.0	Ammonia-N	0.050	U	mg N/L	P233728	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P233712	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P233954	
	EPA 365.1 Rev. 2.0	Total-P	0.014	I	mg P/L	P233692	

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. The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 350.1 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Sample Location: W. OF STORM DRAIN INSIDE ROOK**Collection Date/Time: 11/29/2011 01:43 PM****Field ID: 8**

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393447	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P233558	
	SM 2120 B	Color (true)	6.0	U	PCU	P233523	
	SM 2540 D-97	TSS	11		mg/L	P233833	
1393458	EPA 350.1 Rev. 2.0	Ammonia-N	0.050	U	mg N/L	P233727	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.20	I	mg N/L	P233707	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P233688	

Field ID: 8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393458	EPA 365.1 Rev. 2.0	Total-P	0.018	I	mg P/L	P233691	

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. The precision data is unavailable due to the low analyte concentration in the QC sample. The MDL was elevated due to sample matrix interference.

EPA 350.1 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Sample Location: WEST END OF HAWKSHAW

Collection Date/Time: 11/29/2011 01:02 PM

Field ID: 9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1393448	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P233558	
	SM 2120 B	Color (true)	2.0	U	PCU	P233523	
	SM 2540 D-97	TSS	11		mg/L	P233833	
1393459	EPA 350.1 Rev. 2.0	Ammonia-N	0.050	U	mg N/L	P233727	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21	I	mg N/L	P233707	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P233688	
	EPA 365.1 Rev. 2.0	Total-P	0.012	I	mg P/L	P233691	

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. The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 350.1 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Non-Conformance Report

NCR ID: 3977

Event(s)

Job(s)

Sample(s)

Test(s)

NW-DIST-2011-11-30-02

NCR Type: SHIPPING/RECEIVING

NCR Category: Receiving

Observation: 1) Customer shipped containers for 14 sites according to the fieldsheet. On 11/30/11 lab received containers for 11 sites (4 coolers).

Field IDs of missing containers:4, 5, and 6

2) The cooler with the missing containers was received on 12/01/11, within acceptable temperature (1.0c) range.

Resolution: 1) Customer was notified by A.Shaik (Frank Butera). The 11 sites were logged in.

2) When the missing cooler arrived the analysts were notified immediately of expiring samples. The 3 sites were logged in.

Authorised by/Date: Kathryn Brackett 12/6/2011

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.

Please address questions to:

Chemistry Tim Fitzpatrick (850) 245-8085

Biology David D. Whiting (850) 245-8177

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P233557

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P233558

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P233607

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P233727

Component	Result	Code	Units
Ammonia-N	0.010	U	mg N/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P233728

Component	Result	Code	Units
Ammonia-N	0.010	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P233707

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P233712

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P233688

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.005	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P233954

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.005	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P233691

Component	Result	Code	Units
Total-P	0.004	U	mg P/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P233692

Component	Result	Code	Units
Total-P	0.004	U	mg P/L

Reference Method: SM 2120 B
Batch ID: P233522

Component	Result	Code	Units
Color (true)	2.0	U	PCU

Reference Method: SM 2120 B
Batch ID: P233523

Component	Result	Code	Units
Color (true)	2.0	U	PCU

Reference Method: SM 2120 B
Batch ID: P233555

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P233573

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2540 D-97
Batch ID: P233833

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P233834

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P233727

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P233728

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P233728

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	103		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P233707

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	100		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P233712

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	103		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P233688

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	100		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P233954

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P233691

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P233692

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	102		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P233727

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1393455	Ammonia-N	105	107	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P233728

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P233728

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1393717	Ammonia-N	108	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P233707

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1393461	Kjeldahl Nitrogen	100	96.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P233712

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1393678	Kjeldahl Nitrogen	104	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P233688

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1393454	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P233954

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1393677	NO2NO3-N	106	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P233691

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1393456	Total-P	98.5	94.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P233692

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1393679	Total-P	94.6	95.3	P/P	90 - 110

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P233557

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393357	Turbidity	4.20	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P233558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393445	Turbidity	8.36	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P233607

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393675	Turbidity	10.4	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P233727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393455	Ammonia-N	1.99	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P233728

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393717	Ammonia-N	0.554	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P233707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393461	Kjeldahl Nitrogen	3.67	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P233712

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393678	Kjeldahl Nitrogen	1.29	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P233688

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393454	NO2NO3-N	0.480	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P233954

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393677	NO2NO3-N	0.901	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P233691

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393456	Total-P	3.78	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P233692

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393679	Total-P	0.683	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P233522

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393386	Color (true)	1.58	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P233555

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393526	Color (true)	1.77	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P233573

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393582	Color (true)	2.43	Sample	P	0 - 20

Reference Method: SM 2540 D-97
Batch ID: P233833

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393147	TSS	4.35	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P233834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1393501	TSS	3.08	Sample	P	0 - 10

* 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 Calibration Verification

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A42423

Included Lab Sample IDs: 1393444, 1393445, 1393446, 1393447, 1393448, 1393449, 1393450, 1393451, 1393452, 1393453

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	95.3	93.9	P/P	85 - 115
Color (true)	95.5	95.3	P/P	85 - 115

Reference Method: SM 2120 B

Run ID: A42441

Included Lab Sample IDs: 1393443

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.6	94.1	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A42443

Included Lab Sample IDs: 1393443, 1393444, 1393445, 1393446, 1393447, 1393448, 1393449, 1393450, 1393451, 1393452, 1393453

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	100	101	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A42449

Included Lab Sample IDs: 1393674, 1393675, 1393676

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	95.4	94.0	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A42463

Included Lab Sample IDs: 1393674, 1393675, 1393676

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A42498

Included Lab Sample IDs: 1393454, 1393455, 1393456, 1393457, 1393458, 1393459, 1393460, 1393461, 1393462, 1393463

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A42500

Included Lab Sample IDs: 1393454, 1393455, 1393456, 1393457, 1393458, 1393459, 1393460, 1393461, 1393462, 1393463, 1393464, 1393677, 1393678, 1393679

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	99.1	P/P	90 - 110
Total-P	99.6	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A42503

Included Lab Sample IDs: 1393454, 1393455, 1393456, 1393457, 1393458, 1393459, 1393460, 1393461

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.2	94.4	P/P	90 - 110
Kjeldahl Nitrogen	94.9	93.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A42505

Included Lab Sample IDs: 1393462, 1393463, 1393464, 1393677, 1393678, 1393679

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.3	101	P/P	90 - 110
Kjeldahl Nitrogen	97.0	95.3	P/P	90 - 110
Kjeldahl Nitrogen	98.9	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A42512

Included Lab Sample IDs: 1393454, 1393455, 1393456, 1393457, 1393458, 1393459, 1393460, 1393461, 1393462, 1393463, 1393464, 1393677, 1393678, 1393679

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	105	104	P/P	90 - 110
Ammonia-N	105	105	P/P	90 - 110
Ammonia-N	99.0	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A42618

Included Lab Sample IDs: 1393464, 1393677, 1393678, 1393679

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	105	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				4.20	
	Turbidity				8.36	
	Turbidity				10.4	
EPA 350.1 Rev. 2.0	Ammonia-N	99.6	105 107			1.99
	Ammonia-N	103	108 109			0.554
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	100 96.0			3.67
	Kjeldahl Nitrogen	103	104 103			1.29
EPA 353.2 Rev. 2.0	NO2NO3-N	100	102 101			0.480
	NO2NO3-N	104	106 107			0.901
EPA 365.1 Rev. 2.0	Total-P	106	98.5 94.5			3.78
	Total-P	102	94.6 95.3			0.683
SM 2120 B	Color (true)				1.58	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision		
				LCS	SMP	MS
SM 2120 B	Color (true)				1.77	
	Color (true)				2.43	
SM 2540 D-97	TSS				4.35	
	TSS				3.08	

Reference Method Descriptions

Method / NELAC Cert. #	Description
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L
SM 2120 B / E31780	True Color measured at 450 nm or Apparent Color
SM 2540 D-97 / E31780	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	11/30/2011			11/30/2011 16:00	Blanca Fach	1393443, 1393444, 1393445, 1393446, 1393447, 1393448, 1393449, 1393450, 1393451, 1393452, 1393453
	12/01/2011			12/01/2011 13:25	Blanca Fach	1393674, 1393675, 1393676
EPA 350.1 Rev. 2.0	11/30/2011			12/06/2011	Diana M. Dunbar	1393454, 1393455, 1393456, 1393457, 1393458, 1393459, 1393460, 1393461, 1393462, 1393463, 1393464
	12/01/2011			12/06/2011	Diana M. Dunbar	1393677, 1393678, 1393679
EPA 351.2 Rev. 2.0	11/30/2011	12/01/2011	Bryan A. Werth	12/02/2011	Christopher Armour	1393454, 1393455, 1393456, 1393457, 1393458, 1393459, 1393460, 1393461
	11/30/2011	12/02/2011	Bryan A. Werth	12/05/2011	Christopher Armour	1393462, 1393463, 1393464
	12/01/2011	12/02/2011	Bryan A. Werth	12/05/2011	Christopher Armour	1393677, 1393678, 1393679
EPA 353.2 Rev. 2.0	11/30/2011			12/05/2011	Sima Feizi	1393454, 1393455, 1393456, 1393457, 1393458, 1393459, 1393460, 1393461, 1393462, 1393463
	11/30/2011			12/12/2011	Peter D. Kaus	1393464
	12/01/2011			12/12/2011	Peter D. Kaus	1393677, 1393678, 1393679
EPA 365.1 Rev. 2.0	11/30/2011	12/02/2011	Megan E. Faircloth	12/05/2011	Peter D. Kaus	1393454, 1393455, 1393456, 1393457, 1393458, 1393459, 1393460, 1393461, 1393462, 1393463, 1393464
	12/01/2011	12/02/2011	Megan E. Faircloth	12/05/2011	Peter D. Kaus	1393677, 1393678, 1393679
SM 2120 B	11/30/2011			11/30/2011 14:44	Rochelle Y Jackson	1393448
	11/30/2011			11/30/2011 14:46	Rochelle Y Jackson	1393450, 1393451
	11/30/2011			11/30/2011 14:47	Rochelle Y Jackson	1393452
	11/30/2011			11/30/2011 14:48	Rochelle Y Jackson	1393453
	11/30/2011			11/30/2011 14:55	Rochelle Y Jackson	1393444
	11/30/2011			11/30/2011 14:56	Rochelle Y Jackson	1393445
	11/30/2011			11/30/2011 14:57	Rochelle Y Jackson	1393446
	11/30/2011			11/30/2011 14:58	Rochelle Y Jackson	1393447
	11/30/2011			11/30/2011 14:59	Rochelle Y Jackson	1393449
	11/30/2011			12/01/2011 09:59	Rochelle Y Jackson	1393443
	12/01/2011			12/01/2011 16:06	Rochelle Y Jackson	1393674
	12/01/2011			12/01/2011 16:07	Rochelle Y Jackson	1393675
	12/01/2011			12/01/2011 16:08	Rochelle Y Jackson	1393676
SM 2540 D-97	11/30/2011			12/02/2011	Yijie Li	1393443, 1393444, 1393445, 1393446, 1393447, 1393448, 1393449, 1393450, 1393451, 1393452, 1393453
	12/01/2011			12/02/2011	Yijie Li	1393674, 1393675, 1393676