

Chemical Analysis Report

NW-DIST-2014-08-19-01

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-2014-08-25-14**
Customer: **NW-DIST**
Project ID: **DISTRICT**

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
Timothy W. Fitzpatrick
Liang-Tsair Lin, Ph.D.
Colin Wright, Ph.D.
Thekkekalathil Chandrasekhar, PhD, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 02-SEP-2014 15:10



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.

SUR – Surrogate; in the QC Failures column, this notation indicates a recovery failure for the associated surrogate.

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).

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example:
1.3E+03, which is equivalent to 1.3×10^3 or 1300.

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.

All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Sample Location: Range Marker E of Texor

Collection Date/Time: 08/18/2014 09:43

Field ID: 1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627729	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P272556	
	SM 2120 B	Color (true)	7.7		PCU	P272515	
	SM 2540 D-97	TSS	3	U	mg/L	P272925	
1627744	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P272944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P272639	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P272899	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P272632	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: 1/2 Bridge and Muscogee

Collection Date/Time: 08/18/2014 10:00

Field ID: 2

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627730	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P272556	
	SM 2120 B	Color (true)	6.3		PCU	P272515	
	SM 2540 D-97	TSS	4	I	mg/L	P272925	
1627745	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P272944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38	I	mg N/L	P272639	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P272899	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P272632	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: East of Primary Storm Drain

Collection Date/Time: 08/18/2014 11:48

Field ID: 3

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627731	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P272556	
	SM 2120 B	Color (true)	4.2	I	PCU	P272515	
	SM 2540 D-97	TSS	4	I	mg/L	P272925	
1627746	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P272944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30	I	mg N/L	P272639	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.022		mg N/L	P272899	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P272632	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: 100ft S.of Stormdrain

Collection Date/Time: 08/18/2014 11:41

Field ID: 4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627732	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P272556	
	SM 2120 B	Color (true)	4.9	I	PCU	P272515	
	SM 2540 D-97	TSS	4	I	mg/L	P272925	
1627747	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P272944	

Field ID: 4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627747	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27	I	mg N/L	P272639	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P272899	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P272632	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: End of Chase St

Collection Date/Time: 08/18/2014 11:28

Field ID: 5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627733	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P272556	
	SM 2120 B	Color (true)	4.4	I	PCU	P272515	
	SM 2540 D-97	TSS	3	U	mg/L	P272925	
1627748	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P272944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38	I	mg N/L	P272639	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.020		mg N/L	P272899	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P272632	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: 1/2 Muscosea & Hawkshan 400 ft from Shore

Collection Date/Time: 08/18/2014 11:22

Field ID: 6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627734	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P272556	
	SM 2120 B	Color (true)	4.3	I	PCU	P272515	
	SM 2540 D-97	TSS	4	I	mg/L	P272925	
1627749	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P272944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28	I	mg N/L	P272639	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P272899	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P272632	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: 1/2 Bridge and Port

Collection Date/Time: 08/18/2014 10:09

Field ID: 7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627735	EPA 180.1 Rev. 2.0	Turbidity	1.8	A	NTU	P272557	
	SM 2120 B	Color (true)	5.4	I	PCU	P272516	
	SM 2540 D-97	TSS	3	I	mg/L	P272925	
1627750	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P272944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39	I	mg N/L	P272639	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P272899	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P272632	

Ref. Method and Comment:

SM 2120 B: The precision data is unavailable due to the low analyte concentration in the QC sample.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: West of Stormdrain Inside Rowks

Collection Date/Time: 08/18/2014 11:33

Field ID: 8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627736	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P272557	
	SM 2120 B	Color (true)	4.8	I	PCU	P272516	
	SM 2540 D-97	TSS	3	U	mg/L	P272925	
1627751	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P272944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33	I	mg N/L	P272639	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.021		mg N/L	P272899	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P272632	

Ref. Method and Comment:

SM 2120 B: The precision data is unavailable due to the low analyte concentration in the QC sample.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: W.End of Hawkshaw 100 ft S.of Outfall

Collection Date/Time: 08/18/2014 10:42

Field ID: 9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627737	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P272557	
	SM 2120 B	Color (true)	3.0	I	PCU	P272516	
	SM 2540 D-97	TSS	6	I	mg/L	P272925	
1627752	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P272944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I	mg N/L	P272639	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P272899	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P272632	

Ref. Method and Comment:

SM 2120 B: The precision data is unavailable due to the low analyte concentration in the QC sample.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Between Marina and Outfall

Collection Date/Time: 08/18/2014 10:35

Field ID: 10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627738	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P272557	
	SM 2120 B	Color (true)	3.3	I	PCU	P272516	
	SM 2540 D-97	TSS	5	I	mg/L	P272926	
1627753	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P272944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35	I	mg N/L	P272639	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P272899	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P272632	

Ref. Method and Comment:

SM 2120 B: The precision data is unavailable due to the low analyte concentration in the QC sample.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Entrance of Marina

Collection Date/Time: 08/18/2014 10:28

Field ID: 11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627739	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P272557	
	SM 2120 B	Color (true)	4.7	I	PCU	P272516	

Field ID: 11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627739	SM 2540 D-97	TSS	3	U	mg/L	P272926	
1627754	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P272945	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28	I	mg N/L	P272640	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.032		mg N/L	P272900	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P272633	

Ref. Method and Comment:

SM 2120 B: The precision data is unavailable due to the low analyte concentration in the QC sample.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: 1/8 Between Bridge and Port 400 ft from Shore **Collection Date/Time: 08/18/2014 10:17**

Field ID: 12

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627740	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P272557	
	SM 2120 B	Color (true)	5.0	I	PCU	P272516	
	SM 2540 D-97	TSS	5	I	mg/L	P272926	
1627755	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P272945	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P272640	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P272900	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P272633	

Ref. Method and Comment:

SM 2120 B: The precision data is unavailable due to the low analyte concentration in the QC sample.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: 1/4 Between Bridge and Port 400 ft from Shore **Collection Date/Time: 08/18/2014 10:20**

Field ID: FB @ 12

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627741	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P272557	
	SM 2120 B	Color (true)	2.5	U	PCU	P272516	
	SM 2540 D-97	TSS	2	U	mg/L	P272924	
1627756	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P272939	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P272638	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P272714	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P272768	

Ref. Method and Comment:

SM 2120 B: The precision data is unavailable due to the low analyte concentration in the QC sample.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Inside Hawkshaw Lagoon

Collection Date/Time: 08/18/2014 11:05

Field ID: 13

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627742	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P272557	
	SM 2120 B	Color (true)	12		PCU	P272516	
	SM 2540 D-97	TSS	8	I	mg/L	P272926	
1627757	EPA 350.1 Rev. 2.0	Ammonia-N	0.010		mg N/L	P272945	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37	I	mg N/L	P272640	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P272900	

Field ID: 13

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627757	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P272633	

Ref. Method and Comment:

SM 2120 B: The precision data is unavailable due to the low analyte concentration in the QC sample.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: East of Stormdrain inside PGS site II

Collection Date/Time: 08/18/2014 10:50

Field ID: 14

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1627743	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P272557	
	SM 2120 B	Color (true)	4.5	I	PCU	P272516	
	SM 2540 D-97	TSS	4	I	mg/L	P272926	
1627758	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P272945	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39	I	mg N/L	P272640	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P272900	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P272633	

Ref. Method and Comment:

SM 2120 B: The precision data is unavailable due to the low analyte concentration in the QC sample.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P272556

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P272557

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P272939

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P272944

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P272945

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P272638

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P272639

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P272640

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P272714

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P272899

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P272900

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P272632

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P272633

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P272768

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2120 B
Batch ID: P272515

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P272516

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2540 D-97
Batch ID: P272924

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P272925

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P272926

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P272939

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P272944

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P272945

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	101		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P272638

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

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P272638

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	105		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P272639

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	105		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P272640

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	105		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P272714

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	103		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P272899

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: P272900

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P272632

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P272633

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P272768

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.0		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P272939

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1627969	Ammonia-N	99.7	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P272944

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1627744	Ammonia-N	104	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P272945

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1627754	Ammonia-N	104	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P272638

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1627643	Kjeldahl Nitrogen	103	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P272639

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1627744	Kjeldahl Nitrogen	97.2	96.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P272640

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1627754	Kjeldahl Nitrogen	98.2	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P272714

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1627780	NO2NO3-N	101		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P272899

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1627744	NO2NO3-N	97.9	98.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P272900

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1627754	NO2NO3-N	99.8	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P272632

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1627745	Total-P	99.4	95.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P272633

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1627755	Total-P	97.4	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P272768

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1627642	Total-P	109	104	P/P	90 - 110

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P272556

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627656	Turbidity	3.02	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P272557

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627735	Turbidity	0.542	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P272939

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627969	Ammonia-N	1.33	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P272944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627744	Ammonia-N	0.684	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P272945

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627754	Ammonia-N	0.689	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P272638

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627643	Kjeldahl Nitrogen	0.501	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P272639

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627744	Kjeldahl Nitrogen	0.929	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P272640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627754	Kjeldahl Nitrogen	4.80	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P272714

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627780	NO2NO3-N	1.18	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P272899

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627744	NO2NO3-N	0.980	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P272900

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627754	NO2NO3-N	0.862	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P272632

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627745	Total-P	3.94	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P272633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627755	Total-P	0.410	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P272768

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627642	Total-P	4.12	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P272515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1627656	Color (true)	2.52	Sample	P	0 - 20

* 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

Reference Method: SM 2120 B
Run ID: A58176

Included Lab Sample IDs: 1627729, 1627730, 1627731, 1627732, 1627733, 1627734, 1627735, 1627736, 1627737, 1627738, 1627739, 1627740, 1627741, 1627742, 1627743

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	102	P/P	85 - 115
Color (true)	98.9	103	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A58191

Included Lab Sample IDs: 1627729, 1627730, 1627731, 1627732, 1627733, 1627734, 1627735, 1627736, 1627737, 1627738, 1627739, 1627740, 1627741, 1627742, 1627743

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.5	P/P	95 - 105
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A58239
Included Lab Sample IDs: 1627756

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A58240

Included Lab Sample IDs: 1627744, 1627745, 1627746, 1627747, 1627748, 1627749, 1627750, 1627751, 1627752, 1627753, 1627756

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	95.2	P/P	90 - 110
Kjeldahl Nitrogen	97.4	101	P/P	90 - 110
Kjeldahl Nitrogen	97.7	96.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A58272

Included Lab Sample IDs: 1627754, 1627755, 1627757, 1627758

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.0	99.0	P/P	90 - 110
Kjeldahl Nitrogen	99.0	97.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A58278

Included Lab Sample IDs: 1627744, 1627745, 1627746, 1627747, 1627748, 1627749, 1627750, 1627751, 1627752, 1627753, 1627754, 1627755, 1627757, 1627758

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	95.8	96.8	P/P	90 - 110
Total-P	96.2	95.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A58302

Included Lab Sample IDs: 1627744, 1627745, 1627746, 1627747, 1627748, 1627749, 1627750, 1627751, 1627752, 1627753, 1627754, 1627755, 1627757, 1627758

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.0	P/P	90 - 110
NO2NO3-N	99.0	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A58308

Included Lab Sample IDs: 1627756

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.8	98.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A58317

Included Lab Sample IDs: 1627744, 1627745, 1627746, 1627747, 1627748, 1627749, 1627750, 1627751, 1627752, 1627753, 1627754, 1627755, 1627756, 1627757, 1627758

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	101	P/P	90 - 110
Ammonia-N	102	103	P/P	90 - 110
Ammonia-N	103	102	P/P	90 - 110
Ammonia-N	103	103	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				3.02	
	Turbidity				0.542	
EPA 350.1 Rev. 2.0	Ammonia-N	96.2	99.7 101			1.33

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 350.1 Rev. 2.0	Ammonia-N	98.0	104	104			0.684
	Ammonia-N	101	104	103			0.689
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	103	103			0.501
	Kjeldahl Nitrogen	105	97.2	96.1			0.929
	Kjeldahl Nitrogen	105	98.2	104			4.80
EPA 353.2 Rev. 2.0	NO2NO3-N	103	101				1.18
	NO2NO3-N	100	97.9	98.9			0.980
	NO2NO3-N	102	99.8	101			0.862
EPA 365.1 Rev. 2.0	Total-P	98.9	99.4	95.5			3.94
	Total-P	101	97.4	97.8			0.410
	Total-P	98.0	109	104			4.12
SM 2120 B	Color (true)					2.52	

Reference Method Descriptions

Method / NELAC Cert. #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1627729, 1627730, 1627731, 1627732, 1627733, 1627734, 1627735, 1627736, 1627737, 1627738, 1627739, 1627740, 1627741, 1627742, 1627743
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1627744, 1627745, 1627746, 1627747, 1627748, 1627749, 1627750, 1627751, 1627752, 1627753, 1627754, 1627755, 1627756, 1627757, 1627758
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1627744, 1627745, 1627746, 1627747, 1627748, 1627749, 1627750, 1627751, 1627752, 1627753, 1627754, 1627755, 1627756, 1627757, 1627758
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1627744, 1627745, 1627746, 1627747, 1627748, 1627749, 1627750, 1627751, 1627752, 1627753, 1627754, 1627755, 1627756, 1627757, 1627758
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1627744, 1627745, 1627746, 1627747, 1627748, 1627749, 1627750, 1627751, 1627752, 1627753, 1627754, 1627755, 1627756, 1627757, 1627758
SM 2120 B / E31780	True Color measured at 450 nm	1627729, 1627730, 1627731, 1627732, 1627733, 1627734, 1627735, 1627736, 1627737, 1627738, 1627739, 1627740, 1627741, 1627742, 1627743
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1627729, 1627730, 1627731, 1627732, 1627733, 1627734, 1627735, 1627736, 1627737, 1627738, 1627739, 1627740, 1627741, 1627742, 1627743

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	08/19/2014			08/19/2014 16:58	Sima Feizi	1627729, 1627730, 1627731, 1627732, 1627733, 1627734, 1627735, 1627736, 1627737, 1627738, 1627739, 1627740, 1627741, 1627742, 1627743
EPA 350.1 Rev. 2.0	08/19/2014			08/27/2014	Diana M. Turner	1627744, 1627745, 1627746, 1627747, 1627748, 1627749, 1627750, 1627751, 1627752, 1627753, 1627754, 1627755, 1627756, 1627757, 1627758
EPA 351.2 Rev. 2.0	08/19/2014	08/21/2014	Christopher Armour	08/22/2014	Bryan A. Werth	1627744, 1627745, 1627746, 1627747, 1627748, 1627749, 1627750, 1627751, 1627752, 1627753, 1627756
EPA 353.2 Rev. 2.0	08/19/2014	08/21/2014	Christopher Armour	08/25/2014	Rochelle Y Jackson	1627754, 1627755, 1627757, 1627758
	08/19/2014			08/21/2014	Virginia P. Brown	1627756
	08/19/2014			08/27/2014	Peter D. Kaus	1627744, 1627745, 1627746, 1627747, 1627748, 1627749, 1627750, 1627751, 1627752, 1627753, 1627754, 1627755, 1627757, 1627758
EPA 365.1 Rev. 2.0	08/19/2014	08/21/2014	Christopher Armour	08/22/2014	Lipi Saha	1627744, 1627745, 1627746, 1627747, 1627748, 1627749, 1627750, 1627751, 1627752, 1627753, 1627754, 1627755, 1627757, 1627758
SM 2120 B	08/19/2014	08/25/2014	Christopher Armour	08/27/2014	Rochelle Y Jackson	1627756
	08/19/2014			08/19/2014 14:00	Rochelle Y Jackson	1627729, 1627730
	08/19/2014			08/19/2014 14:01	Rochelle Y Jackson	1627731
	08/19/2014			08/19/2014 14:02	Rochelle Y Jackson	1627732
	08/19/2014			08/19/2014 14:03	Rochelle Y Jackson	1627733
	08/19/2014			08/19/2014 14:04	Rochelle Y Jackson	1627734
	08/19/2014			08/19/2014 14:09	Rochelle Y Jackson	1627735, 1627736
	08/19/2014			08/19/2014 14:10	Rochelle Y Jackson	1627737
	08/19/2014			08/19/2014 14:11	Rochelle Y Jackson	1627738
	08/19/2014			08/19/2014 14:12	Rochelle Y Jackson	1627739
	08/19/2014			08/19/2014 14:13	Rochelle Y Jackson	1627740
	08/19/2014			08/19/2014 14:14	Rochelle Y Jackson	1627741
	08/19/2014			08/19/2014 14:15	Rochelle Y Jackson	1627742
	08/19/2014			08/19/2014 14:16	Rochelle Y Jackson	1627743
SM 2540 D-97	08/19/2014			08/21/2014	Yijie Li	1627729, 1627730, 1627731, 1627732, 1627733, 1627734, 1627735, 1627736, 1627737, 1627738, 1627739, 1627740, 1627741, 1627742, 1627743