

Chemical Analysis Report

NW-DIST-2015-05-12-01

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

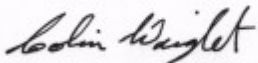
Event Description: **Project Greenshores**
Request ID: **RQ-2015-05-11-32**
Customer: **NW-DIST**
Project ID: **DISTRICT**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
Pensacola, FL 32502-5794
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Certified by: Colin Wright, Environmental Administrator

Date Certified: 01-JUN-2015 10:03



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 and/or the analysis did not meet established quality control criteria
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: RANE MARKER E.of TEXAR

Collection Date/Time: 05/11/2015 10:15

Field ID: 1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699626	EPA 180.1 Rev. 2.0	Turbidity	2.0	A	NTU	P284825	
	SM 2120 B	Color (true)	19	A	PCU	P284804	
	SM 2540 D-97	TSS	4	I	mg/L	P285147	
1699642	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P284953	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P284980	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P284859	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P284984	

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 MUSCOSEE

Collection Date/Time: 05/11/2015 10:30

Field ID: 2

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699627	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P284825	
	SM 2120 B	Color (true)	19		PCU	P284804	
	SM 2540 D-97	TSS	3	U	mg/L	P285147	
1699643	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P284953	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34	I	mg N/L	P284980	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P284859	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P284984	

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: 05/11/2015 10:40

Field ID: 3

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699628	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P284825	
	SM 2120 B	Color (true)	20		PCU	P284804	
	SM 2540 D-97	TSS	3	U	mg/L	P285147	
1699644	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P284953	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I	mg N/L	P284980	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P284859	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P284984	

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: 05/11/2015 10:42

Field ID: 3 DUP

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699629	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P284825	
	SM 2120 B	Color (true)	19		PCU	P284804	
	SM 2540 D-97	TSS	3	U	mg/L	P285147	
1699645	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P284953	

Field ID: 3 DUP

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699645	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34	I	mg N/L	P284980	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P284859	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P284984	

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: 100 FT S.of STORM DRAIN

Collection Date/Time: 05/11/2015 10:46

Field ID: 4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699630	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P284825	
	SM 2120 B	Color (true)	20		PCU	P284804	
	SM 2540 D-97	TSS	3	U	mg/L	P285147	
1699646	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P284953	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34	I	mg N/L	P284982	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.027		mg N/L	P284859	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P284984	

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: 05/11/2015 10:53

Field ID: 5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699631	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P284825	
	SM 2120 B	Color (true)	19		PCU	P284804	
	SM 2540 D-97	TSS	3	U	mg/L	P285147	
1699647	EPA 350.1 Rev. 2.0	Ammonia-N	0.047		mg N/L	P284953	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P284982	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.058		mg N/L	P284859	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P284984	

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 MUSCOGEE AND HAWKSHAW 400 FT FROM SHORE

Collection Date/Time: 05/11/2015 11:06

Field ID: 6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699632	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P284825	
	SM 2120 B	Color (true)	20		PCU	P284804	
	SM 2540 D-97	TSS	3	U	mg/L	P285147	
1699648	EPA 350.1 Rev. 2.0	Ammonia-N	0.040		mg N/L	P284953	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P284982	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.032		mg N/L	P284860	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P284984	

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: 05/11/2015 11:13

Field ID: 7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699633	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P284825	
	SM 2120 B	Color (true)	20		PCU	P284804	
	SM 2540 D-97	TSS	3	U	mg/L	P285147	
1699649	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P284953	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P284982	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P284860	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P284984	

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: WEST OF STORM DRAIN INSIDE ROCKS

Collection Date/Time: 05/11/2015 11:03

Field ID: 8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699634	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P284825	
	SM 2120 B	Color (true)	19		PCU	P284804	
	SM 2540 D-97	TSS	4	I	mg/L	P285147	
1699650	EPA 350.1 Rev. 2.0	Ammonia-N	0.044		mg N/L	P284953	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79		mg N/L	P284982	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.054		mg N/L	P284860	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P284986	

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: WEST END OF HAWKSHAW 100 FT S. OF OUTFALL

Collection Date/Time: 05/11/2015 11:40

Field ID: 9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699635	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P284825	
	SM 2120 B	Color (true)	20		PCU	P284804	
	SM 2540 D-97	TSS	3	U	mg/L	P285148	
1699651	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P284953	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38	I	mg N/L	P285079	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P284860	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P284986	

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: BETWEEN MARINA AND OUTFALL

Collection Date/Time: 05/11/2015 11:35

Field ID: 10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699636	EPA 180.1 Rev. 2.0	Turbidity	1.9	A	NTU	P284826	
	SM 2120 B	Color (true)	20	A	PCU	P284819	
	SM 2540 D-97	TSS	3	U	mg/L	P285148	
1699652	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P284954	

Field ID: 10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699652	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P285079	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P284860	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P284986	

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: ENTRANCE OF MARINA

Collection Date/Time: 05/11/2015 11:28

Field ID: 11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699637	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P284826	
	SM 2120 B	Color (true)	19		PCU	P284819	
	SM 2540 D-97	TSS	3	U	mg/L	P285148	
1699653	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P284954	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36	I	mg N/L	P285079	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.020		mg N/L	P284860	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P284986	

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: 1/4 BETWEEN BRIDGE AND PORT 400 FT FROM SHORE

Collection Date/Time: 05/11/2015 11:21

Field ID: 12

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699638	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P284826	
	SM 2120 B	Color (true)	19		PCU	P284819	
	SM 2540 D-97	TSS	3	U	mg/L	P285148	
1699654	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P284954	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P285079	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P284860	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P284986	

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: INSIDE HAWKSHAW LAGOON

Collection Date/Time: 05/11/2015 12:00

Field ID: 13

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699639	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P284826	
	SM 2120 B	Color (true)	22		PCU	P284819	
	SM 2540 D-97	TSS	30		mg/L	P285145	
1699655	EPA 350.1 Rev. 2.0	Ammonia-N	0.042		mg N/L	P284954	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P285079	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P284860	
	EPA 365.1 Rev. 2.0	Total-P	0.058		mg P/L	P284986	

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: INSIDE HAWKSHAW LAGOON

Collection Date/Time: 05/11/2015 11:58

Field ID: FIELD BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699640	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P284826	
	SM 2120 B	Color (true)	2.5	U	PCU	P284819	
	SM 2540 D-97	TSS	2	U	mg/L	P285145	
1699656	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P285166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P285080	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P284927	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P284985	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: The result was confirmed on 05/21/2015.

Sample Location: EAST OF STORM DRAIN INSIDE BGS2

Collection Date/Time: 05/11/2015 12:05

Field ID: 14

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1699641	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P284826	
	SM 2120 B	Color (true)	19		PCU	P284819	
	SM 2540 D-97	TSS	3	U	mg/L	P285148	
1699657	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P284954	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38	I	mg N/L	P285079	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.028		mg N/L	P284860	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P285093	

Ref. Method and Comment:

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: P284825

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P284826

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P284953

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P284954

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P284954

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P285166

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P284980

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P284982

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P285079

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P285080

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P284859

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P284860

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P284927

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P284984

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P284985

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P284986

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P285093

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

Reference Method: SM 2120 B
Batch ID: P284804

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P284819

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2540 D-97
Batch ID: P285145

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P285147

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P285148

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: P284953

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P284954

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P285166

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P284980

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	92.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P284982

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P285079

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: P285080

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P284859

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: P284860

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P284927

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P284984

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	94.7		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P284985

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: P284986

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P285093

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P284953

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1699642	Ammonia-N	104	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P284954

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1699652	Ammonia-N	104	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P285166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1700240	Ammonia-N	95.3	96.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P284980

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P284980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1698986	Kjeldahl Nitrogen	106	92.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P284982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1699646	Kjeldahl Nitrogen	102	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P285079

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1699651	Kjeldahl Nitrogen	103	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P285080

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1699819	Kjeldahl Nitrogen	101	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P284859

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1698986	NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P284860

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1699648	NO2NO3-N	98.2	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P284927

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1699888	NO2NO3-N	102	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P284984

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1698987	Total-P	102	95.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P284985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1699819	Total-P	102	99.7	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P284986

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1699650	Total-P	97.2	94.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P285093

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1699657	Total-P	94.8	96.4	P/P	90 - 110

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P284825

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1699626	Turbidity	2.51	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P284826

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1699636	Turbidity	6.22	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P284953

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1699642	Ammonia-N	1.85	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P284954

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1699652	Ammonia-N	2.36	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P285166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1700240	Ammonia-N	0.851	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P284980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P284980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1698986	Kjeldahl Nitrogen	11.4	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P284982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1699646	Kjeldahl Nitrogen	0.912	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P285079

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1699651	Kjeldahl Nitrogen	0.456	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P285080

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1699819	Kjeldahl Nitrogen	1.28	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P284859

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1698986	NO2NO3-N	1.04	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P284860

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1699648	NO2NO3-N	1.31	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P284927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1699888	NO2NO3-N	1.03	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P284984

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1698987	Total-P	6.45	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P284985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1699819	Total-P	1.67	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P284986

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1699650	Total-P	2.48	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P285093

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1699657	Total-P	1.70	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P284804

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1699626	Color (true)	2.01	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P284819

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1699636	Color (true)	1.82	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: A62582

Included Lab Sample IDs: 1699626, 1699627, 1699628, 1699629, 1699630, 1699631, 1699632, 1699633, 1699634, 1699635, 1699636, 1699637, 1699638, 1699639, 1699640, 1699641

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	104	104	P/P	85 - 115
Color (true)	106	107	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A62589

Included Lab Sample IDs: 1699626, 1699627, 1699628, 1699629, 1699630, 1699631, 1699632, 1699633, 1699634, 1699635, 1699636, 1699637, 1699638, 1699639, 1699640, 1699641

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A62589

Included Lab Sample IDs: 1699626, 1699627, 1699628, 1699629, 1699630, 1699631, 1699632, 1699633, 1699634, 1699635, 1699636, 1699637, 1699638, 1699639, 1699640, 1699641

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: A62599

Included Lab Sample IDs: 1699642, 1699643, 1699644, 1699645, 1699646, 1699647, 1699648, 1699649, 1699650, 1699651, 1699652, 1699653, 1699654, 1699655, 1699657

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A62620

Included Lab Sample IDs: 1699656

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A62630

Included Lab Sample IDs: 1699642, 1699643, 1699644, 1699645, 1699646, 1699647, 1699648, 1699649, 1699650, 1699651, 1699652, 1699653, 1699654, 1699655, 1699657

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	104	P/P	90 - 110
Ammonia-N	104	103	P/P	90 - 110
Ammonia-N	105	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A62678

Included Lab Sample IDs: 1699642, 1699643, 1699644, 1699645, 1699646, 1699647, 1699648, 1699649, 1699650, 1699651, 1699652, 1699653, 1699654, 1699655, 1699656

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A62703

Included Lab Sample IDs: 1699656

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.3	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A62720

Included Lab Sample IDs: 1699657

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A62720
Included Lab Sample IDs: 1699657

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A62727
Included Lab Sample IDs: 1699642, 1699643, 1699644, 1699645, 1699646, 1699647, 1699648, 1699649, 1699650

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	101	P/P	90 - 110
Kjeldahl Nitrogen	101	99.3	P/P	90 - 110
Kjeldahl Nitrogen	101	101	P/P	90 - 110
Kjeldahl Nitrogen	101	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A62734
Included Lab Sample IDs: 1699651, 1699652, 1699653, 1699654, 1699655, 1699656, 1699657

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	103	P/P	90 - 110
Kjeldahl Nitrogen	103	107	P/P	90 - 110
Kjeldahl Nitrogen	107	104	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						2.51	
	Turbidity						6.22	
EPA 350.1 Rev. 2.0	Ammonia-N	102	104	102				1.85
	Ammonia-N	102	104	101				2.36
	Ammonia-N	95.0	95.3	96.6				0.851
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	92.4	106	92.7				11.4
	Kjeldahl Nitrogen	97.4	102	104				0.912
	Kjeldahl Nitrogen	100	103	103				0.456
	Kjeldahl Nitrogen	101	101	104				1.28
EPA 353.2 Rev. 2.0	NO2NO3-N	100	98.5					1.04
	NO2NO3-N	100	98.2	99.6				1.31
	NO2NO3-N	103	102	104				1.03
EPA 365.1 Rev. 2.0	Total-P	94.7	102	95.3				6.45
	Total-P	101	102	99.7				1.67
	Total-P	95.8	97.2	94.7				2.48
	Total-P	101	94.8	96.4				1.70
SM 2120 B	Color (true)						2.01	
	Color (true)						1.82	

Reference Method Descriptions

Method / NELAC Cert. #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1699626, 1699627, 1699628, 1699629, 1699630, 1699631, 1699632, 1699633, 1699634, 1699635, 1699636, 1699637, 1699638, 1699639, 1699640, 1699641
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1699642, 1699643, 1699644, 1699645, 1699646, 1699647, 1699648, 1699649, 1699650, 1699651, 1699652, 1699653, 1699654, 1699655, 1699656, 1699657
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1699642, 1699643, 1699644, 1699645, 1699646, 1699647, 1699648, 1699649, 1699650, 1699651, 1699652, 1699653, 1699654, 1699655, 1699656, 1699657
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1699642, 1699643, 1699644, 1699645, 1699646, 1699647, 1699648, 1699649, 1699650, 1699651, 1699652, 1699653, 1699654, 1699655, 1699656, 1699657
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1699642, 1699643, 1699644, 1699645, 1699646, 1699647, 1699648, 1699649, 1699650, 1699651, 1699652, 1699653, 1699654, 1699655, 1699656, 1699657
SM 2120 B / E31780	True Color measured at 450 nm	1699626, 1699627, 1699628, 1699629, 1699630, 1699631, 1699632, 1699633, 1699634, 1699635, 1699636, 1699637, 1699638, 1699639, 1699640, 1699641
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1699626, 1699627, 1699628, 1699629, 1699630, 1699631, 1699632, 1699633, 1699634, 1699635, 1699636, 1699637, 1699638, 1699639, 1699640, 1699641

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	05/12/2015			05/12/2015 15:45	Blanca Fach	1699626, 1699627, 1699628, 1699629, 1699630, 1699631, 1699632, 1699633, 1699634, 1699635, 1699636, 1699637, 1699638, 1699639, 1699640, 1699641
EPA 350.1 Rev. 2.0	05/12/2015			05/14/2015	Diana M. Turner	1699642, 1699643, 1699644, 1699645, 1699646, 1699647, 1699648, 1699649, 1699650, 1699651, 1699652, 1699653, 1699654, 1699655, 1699657
EPA 351.2 Rev. 2.0	05/12/2015	05/14/2015	Christopher Armour	05/18/2015	Diana M. Turner	1699656
	05/12/2015			05/19/2015	Bryan A. Werth	1699642, 1699643, 1699644, 1699645, 1699646, 1699647, 1699648, 1699649, 1699650
	05/12/2015	05/18/2015	Christopher Armour	05/19/2015	Bryan A. Werth	1699651, 1699652, 1699653, 1699654, 1699655, 1699656, 1699657
EPA 353.2 Rev. 2.0	05/12/2015			05/13/2015	Peter D. Kaus	1699642, 1699643, 1699644, 1699645, 1699646, 1699647, 1699648, 1699649, 1699650, 1699651, 1699652, 1699653, 1699654, 1699655, 1699657
EPA 365.1 Rev. 2.0	05/12/2015	05/14/2015	Christopher Armour	05/14/2015	Peter D. Kaus	1699656
	05/12/2015			05/18/2015	Lipi Saha	1699642, 1699643, 1699644, 1699645, 1699646, 1699647, 1699648, 1699649, 1699650, 1699651, 1699652, 1699653, 1699654, 1699655, 1699656
SM 2120 B	05/12/2015	05/18/2015	Christopher Armour	05/19/2015	Lipi Saha	1699657
	05/12/2015			05/12/2015 14:56	Rochelle Y Jackson	1699626
	05/12/2015			05/12/2015 14:57	Rochelle Y Jackson	1699627
	05/12/2015			05/12/2015 14:58	Rochelle Y Jackson	1699628
	05/12/2015			05/12/2015 14:59	Rochelle Y Jackson	1699629, 1699630
	05/12/2015			05/12/2015 15:00	Rochelle Y Jackson	1699631
	05/12/2015			05/12/2015 15:01	Rochelle Y Jackson	1699632
	05/12/2015			05/12/2015 15:02	Rochelle Y Jackson	1699633
	05/12/2015			05/12/2015 15:03	Rochelle Y Jackson	1699634, 1699635
	05/12/2015			05/12/2015 15:55	Rochelle Y Jackson	1699636
	05/12/2015			05/12/2015 15:56	Rochelle Y Jackson	1699637
	05/12/2015			05/12/2015 15:57	Rochelle Y Jackson	1699638
	05/12/2015			05/12/2015 15:58	Rochelle Y Jackson	1699639, 1699640
	05/12/2015			05/12/2015 15:59	Rochelle Y Jackson	1699641
SM 2540 D-97	05/12/2015			05/14/2015	Yijie Li	1699626, 1699627, 1699628, 1699629, 1699630, 1699631, 1699632, 1699633, 1699634, 1699635, 1699636, 1699637, 1699638, 1699639, 1699640, 1699641