

Chemical Analysis Report

NW-DIST-2014-05-13-01

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

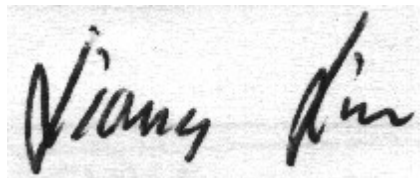
Event Description: **Project Greenshores**
Request ID: **RQ-2014-05-12-27**
Customer: **NW-DIST**
Project ID: **DISTRICT**

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: Liang Lin, Environmental Administrator

Date Certified: 30-MAY-2014 15:50

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

Abbreviations and data remark codes

CERT # - NELAP (National Environmental Laboratory Accreditation Program) Certification Number of the laboratory that performed the analysis.

LCS - Laboratory Control Sample; in the QC Failures column, this notation indicates a batch recovery failure.

MS - Matrix Spike; in the QC Failures column, this notation indicates a batch recovery failure.

RPD - Relative Percent Difference; in the QC Failures column, this notation indicates a batch failure for precision.

CCV - Continuing Calibration Verification; in the QC Failures column, this notation indicates a failure of the calibration verification check sample.

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 TEXAR

Collection Date/Time: 05/12/2014 10:14

Field ID: 1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1601605	EPA 180.1 Rev. 2.0	Turbidity	8.0		NTU	P267787	
	SM 2120 B	Color (true)	68		PCU	P267790	
	SM 2540 D-97	TSS	6	I	mg/L	P268465	
1601619	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P267858	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P267903	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.087		mg N/L	P267865	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P267909	

Sample Location: 1/2 BRIDGE MUSCOGEE

Collection Date/Time: 05/12/2014 10:41

Field ID: 2

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1601606	EPA 180.1 Rev. 2.0	Turbidity	7.9		NTU	P267787	
	SM 2120 B	Color (true)	58		PCU	P267790	
	SM 2540 D-97	TSS	8	I	mg/L	P268465	
1601620	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P267858	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P267903	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P267865	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P267909	

Sample Location: E OF PRIMARY STORMDRAIN PGS1

Collection Date/Time: 05/12/2014 10:49

Field ID: 3

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1601607	EPA 180.1 Rev. 2.0	Turbidity	6.8		NTU	P267787	
	SM 2120 B	Color (true)	65		PCU	P267790	
	SM 2540 D-97	TSS	4	I	mg/L	P268465	
1601621	EPA 350.1 Rev. 2.0	Ammonia-N	0.033		mg N/L	P267858	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P267903	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.096		mg N/L	P267866	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P267909	

Sample Location: 100 FT S OF STORMDRAIN

Collection Date/Time: 05/12/2014 10:55

Field ID: 4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1601608	EPA 180.1 Rev. 2.0	Turbidity	7.3		NTU	P267787	
	SM 2120 B	Color (true)	64		PCU	P267790	
	SM 2540 D-97	TSS	6	I	mg/L	P268465	
1601622	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P267858	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P267903	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P267866	
	EPA 365.1 Rev. 2.0	Total-P	0.034		mg P/L	P267909	

Sample Location: END OF CHASE ST

Collection Date/Time: 05/12/2014 11:20

Field ID: 5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1601609	EPA 180.1 Rev. 2.0	Turbidity	7.5		NTU	P267787	
	SM 2120 B	Color (true)	60		PCU	P267790	
	SM 2540 D-97	TSS	5	I	mg/L	P268465	
1601623	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P267859	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P267903	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P267866	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P267909	

Sample Location: 1/2 MUSCOGEE AND HAWKSHAW 400 FT FROM SHORE

Collection Date/Time: 05/12/2014 11:26

Field ID: 6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1601610	EPA 180.1 Rev. 2.0	Turbidity	7.2		NTU	P267787	
	SM 2120 B	Color (true)	59	A	PCU	P267794	
	SM 2540 D-97	TSS	7	I	mg/L	P268465	
1601624	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P267859	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P267903	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P267866	
	EPA 365.1 Rev. 2.0	Total-P	0.033		mg P/L	P267909	

Sample Location: 1/2 BRIDGE AND PORT

Collection Date/Time: 05/12/2014 11:45

Field ID: 7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1601611	EPA 180.1 Rev. 2.0	Turbidity	6.5		NTU	P267787	
	SM 2120 B	Color (true)	59		PCU	P267794	
	SM 2540 D-97	TSS	6	I	mg/L	P268466	
1601625	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P267859	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37		mg N/L	P267903	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.099		mg N/L	P267866	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P267909	

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 STORMDRAIN INSIDE ROCKS

Collection Date/Time: 05/12/2014 11:10

Field ID: 8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1601612	EPA 180.1 Rev. 2.0	Turbidity	8.4	A	NTU	P267788	
	SM 2120 B	Color (true)	59		PCU	P267794	
	SM 2540 D-97	TSS	8	I	mg/L	P268466	
1601626	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P267859	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P267903	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P267866	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P267909	

Field ID: 8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
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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: W END OF HAWKSHAW 100 FT S OF OUTFALL **Collection Date/Time: 05/12/2014 12:20**

Field ID: 9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
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1601613	EPA 180.1 Rev. 2.0	Turbidity	6.7		NTU	P267788	
	SM 2120 B	Color (true)	58		PCU	P267794	
	SM 2540 D-97	TSS	6	I	mg/L	P268466	
1601627	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P267859	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P267903	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P267866	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P267910	

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: 05/12/2014 12:10

Field ID: 10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
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1601614	EPA 180.1 Rev. 2.0	Turbidity	7.1		NTU	P267788	
	SM 2120 B	Color (true)	58		PCU	P267794	
	SM 2540 D-97	TSS	5	I	mg/L	P268466	
1601628	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P267859	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P267904	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P267866	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P267910	

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: 05/12/2014 12:05

Field ID: 11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
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1601615	EPA 180.1 Rev. 2.0	Turbidity	7.3		NTU	P267788	
	SM 2120 B	Color (true)	54		PCU	P267794	
	SM 2540 D-97	TSS	6	I	mg/L	P268466	
1601629	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P267859	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51		mg N/L	P267904	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P267866	
	EPA 365.1 Rev. 2.0	Total-P	0.049		mg P/L	P267910	

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

Collection Date/Time: 05/12/2014 11:52

Field ID: 12

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
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Field ID: 12

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1601616	EPA 180.1 Rev. 2.0	Turbidity	5.9		NTU	P267788	
	SM 2120 B	Color (true)	60		PCU	P267794	
	SM 2540 D-97	TSS	5	I	mg/L	P268466	
1601630	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P267859	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38		mg N/L	P267904	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.089		mg N/L	P267866	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P267910	

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: 05/12/2014 12:35

Field ID: 13

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1601617	EPA 180.1 Rev. 2.0	Turbidity	6.0		NTU	P267788	
	SM 2120 B	Color (true)	31		PCU	P267794	
	SM 2540 D-97	TSS	9	I	mg/L	P268466	
1601631	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P267859	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P267904	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P267867	
	EPA 365.1 Rev. 2.0	Total-P	0.079		mg P/L	P267910	

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: E OF STORMDRAIN INSIDE PGS SITE II

Collection Date/Time: 05/12/2014 12:55

Field ID: 14

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1601618	EPA 180.1 Rev. 2.0	Turbidity	7.4		NTU	P267788	
	SM 2120 B	Color (true)	58		PCU	P267794	
	SM 2540 D-97	TSS	6	I	mg/L	P268461	
1601632	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P267859	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P267904	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.093		mg N/L	P267867	
	EPA 365.1 Rev. 2.0	Total-P	0.034		mg P/L	P267910	

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: P267787

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: P267788

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P267858

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P267859

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P267903

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P267904

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P267865

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P267866

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P267867

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P267909

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P267910

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

Reference Method: SM 2120 B
Batch ID: P267790

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P267794

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2540 D-97
Batch ID: P268461

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P268465

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P268466

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: P267858

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P267859

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: P267903

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: P267903

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P267904

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P267865

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P267866

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: P267867

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: P267909

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: P267910

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P267858

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1601533	Ammonia-N	98.6	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P267859

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: P267859

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1601623	Ammonia-N	99.8	99.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P267903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1601534	Kjeldahl Nitrogen	100	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P267904

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1601628	Kjeldahl Nitrogen	94.5	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P267865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1601532	NO2NO3-N	95.8	97.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P267866

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1601621	NO2NO3-N	99.2	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P267867

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1601653	NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P267909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1601619	Total-P	107	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P267910

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1601627	Total-P	106	103	P/P	90 - 110

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P267787

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1601528	Turbidity	1.24	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P267788

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1601612	Turbidity	0.238	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P267858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1601533	Ammonia-N	3.50	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P267859

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1601623	Ammonia-N	0.305	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P267903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1601534	Kjeldahl Nitrogen	0.870	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P267904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1601628	Kjeldahl Nitrogen	4.93	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P267865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1601532	NO2NO3-N	1.38	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P267866

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1601621	NO2NO3-N	0.341	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P267867

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1601653	NO2NO3-N	0.385	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P267909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1601619	Total-P	2.39	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P267910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1601627	Total-P	2.28	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P267790

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1601562	Color (true)	0.187	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P267794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1601610	Color (true)	0.237	Sample	P	0 - 20

Reference Method: SM 2540 D-97
Batch ID: P268465

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1601477	TSS	7.23	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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A56503

Included Lab Sample IDs: 1601605, 1601606, 1601607, 1601608, 1601609, 1601610, 1601611, 1601612, 1601613, 1601614, 1601615, 1601616, 1601617, 1601618

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A56504

Included Lab Sample IDs: 1601605, 1601606, 1601607, 1601608, 1601609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.2	99.1	P/P	85 - 115

Reference Method: SM 2120 B

Run ID: A56505

Included Lab Sample IDs: 1601610, 1601611, 1601612, 1601613, 1601614, 1601615, 1601616, 1601617, 1601618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.8	P/P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A56530

Included Lab Sample IDs: 1601619, 1601620, 1601621, 1601622, 1601623, 1601624, 1601625, 1601626, 1601627, 1601628, 1601629, 1601630, 1601631, 1601632

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A56533

Included Lab Sample IDs: 1601619, 1601620, 1601621, 1601622, 1601623, 1601624, 1601625, 1601626, 1601627, 1601628, 1601629, 1601630, 1601631, 1601632

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A56570

Included Lab Sample IDs: 1601631

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A56574

Included Lab Sample IDs: 1601619, 1601620, 1601621, 1601622, 1601623, 1601624, 1601625, 1601626, 1601627, 1601628, 1601629, 1601630, 1601631, 1601632

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	100	P/P	90 - 110
Kjeldahl Nitrogen	102	97.2	P/P	90 - 110
Kjeldahl Nitrogen	97.2	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A56635

Included Lab Sample IDs: 1601619, 1601620, 1601621, 1601622, 1601623, 1601624, 1601625, 1601626, 1601627, 1601628, 1601629, 1601630, 1601632

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	98.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A56635

Included Lab Sample IDs: 1601619, 1601620, 1601621, 1601622, 1601623, 1601624, 1601625, 1601626, 1601627, 1601628, 1601629, 1601630, 1601632

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	105	105	P/P	90 - 110
Total-P	105	102	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				1.24	
	Turbidity				0.238	
EPA 350.1 Rev. 2.0	Ammonia-N	100	98.6 103			3.50
	Ammonia-N	101	99.8 99.3			0.305
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	100 99.0			0.870
	Kjeldahl Nitrogen	99.0	94.5 101			4.93
EPA 353.2 Rev. 2.0	NO2NO3-N	102	95.8 97.3			1.38
	NO2NO3-N	100	99.2 98.6			0.341
	NO2NO3-N	102	100 101			0.385
EPA 365.1 Rev. 2.0	Total-P	101	107 104			2.39
	Total-P	104	106 103			2.28
SM 2120 B	Color (true)				0.187	
	Color (true)				0.237	
SM 2540 D-97	TSS				7.23	

Reference Method Descriptions

Method / NELAC Cert. #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1601605, 1601606, 1601607, 1601608, 1601609, 1601610, 1601611, 1601612, 1601613, 1601614, 1601615, 1601616, 1601617, 1601618
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1601619, 1601620, 1601621, 1601622, 1601623, 1601624, 1601625, 1601626, 1601627, 1601628, 1601629, 1601630, 1601631, 1601632
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1601619, 1601620, 1601621, 1601622, 1601623, 1601624, 1601625, 1601626, 1601627, 1601628, 1601629, 1601630, 1601631, 1601632
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1601619, 1601620, 1601621, 1601622, 1601623, 1601624, 1601625, 1601626, 1601627, 1601628, 1601629, 1601630, 1601631, 1601632
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1601619, 1601620, 1601621, 1601622, 1601623, 1601624, 1601625, 1601626, 1601627, 1601628, 1601629, 1601630, 1601631, 1601632

Reference Method Descriptions

Method / NELAC Cert. #	Description	<u>Associated Samples</u>
SM 2120 B / E31780	True Color measured at 450 nm	1601605, 1601606, 1601607, 1601608, 1601609, 1601610, 1601611, 1601612, 1601613, 1601614, 1601615, 1601616, 1601617, 1601618
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1601605, 1601606, 1601607, 1601608, 1601609, 1601610, 1601611, 1601612, 1601613, 1601614, 1601615, 1601616, 1601617, 1601618

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	05/13/2014			05/13/2014 17:03	Sima Feizi	1601605, 1601606, 1601607, 1601608, 1601609, 1601610, 1601611, 1601612, 1601613, 1601614, 1601615, 1601616, 1601617, 1601618
EPA 350.1 Rev. 2.0	05/13/2014			05/14/2014	Diana M. Turner	1601619, 1601620, 1601621, 1601622, 1601623, 1601624, 1601625, 1601626, 1601627, 1601628, 1601629, 1601630, 1601631, 1601632
EPA 351.2 Rev. 2.0	05/13/2014	05/15/2014	Christopher Armour	05/16/2014	Bryan A. Werth	1601619, 1601620, 1601621, 1601622, 1601623, 1601624, 1601625, 1601626, 1601627, 1601628, 1601629, 1601630, 1601631, 1601632
EPA 353.2 Rev. 2.0	05/13/2014			05/14/2014	Peter D. Kaus	1601619, 1601620, 1601621, 1601622, 1601623, 1601624, 1601625, 1601626, 1601627, 1601628, 1601629, 1601630, 1601631, 1601632
EPA 365.1 Rev. 2.0	05/13/2014	05/15/2014	Christopher Armour	05/15/2014	Peter D. Kaus	1601631
	05/13/2014	05/15/2014	Christopher Armour	05/21/2014	Rochelle Y Jackson	1601619, 1601620, 1601621, 1601622, 1601623, 1601624, 1601625, 1601626, 1601627, 1601628, 1601629, 1601630, 1601632
SM 2120 B	05/13/2014			05/13/2014 14:44	Blanca Fach	1601605
	05/13/2014			05/13/2014 14:45	Blanca Fach	1601606
	05/13/2014			05/13/2014 14:46	Blanca Fach	1601607
	05/13/2014			05/13/2014 14:47	Blanca Fach	1601608, 1601609
	05/13/2014			05/13/2014 15:32	Blanca Fach	1601610
	05/13/2014			05/13/2014 15:33	Blanca Fach	1601611
	05/13/2014			05/13/2014 15:34	Blanca Fach	1601612
	05/13/2014			05/13/2014 15:35	Blanca Fach	1601613
	05/13/2014			05/13/2014 15:36	Blanca Fach	1601614, 1601615
	05/13/2014			05/13/2014 15:37	Blanca Fach	1601616
	05/13/2014			05/13/2014 15:38	Blanca Fach	1601617
	05/13/2014			05/13/2014 15:39	Blanca Fach	1601618
SM 2540 D-97	05/13/2014			05/15/2014	Yijie Li	1601605, 1601606, 1601607, 1601608, 1601609, 1601610, 1601611, 1601612, 1601613, 1601614, 1601615, 1601616, 1601617, 1601618