Chemical Analysis Report

NW-DIST-2012-05-22-03

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

Event Description: **Project Greenshores**
Request ID: **RQ-2012-05-21-26**
Customer: **NW-DIST**
Project ID: **DISCRTNARY**

Send Reports to:
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160 Government Center
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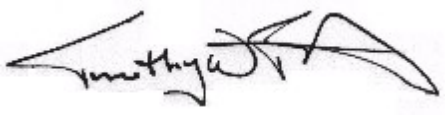
Certified by: Timothy Fitzpatrick, Program Administrator

Date Certified: 05-JUN-2012 11:57



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.

Sample Location: PEN BAY @ 1/2 BTW BRIDGE AND MUSCOGEE **Collection Date/Time: 05/21/2012 10:27 AM**

Field ID: 2 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430234	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P240061	
	SM 2120 B	Color (true)	2.5	U	PCU	P240077	
	SM 2540 D-97	TSS	2.5	U	mg/L	P240135	
1430248	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P240169	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27	I	mg N/L	P240163	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P240145	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P240181	

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: PEN BAY @ 1/2 BTW BRIDGE AND PORT **Collection Date/Time: 05/21/2012 11:06 AM**

Field ID: 7 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430239	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P240061	
	SM 2120 B	Color (true)	2.5	U	PCU	P240077	
	SM 2540 D-97	TSS	2.5	U	mg/L	P240135	
1430253	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P240169	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.26	I	mg N/L	P240163	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P240145	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P240181	

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: PEN BAY @ 100 FT , SOUTH OF STORM DRAIN **Collection Date/Time: 05/21/2012 10:43 AM**

Field ID: 4 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430236	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P240061	
	SM 2120 B	Color (true)	2.5	U	PCU	P240077	
	SM 2540 D-97	TSS	2.5	U	mg/L	P240135	
1430250	EPA 350.1 Rev. 2.0	Ammonia-N	0.017	I	mg N/L	P240169	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27	I	mg N/L	P240163	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P240145	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P240181	

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: PEN BAY @ BTW HAWKSHAW AND MUSCOGEE **Collection Date/Time: 05/21/2012 12:39 PM**

Field ID: 6 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430238	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P240061	

Field ID: 6 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430238	SM 2120 B	Color (true)	2.5	U	PCU	P240077	
	SM 2540 D-97	TSS	4	I	mg/L	P240135	
1430252	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P240169	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28	I	mg N/L	P240163	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P240145	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P240181	

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: PEN BAY @ EAST OF PRIMARY DRAIN **Collection Date/Time: 05/21/2012 10:33 AM**

Field ID: 3 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430235	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P240061	
	SM 2120 B	Color (true)	2.5	U	PCU	P240077	
	SM 2540 D-97	TSS	5	I	mg/L	P240135	
1430249	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P240169	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30	I	mg N/L	P240163	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P240145	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P240181	

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: PEN BAY @ ENTRANCE OF MARINA **Collection Date/Time: 05/21/2012 11:20 AM**

Field ID: 11 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430243	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P240062	
	SM 2120 B	Color (true)	2.5	U	PCU	P240078	
	SM 2540 D-97	TSS	11	A	mg/L	P240136	
1430257	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P240166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34	I	mg N/L	P240222	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.086		mg N/L	P240146	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P240182	

Sample Location: PEN BAY @ RANGE MARKER E OF TEXAR **Collection Date/Time: 05/21/2012 10:16 AM**

Field ID: 1 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430233	EPA 180.1 Rev. 2.0	Turbidity	1.5	A	NTU	P240061	
	SM 2120 B	Color (true)	4.0	I	PCU	P240077	
	SM 2540 D-97	TSS	2.5	U	mg/L	P240135	
1430247	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P240169	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27	I	mg N/L	P240163	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P240145	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P240181	

Field ID: 1 Matrix: W-SURF-SLT

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

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: PEN BAY 1/4 BTW BRIDGE AND PORT 400 FT FROM SHORE **Collection Date/Time: 05/21/2012 11:13 AM**

Field ID: 12 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430244	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P240062	
	SM 2120 B	Color (true)	2.5	U	PCU	P240078	
	SM 2540 D-97	TSS	8	I	mg/L	P240136	
1430258	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P240166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I	mg N/L	P240222	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P240146	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P240182	

Sample Location: PEN BAY BTW MARINA AND OUT FALL **Collection Date/Time: 05/21/2012 11:25 AM**

Field ID: 10 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430242	EPA 180.1 Rev. 2.0	Turbidity	1.3	A	NTU	P240062	
	SM 2120 B	Color (true)	2.5	U	PCU	P240078	
	SM 2540 D-97	TSS	8	I	mg/L	P240135	
1430256	EPA 350.1 Rev. 2.0	Ammonia-N	0.013	I	mg N/L	P240169	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38	I	mg N/L	P240222	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P240145	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P240181	

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: PEN BAY EAST OF STORM DRAIN INSIDE PGS SITE 2 **Collection Date/Time: 05/21/2012 11:50 AM**

Field ID: 14 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430246	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P240062	
	SM 2120 B	Color (true)	2.5	U	PCU	P240078	
	SM 2540 D-97	TSS	2.5	U	mg/L	P240136	
1430260	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P240166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35	I	mg N/L	P240222	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P240146	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P240182	

Sample Location: PEN BAY END OF CHASE STREET **Collection Date/Time: 05/21/2012 11:00 AM**

Field ID: 5 Matrix: W-SURF-SLT

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

Field ID: 5 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430237	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P240061	
	SM 2120 B	Color (true)	2.5	U	PCU	P240077	
	SM 2540 D-97	TSS	4	I	mg/L	P240135	
1430251	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P240169	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27	I	mg N/L	P240163	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.010		mg N/L	P240145	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P240181	

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: PEN BAY INSIDE HAWKSHAW **Collection Date/Time: 05/21/2012 11:45 AM**

Field ID: 13 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430245	EPA 180.1 Rev. 2.0	Turbidity	5.4		NTU	P240062	
	SM 2120 B	Color (true)	11		PCU	P240078	
	SM 2540 D-97	TSS	16		mg/L	P240136	
1430259	EPA 350.1 Rev. 2.0	Ammonia-N	0.053		mg N/L	P240166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P240222	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.020		mg N/L	P240146	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P240182	

Sample Location: PEN BAY WEST END OF HAWKSHAW 100 FT SOUTH OF OUT FALL **Collection Date/Time: 05/21/2012 11:33 AM**

Field ID: 9 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430241	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P240061	
	SM 2120 B	Color (true)	2.5	U	PCU	P240077	
	SM 2540 D-97	TSS	2.5	U	mg/L	P240135	
1430255	EPA 350.1 Rev. 2.0	Ammonia-N	0.015	I	mg N/L	P240169	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37	I	mg N/L	P240222	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P240145	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P240181	

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: PEN BAY WEST OF STORM DRAIN INSIDE ROCKS **Collection Date/Time: 05/21/2012 10:51 AM**

Field ID: 8 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430240	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P240061	
	SM 2120 B	Color (true)	2.5	U	PCU	P240077	
	SM 2540 D-97	TSS	7	I	mg/L	P240135	
1430254	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P240169	

Field ID: 8 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1430254	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.29	I	mg N/L	P240222	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P240145	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P240181	

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: P240061

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P240062

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P240166

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P240169

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P240163

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P240222

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P240145

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P240146

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P240181

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P240182

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

Reference Method: SM 2120 B
Batch ID: P240077

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P240078

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2540 D-97
Batch ID: P240135

Component	Result	Code	Units
TSS	2.5	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P240136

Component	Result	Code	Units
TSS	2.5	U	mg/L

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P240166

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P240169

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P240169

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: P240163

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P240222

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P240145

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P240146

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	108		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P240181

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P240182

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P240166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1430259	Ammonia-N	105	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P240169

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P240169

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1430255	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P240163

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1429764	Kjeldahl Nitrogen	91.2	94.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P240222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1430254	Kjeldahl Nitrogen	94.6	92.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P240145

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1430247	NO2NO3-N	107	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P240146

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1430257	NO2NO3-N	107	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P240181

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1430248	Total-P	95.4	95.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P240182

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1430368	Total-P	94.6	93.4	P/P	90 - 110

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P240061

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1430233	Turbidity	6.06	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P240062

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1430242	Turbidity	7.52	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P240166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1430259	Ammonia-N	1.22	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P240169

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1430255	Ammonia-N	0.225	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P240163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1429764	Kjeldahl Nitrogen	2.62	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P240222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1430254	Kjeldahl Nitrogen	1.83	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P240145

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1430247	NO2NO3-N	0.913	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P240146

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1430257	NO2NO3-N	0.664	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P240181

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1430248	Total-P	0.283	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P240182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1430368	Total-P	1.14	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P240078

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1430308	Color (true)	4.08	Sample	P	0 - 20

Reference Method: SM 2540 D-97
Batch ID: P240136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1430243	TSS	3.77	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: A45227
Included Lab Sample IDs: 1430233, 1430234, 1430235, 1430236, 1430237, 1430238, 1430239, 1430240, 1430241, 1430242, 1430243, 1430244, 1430245, 1430246

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

Reference Method: SM 2120 B
Run ID: A45233
Included Lab Sample IDs: 1430233, 1430234, 1430235, 1430236, 1430237, 1430238, 1430239, 1430240, 1430241, 1430242, 1430243, 1430244, 1430245, 1430246

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	91.6	95.3	P/P	85 - 115
Color (true)	93.7	91.6	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A45260
Included Lab Sample IDs: 1430247, 1430248, 1430249, 1430250, 1430251, 1430252, 1430253, 1430254, 1430255, 1430256, 1430257, 1430258, 1430259, 1430260

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A45264
Included Lab Sample IDs: 1430247, 1430248, 1430249, 1430250, 1430251, 1430252, 1430253

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.6	97.8	P/P	90 - 110
Kjeldahl Nitrogen	98.5	96.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A45267
Included Lab Sample IDs: 1430257, 1430258, 1430259, 1430260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	96.3	P/P	90 - 110
Ammonia-N	96.3	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A45268
Included Lab Sample IDs: 1430247, 1430248, 1430249, 1430250, 1430251, 1430252, 1430253, 1430254, 1430255, 1430256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	105	P/P	90 - 110
Ammonia-N	105	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A45272
Included Lab Sample IDs: 1430247, 1430248, 1430249, 1430250, 1430251, 1430252, 1430253, 1430254, 1430255, 1430256, 1430257, 1430258, 1430259, 1430260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.1	98.8	P/P	90 - 110
Total-P	99.2	99.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A45292
Included Lab Sample IDs: 1430254, 1430255, 1430256, 1430257, 1430258, 1430259, 1430260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	99.6	P/P	90 - 110
Kjeldahl Nitrogen	97.2	101	P/P	90 - 110
Kjeldahl Nitrogen	99.6	97.2	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		Precision		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					6.06	
	Turbidity					7.52	
EPA 350.1 Rev. 2.0	Ammonia-N	101	105	103			1.22
	Ammonia-N	101	103	104			0.225

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.6	91.2	94.0			2.62
	Kjeldahl Nitrogen	92.7	94.6	92.6			1.83
EPA 353.2 Rev. 2.0	NO2NO3-N	106	107	106			0.913
	NO2NO3-N	108	107	108			0.664
EPA 365.1 Rev. 2.0	Total-P	107	95.4	95.1			0.283
	Total-P	105	94.6	93.4			1.14
SM 2120 B	Color (true)					4.08	
SM 2540 D-97	TSS					3.77	

Reference Method Descriptions

Method / NELAC Cert. #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1430233, 1430234, 1430235, 1430236, 1430237, 1430238, 1430239, 1430240, 1430241, 1430242, 1430243, 1430244, 1430245, 1430246
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1430247, 1430248, 1430249, 1430250, 1430251, 1430252, 1430253, 1430254, 1430255, 1430256, 1430257, 1430258, 1430259, 1430260
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1430247, 1430248, 1430249, 1430250, 1430251, 1430252, 1430253, 1430254, 1430255, 1430256, 1430257, 1430258, 1430259, 1430260
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1430247, 1430248, 1430249, 1430250, 1430251, 1430252, 1430253, 1430254, 1430255, 1430256, 1430257, 1430258, 1430259, 1430260
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1430247, 1430248, 1430249, 1430250, 1430251, 1430252, 1430253, 1430254, 1430255, 1430256, 1430257, 1430258, 1430259, 1430260
SM 2120 B / E31780	True Color measured at 450 nm or Apparent Color	1430233, 1430234, 1430235, 1430236, 1430237, 1430238, 1430239, 1430240, 1430241, 1430242, 1430243, 1430244, 1430245, 1430246
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1430233, 1430234, 1430235, 1430236, 1430237, 1430238, 1430239, 1430240, 1430241, 1430242, 1430243, 1430244, 1430245, 1430246

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	05/22/2012			05/22/2012 16:08	Bryan A. Werth	1430233, 1430234, 1430235, 1430236, 1430237, 1430238, 1430239, 1430240, 1430241, 1430242, 1430243, 1430244, 1430245, 1430246
EPA 350.1 Rev. 2.0	05/22/2012			05/24/2012	Diana M. Dunbar	1430247, 1430248, 1430249, 1430250, 1430251, 1430252, 1430253, 1430254, 1430255, 1430256, 1430257, 1430258, 1430259, 1430260
EPA 351.2 Rev. 2.0	05/22/2012	05/23/2012	Christopher Armour	05/24/2012	Bryan A. Werth	1430247, 1430248, 1430249, 1430250, 1430251, 1430252, 1430253, 1430254, 1430255, 1430256, 1430257, 1430258, 1430259, 1430260
EPA 353.2 Rev. 2.0	05/22/2012			05/24/2012	Peter D. Kaus	1430247, 1430248, 1430249, 1430250, 1430251, 1430252, 1430253, 1430254, 1430255, 1430256, 1430257, 1430258, 1430259, 1430260
EPA 365.1 Rev. 2.0	05/22/2012	05/23/2012	Megan E. Faircloth	05/24/2012	Megan E. Faircloth	1430247, 1430248, 1430249, 1430250, 1430251, 1430252, 1430253, 1430254, 1430255, 1430256, 1430257, 1430258, 1430259, 1430260
SM 2120 B	05/22/2012			05/22/2012 16:39	Rochelle Y Jackson	1430233
	05/22/2012			05/22/2012 16:40	Rochelle Y Jackson	1430234
	05/22/2012			05/22/2012 16:41	Rochelle Y Jackson	1430235
	05/22/2012			05/22/2012 16:42	Rochelle Y Jackson	1430236
	05/22/2012			05/22/2012 16:43	Rochelle Y Jackson	1430237
	05/22/2012			05/22/2012 16:44	Rochelle Y Jackson	1430238
	05/22/2012			05/22/2012 16:45	Rochelle Y Jackson	1430239
	05/22/2012			05/22/2012 16:46	Rochelle Y Jackson	1430240, 1430241
	05/22/2012			05/22/2012 16:50	Rochelle Y Jackson	1430242
	05/22/2012			05/22/2012 16:51	Rochelle Y Jackson	1430243
	05/22/2012			05/22/2012 16:52	Rochelle Y Jackson	1430244
	05/22/2012			05/22/2012 16:53	Rochelle Y Jackson	1430245
	05/22/2012			05/22/2012 16:54	Rochelle Y Jackson	1430246
SM 2540 D-97	05/22/2012			05/23/2012	Sima Feizi	1430233, 1430234, 1430235, 1430236, 1430237, 1430238, 1430239, 1430240, 1430241, 1430242, 1430243, 1430244, 1430245, 1430246