

Chemical Analysis Report

NW-DIST-2012-11-27-01

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

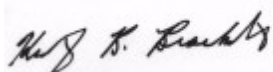
Event Description: **Project Greenshores**
Request ID: **RQ-2012-11-19-08**
Customer: **NW-DIST**
Project ID: **DISCRTNARY**

Send Reports to:
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Certified by: Kathryn Brackett, Environmental Administrator

Date Certified: 21-DEC-2012 12:02



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: 1/2 BETWEEN BRIDGE AND PORT

Collection Date/Time: 11/26/2012 10:53 AM

Field ID: 7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469716	EPA 180.1 Rev. 2.0	Turbidity	0.85		NTU	P246927	
	SM 2120 B	Color (true)	2.5	U	PCU	P246897	
	SM 2540 D-97	TSS	3	U	mg/L	P247094	
1469730	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P246943	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P247024	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P246894	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P247036	

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: 11/26/2012 10:23 AM

Field ID: 2

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469711	EPA 180.1 Rev. 2.0	Turbidity	0.95		NTU	P246927	
	SM 2120 B	Color (true)	5.0	U	PCU	P246896	
	SM 2540 D-97	TSS	3	U	mg/L	P247094	
1469725	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P246943	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22	I	mg N/L	P247022	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.052		mg N/L	P246894	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P247034	

Ref. Method and Comment:

SM 2120 B: The MDL was elevated due to sample matrix interference.

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

Collection Date/Time: 11/26/2012 11:55 AM

Field ID: 6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469715	EPA 180.1 Rev. 2.0	Turbidity	0.90		NTU	P246927	
	SM 2120 B	Color (true)	5.0	U	PCU	P246896	
	SM 2540 D-97	TSS	3	U	mg/L	P247094	
1469729	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P246943	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21	I	mg N/L	P247022	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P246894	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P247036	

Ref. Method and Comment:

SM 2120 B: The MDL was elevated due to sample matrix interference.

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: 11/26/2012 11:00 AM

Field ID: 12

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469721	EPA 180.1 Rev. 2.0	Turbidity	0.85		NTU	P246928	
	SM 2120 B	Color (true)	7.5	U	PCU	P246897	

Field ID: 12

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469721	SM 2540 D-97	TSS	3	U	mg/L	P247095	
1469735	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P246944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.20	I	mg N/L	P247024	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P246895	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P247036	

Ref. Method and Comment:

SM 2120 B: The MDL was elevated due to sample matrix interference.

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: 11/26/2012 10:35 AM

Field ID: 4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469713	EPA 180.1 Rev. 2.0	Turbidity	0.85		NTU	P246927	
	SM 2120 B	Color (true)	2.5	UQ	PCU	P247585	
	SM 2540 D-97	TSS	3	I	mg/L	P247094	
1469727	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P246943	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	U	mg N/L	P247022	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P246894	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P247341	

Ref. Method and Comment:

SM 2120 B: Sample reanalyzed out of holding time due to analytical difficulties.

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: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Sample Location: BETWEEN MARINA / OUTFALL

Collection Date/Time: 11/26/2012 11:15 AM

Field ID: 10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469719	EPA 180.1 Rev. 2.0	Turbidity	0.90		NTU	P246928	
	SM 2120 B	Color (true)	2.5	U	PCU	P246897	
	SM 2540 D-97	TSS	4	I	mg/L	P247095	
1469733	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P246943	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.17	I	mg N/L	P247024	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P246894	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P247036	

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 PRIMARY STORM DRAIN

Collection Date/Time: 11/26/2012 10:30 AM

Field ID: 3

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469712	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P246927	
	SM 2120 B	Color (true)	2.5	U	PCU	P246896	
	SM 2540 D-97	TSS	3	U	mg/L	P247094	
1469726	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P246943	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23	I	mg N/L	P247022	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P246894	

Field ID: 3

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469726	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P247034	

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 STORMDRAIN INSIDE PGS II

Collection Date/Time: 11/26/2012 11:45 AM

Field ID: 14

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469723	EPA 180.1 Rev. 2.0	Turbidity	0.90		NTU	P246928	
	SM 2120 B	Color (true)	5.0	U	PCU	P246897	
	SM 2540 D-97	TSS	3	I	mg/L	P247095	
1469737	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P246944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I	mg N/L	P247678	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P246895	
	EPA 365.1 Rev. 2.0	Total-P	0.009	I	mg P/L	P247036	

Ref. Method and Comment:

SM 2120 B: The MDL was elevated due to sample matrix interference.

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: 11/26/2012 10:45 AM

Field ID: 5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469714	EPA 180.1 Rev. 2.0	Turbidity	0.90		NTU	P246927	
	SM 2120 B	Color (true)	5.0	U	PCU	P246896	
	SM 2540 D-97	TSS	3	U	mg/L	P247094	
1469728	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P246943	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	U	mg N/L	P247022	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.037		mg N/L	P246894	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P247034	

Ref. Method and Comment:

SM 2120 B: The MDL was elevated due to sample matrix interference.

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: 11/26/2012 11:09 AM

Field ID: 11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469720	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P246928	
	SM 2120 B	Color (true)	2.5	U	PCU	P246897	
	SM 2540 D-97	TSS	3	U	mg/L	P247095	
1469734	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P246944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24	I	mg N/L	P247024	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P246895	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P247036	

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: 11/26/2012 11:35 AM

Field ID: 13

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469722	EPA 180.1 Rev. 2.0	Turbidity	2.5	A	NTU	P246928	
	SM 2120 B	Color (true)	3.1	I	PCU	P246897	
	SM 2540 D-97	TSS	7	I	mg/L	P247095	
1469736	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P246944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33	I	mg N/L	P247024	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P246895	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P247036	

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: PENSACOLA BAY RANGE E OF TEXAR

Collection Date/Time: 11/26/2012 10:11 AM

Field ID: 1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469710	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P246927	
	SM 2120 B	Color (true)	2.5	U	PCU	P246896	
	SM 2540 D-97	TSS	3	U	mg/L	P247094	
1469724	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P246943	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24	I	mg N/L	P247022	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P246894	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P247034	

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 100FT S. OF
OUTFALL**

Collection Date/Time: 11/26/2012 11:22 AM

Field ID: 9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469718	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P246928	
	SM 2120 B	Color (true)	2.5	U	PCU	P246897	
	SM 2540 D-97	TSS	3	U	mg/L	P247094	
1469732	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P246943	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P247024	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.021		mg N/L	P246894	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P247036	

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: 11/26/2012 10:40 AM

Field ID: 8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469717	EPA 180.1 Rev. 2.0	Turbidity	0.60		NTU	P246928	
	SM 2120 B	Color (true)	5.0	U	PCU	P246897	
	SM 2540 D-97	TSS	3	U	mg/L	P247094	
1469731	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P246943	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23	I	mg N/L	P247024	

Field ID: 8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1469731	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P246894	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P247036	

Ref. Method and Comment:

SM 2120 B: The MDL was elevated due to sample matrix interference.

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: P246927

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P246928

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P246943

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P246944

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P247022

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P247024

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P247678

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P246894

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P246894

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P246895

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P247034

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P247036

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P247341

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

Reference Method: SM 2120 B
Batch ID: P246896

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P246897

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P247585

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2540 D-97
Batch ID: P247094

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P247095

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: P246943

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P246944

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P247022

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P247024

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P247678

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P246894

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P246895

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P247034

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P247034

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P247036

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P247341

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P246943

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1469731	Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P246944

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1469736	Ammonia-N	103	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P247022

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1469587	Kjeldahl Nitrogen	105	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P247024

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1469730	Kjeldahl Nitrogen	103	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P247678

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1473227	Kjeldahl Nitrogen	96.8	96.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P246894

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P246894

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1469724	NO2NO3-N	100	98.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P246895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1469734	NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P247034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1469515	Total-P	94.5	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P247036

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1469730	Total-P	92.8	95.5	P/P	90 - 110

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P246927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1469759	Turbidity	1.41	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P246928

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1469722	Turbidity	3.16	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P246943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1469731	Ammonia-N	0.927	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P246944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1469736	Ammonia-N	2.20	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P247022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1469587	Kjeldahl Nitrogen	3.68	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P247024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1469730	Kjeldahl Nitrogen	1.83	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P247678

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1473227	Kjeldahl Nitrogen	0.00600	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P246894

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1469724	NO2NO3-N	1.47	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P246895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1469734	NO2NO3-N	0.296	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P247034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1469515	Total-P	2.39	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P247036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1469730	Total-P	2.55	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P247341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1471262	Total-P	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P246896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1469759	Color (true)	4.08	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P246897

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1469799	Color (true)	1.44	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P247585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1473447	Color (true)	2.75	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: EPA 353.2 Rev. 2.0
Run ID: A48064

Included Lab Sample IDs: 1469724, 1469725, 1469726, 1469727, 1469728, 1469729, 1469730, 1469731, 1469732, 1469733, 1469734, 1469735, 1469736, 1469737

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	104	P/P	90 - 110
NO2NO3-N	106	102	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A48065

Included Lab Sample IDs: 1469710, 1469711, 1469712, 1469714, 1469715, 1469716, 1469717, 1469718, 1469719, 1469720, 1469721, 1469722, 1469723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	85 - 115
Color (true)	101	103	P/P	85 - 115
Color (true)	103	102	P/P	85 - 115
Color (true)	99.6	101	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A48077

Included Lab Sample IDs: 1469710, 1469711, 1469712, 1469713, 1469714, 1469715, 1469716, 1469717, 1469718, 1469719, 1469720, 1469721, 1469722, 1469723

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A48081

Included Lab Sample IDs: 1469724, 1469725, 1469726, 1469727, 1469728, 1469729, 1469730, 1469731, 1469732, 1469733, 1469734, 1469735, 1469736, 1469737

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	102	P/P	90 - 110
Ammonia-N	102	102	P/P	90 - 110
Ammonia-N	102	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A48101

Included Lab Sample IDs: 1469724, 1469725, 1469726, 1469727, 1469728, 1469729, 1469730, 1469731, 1469732, 1469733, 1469734, 1469735, 1469736

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	95.8	P/P	90 - 110
Kjeldahl Nitrogen	109	102	P/P	90 - 110
Kjeldahl Nitrogen	99.8	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A48116

Included Lab Sample IDs: 1469724, 1469725, 1469728, 1469729, 1469730, 1469731, 1469732, 1469733, 1469734, 1469735, 1469736, 1469737

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.0	96.0	P/P	90 - 110
Total-P	96.2	96.8	P/P	90 - 110
Total-P	96.8	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A48129

Included Lab Sample IDs: 1469726

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A48242

Included Lab Sample IDs: 1469727

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.8	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A48340

Included Lab Sample IDs: 1469713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.9	95.6	P/P	85 - 115

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A48393

Included Lab Sample IDs: 1469737

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.3	106	P/P	90 - 110

Quality Assurance Report Calibration Verification

* 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					1.41	
	Turbidity					3.16	
EPA 350.1 Rev. 2.0	Ammonia-N	94.4	102	103			0.927
	Ammonia-N	98.4	103	106			2.20
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.8	105	101			3.68
	Kjeldahl Nitrogen	101	103	105			1.83
	Kjeldahl Nitrogen	102	96.8	96.8			0.0060
EPA 353.2 Rev. 2.0	NO2NO3-N	97.5	100	98.9			1.47
	NO2NO3-N	101	103	104			0.296
EPA 365.1 Rev. 2.0	Total-P	98.0	94.5	97.2			2.39
	Total-P	99.8	92.8	95.5			2.55
	Total-P	99.2					0.0
SM 2120 B	Color (true)					4.08	
	Color (true)					1.44	
	Color (true)					2.75	

Reference Method Descriptions

Method / NELAC Cert. #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1469710, 1469711, 1469712, 1469713, 1469714, 1469715, 1469716, 1469717, 1469718, 1469719, 1469720, 1469721, 1469722, 1469723
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1469724, 1469725, 1469726, 1469727, 1469728, 1469729, 1469730, 1469731, 1469732, 1469733, 1469734, 1469735, 1469736, 1469737
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1469724, 1469725, 1469726, 1469727, 1469728, 1469729, 1469730, 1469731, 1469732, 1469733, 1469734, 1469735, 1469736, 1469737
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1469724, 1469725, 1469726, 1469727, 1469728, 1469729, 1469730, 1469731, 1469732, 1469733, 1469734, 1469735, 1469736, 1469737
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1469724, 1469725, 1469726, 1469727, 1469728, 1469729, 1469730, 1469731, 1469732, 1469733, 1469734, 1469735, 1469736, 1469737
SM 2120 B / E31780	True Color measured at 450 nm or Apparent Color	1469710, 1469711, 1469712, 1469713, 1469714, 1469715, 1469716, 1469717, 1469718, 1469719, 1469720, 1469721, 1469722, 1469723
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1469710, 1469711, 1469712, 1469713, 1469714, 1469715, 1469716, 1469717, 1469718, 1469719, 1469720, 1469721, 1469722, 1469723

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	11/27/2012			11/27/2012 16:55	Ping Hua	1469710, 1469711, 1469712, 1469713, 1469714, 1469715, 1469716, 1469717, 1469718, 1469719, 1469720, 1469721, 1469722, 1469723
EPA 350.1 Rev. 2.0	11/27/2012			11/28/2012	Peter D. Kaus	1469724, 1469725, 1469726, 1469727, 1469728, 1469729, 1469730, 1469731, 1469732, 1469733, 1469734, 1469735, 1469736, 1469737
EPA 351.2 Rev. 2.0	11/27/2012	11/28/2012	Christopher Armour	11/29/2012	Virginia P. Bryant	1469724, 1469725, 1469726, 1469727, 1469728, 1469729, 1469730, 1469731, 1469732, 1469733, 1469734, 1469735, 1469736
EPA 353.2 Rev. 2.0	11/27/2012	12/17/2012	Christopher Armour	12/18/2012	Bryan A. Werth	1469737
	11/27/2012			11/27/2012	Sima Feizi	1469724, 1469725, 1469726, 1469727, 1469728, 1469729, 1469730, 1469731, 1469732, 1469733, 1469734, 1469735, 1469736, 1469737
EPA 365.1 Rev. 2.0	11/27/2012	11/28/2012	Christopher Armour	11/29/2012	Virginia P. Bryant	1469724, 1469725, 1469728, 1469729, 1469730, 1469731, 1469732, 1469733, 1469734, 1469735, 1469736, 1469737
	11/27/2012	11/28/2012	Christopher Armour	11/30/2012	Pallavi R. Gadwal	1469726
	11/27/2012	12/06/2012	Pallavi R. Gadwal	12/10/2012	Virginia P. Bryant	1469727
SM 2120 B	11/27/2012			11/27/2012 13:19	Blanca Fach	1469710
	11/27/2012			11/27/2012 13:21	Blanca Fach	1469712
	11/27/2012			11/27/2012 13:30	Blanca Fach	1469716
	11/27/2012			11/27/2012 13:32	Blanca Fach	1469718
	11/27/2012			11/27/2012 13:33	Blanca Fach	1469719, 1469720
	11/27/2012			11/27/2012 13:35	Blanca Fach	1469722
	11/27/2012			11/27/2012 13:58	Blanca Fach	1469711
	11/27/2012			11/27/2012 13:59	Blanca Fach	1469714
	11/27/2012			11/27/2012 14:00	Blanca Fach	1469715
	11/27/2012			11/27/2012 14:01	Blanca Fach	1469717, 1469723
	11/27/2012			11/27/2012 14:06	Blanca Fach	1469721
	11/27/2012			12/14/2012 15:01	Rochelle Y Jackson	1469713
SM 2540 D-97	11/27/2012			11/30/2012	Yijie Li	1469710, 1469711, 1469712, 1469713, 1469714, 1469715, 1469716, 1469717, 1469718, 1469719, 1469720, 1469721, 1469722, 1469723