

Chemical Analysis Report

WTRSHD-MGT-2012-09-21-04

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

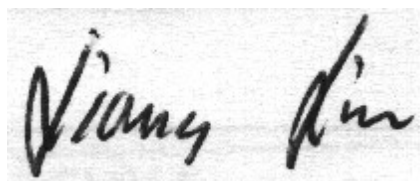
Event Description: **TMDL SW Sampling - Silver River**
Request ID: **RQ-2012-08-27-15**
Customer: **WTRSHD-MGT**
Project ID: **TMDL**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400
Attn: Gary Maddox

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 10-OCT-2012 18:08

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.

Job: TLH-2012-09-21-83

Group: Nutrients

Job: TLH-2012-09-21-84

Group: Metals

Job: TLH-2012-09-21-85

Group: Pesticides

Sample Location: OR-1**Collection Date/Time: 09/20/2012 12:42 PM****Field ID: OR-1**

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1456055	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P244499	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P244776	
		Sulfate	46		mg SO4/L	P244782	
	SM 2120 B	Color (true)	60		PCU	P244481	
	SM 2320 B-97	Alkalinity	168		mg CaCO3/L	P244763	
	SM 2540 C-97	TDS	280		mg/L	P244805	
1456058	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P244569	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34		mg N/L	P244690	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.2		mg N/L	P244747	
	EPA 365.1 Rev. 2.0	Total-P	0.048		mg P/L	P244834	
	SM 5310 B-00	Organic Carbon	5.1		mg C/L	P244837	
1456061	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.041		mg P/L	P244428	MS
1456064	EPA 200.7 Rev. 4.4	Potassium	0.75	I	mg/L	P244761	
	EPA 200.8 Rev. 5.4	Boron**	18.7	A	ug/L	P244858	
1456067	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.010	U	ug/L	P244694	MS

Sample Location: SR-1**Collection Date/Time: 09/20/2012 03:40 PM****Field ID: SR-1**

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1456056	EPA 180.1 Rev. 2.0	Turbidity	0.75		NTU	P244499	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P244776	
		Sulfate	49		mg SO4/L	P244782	
	SM 2120 B	Color (true)	2.5	U	PCU	P244482	
	SM 2320 B-97	Alkalinity	175		mg CaCO3/L	P244768	
	SM 2540 C-97	TDS	268		mg/L	P244805	
1456059	EPA 350.1 Rev. 2.0	Ammonia-N	0.015	I	mg N/L	P244569	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.14	I	mg N/L	P244690	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.3		mg N/L	P244747	
	EPA 365.1 Rev. 2.0	Total-P	0.043		mg P/L	P244834	
	SM 5310 B-00	Organic Carbon	0.42	I	mg C/L	P244837	
1456062	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.039		mg P/L	P244428	MS
1456065	EPA 200.7 Rev. 4.4	Potassium	0.67	I	mg/L	P244761	
	EPA 200.8 Rev. 5.4	Boron**	18.4		ug/L	P244858	
1456068	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.011	U	ug/L	P244694	MS

Ref. Method and Comment:

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

Sample Location: SR-YEARLING HOUSE**Collection Date/Time: 09/20/2012 04:10 PM****Field ID: SR-YEARLING HOUSE**

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1456057	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P244499	

Field ID: SR-YEARLING HOUSE

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1456057	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P244776	
		Sulfate	47		mg SO4/L	P244782	
	SM 2120 B	Color (true)	2.5	U	PCU	P244482	
	SM 2320 B-97	Alkalinity	175		mg CaCO3/L	P244768	
	SM 2540 C-97	TDS	261		mg/L	P244805	
1456060	EPA 350.1 Rev. 2.0	Ammonia-N	0.015	I	mg N/L	P244569	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P244690	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.3		mg N/L	P244747	
	EPA 365.1 Rev. 2.0	Total-P	0.043		mg P/L	P244846	
	SM 5310 B-00	Organic Carbon	0.66	I	mg C/L	P244837	
1456063	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.038		mg P/L	P244428	MS
1456066	EPA 200.7 Rev. 4.4	Potassium	0.67	I	mg/L	P244761	
	EPA 200.8 Rev. 5.4	Boron**	18.1		ug/L	P244858	
1456069	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.010	U	ug/L	P244694	MS

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)

Batch ID: P244694

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P244499

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244761

Component	Result	Code	Units
Potassium	0.30	U	mg/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P244858

Component	Result	Code	Units
Boron	2.0	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244776

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244782

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P244569

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244690

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244747

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244834

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244846

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244428

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: SM 2120 B

Batch ID: P244481

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B

Batch ID: P244482

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97

Batch ID: P244763

Component	Result	Code	Units
Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2320 B-97

Batch ID: P244768

Component	Result	Code	Units
Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-97

Batch ID: P244805

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 5310 B-00

Batch ID: P244837

Component	Result	Code	Units
Organic Carbon	0.40	U	mg C/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)

Batch ID: P244694

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	50.8	44.4	P/P	40 - 130

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244761

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Potassium	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P244858

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Boron	99.3		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244776

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244782

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

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244782

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P244569

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: P244690

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244747

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244834

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: P244846

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244428

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	95.9		P	90 - 110

Reference Method: SM 2320 B-97

Batch ID: P244763

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Alkalinity	101		P	85 - 115

Reference Method: SM 2320 B-97

Batch ID: P244768

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Alkalinity	97.6		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00

Batch ID: P244837

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)

Batch ID: P244694

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1456111	Sucralose	41.6	38.1	P/F	40 - 130

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244761

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1456064	Potassium	103	102	P/P	80 - 120
1456566	Potassium	105		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P244858

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1456064	Boron	100	100	P/P	80 - 120
1456566	Boron	97.2		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244776

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455829	Chloride	99.8		P	90 - 110
1456006	Chloride	99.9	97.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244782

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455829	Sulfate	97.0		P	90 - 110
1456006	Sulfate	97.1	94.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P244569

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455937	Ammonia-N	90.7	90.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244690

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1456009	Kjeldahl Nitrogen	96.8	99.3	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244747

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1456009	NO2NO3-N	97.0	94.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244834

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1456012	Total-P	95.5	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244846

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1456266	Total-P	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244428

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1456081	O-Phosphate-P	88.9	93.3	F/P	90 - 110

Reference Method: SM 5310 B-00

Batch ID: P244837

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1456010	Organic Carbon	98.9	100	P/P	85 - 115

Quality Assurance Report

Precision

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)

Batch ID: P244694

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456111	Sucralose	8.84	Spike	P	0 - 30
LFB	Sucralose	13.4	LCS	P	0 - 30

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P244499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456002	Turbidity	2.90	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244761

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456064	Potassium	1.07	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P244858

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456064	Boron	0.252	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244776

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456006	Chloride	2.37	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244782

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456006	Sulfate	2.46	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P244569

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455937	Ammonia-N	0.338	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244690

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456009	Kjeldahl Nitrogen	2.03	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244747

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456009	NO2NO3-N	1.65	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244834

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456012	Total-P	2.37	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244846

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456266	Total-P	0.873	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244428

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456081	O-Phosphate-P	3.64	Spike	P	0 - 20

Reference Method: SM 2120 B

Batch ID: P244481

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456004	Color (true)	0.210	Sample	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P244763

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456264	Alkalinity	2.50	Sample	P	0 - 20
1456265	Alkalinity	4.81	Sample	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P244768

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456043	Alkalinity	1.79	Sample	P	0 - 20

Reference Method: SM 2540 C-97

Batch ID: P244805

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1454829	TDS	0.766	Sample	P	0 - 10

Reference Method: SM 5310 B-00

Batch ID: P244837

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1456010	Organic Carbon	1.13	Spike	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 Surrogates

Lab Sample ID: 1456067

Field Sample ID: OR-1

Reference Method

DEP SOP: LC-001-2 (based on EPA 8321B)

Surrogate

Sucralose-d6

% Rec.

47.7

Pass/Fail

P

Control Limits

40 - 150

Quality Assurance Report Surrogates

Lab Sample ID: 1456068

Field Sample ID: SR-1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose-d6	49.1	P	40 - 150

Lab Sample ID: 1456069

Field Sample ID: SR-YEARLING HOUSE

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose-d6	43.4	P	40 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A47079

Included Lab Sample IDs: 1456061, 1456062, 1456063

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	93.2	95.0	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A47093

Included Lab Sample IDs: 1456055, 1456056, 1456057

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A47098

Included Lab Sample IDs: 1456055, 1456056, 1456057

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A47128

Included Lab Sample IDs: 1456058, 1456059, 1456060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	103	P/P	90 - 110
Ammonia-N	103	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A47177

Included Lab Sample IDs: 1456058, 1456059, 1456060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.4	94.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)

Run ID: A47179

Included Lab Sample IDs: 1456067, 1456068, 1456069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	78.0	102	P/P	70 - 140
Sucralose	90.0	78.0	P/P	70 - 140
Sucralose	94.4	91.2	P/P	70 - 140

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A47200

Included Lab Sample IDs: 1456058, 1456059, 1456060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110
NO2NO3-N	99.6	98.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A47207

Included Lab Sample IDs: 1456064, 1456065, 1456066

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

Reference Method: SM 2320 B-97

Run ID: A47208

Included Lab Sample IDs: 1456055, 1456056, 1456057

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Alkalinity	97.2	96.1	P/P	85 - 115
Alkalinity	97.7	97.1	P/P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A47212

Included Lab Sample IDs: 1456055, 1456056, 1456057

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Sulfate	98.3	96.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A47226

Included Lab Sample IDs: 1456058, 1456059

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	98.2	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A47228

Included Lab Sample IDs: 1456058, 1456059, 1456060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	99.0	P/P	90 - 110
Organic Carbon	99.0	98.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A47232

Included Lab Sample IDs: 1456060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	97.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A47238

Included Lab Sample IDs: 1456064, 1456065, 1456066

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	95.2	94.7	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	MS
DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose	50.8	44.4	41.6	38.1	13.4		
EPA 180.1 Rev. 2.0	Turbidity						2.90	
EPA 200.7 Rev. 4.4	Potassium	103		103	102	105		1.07
EPA 200.8 Rev. 5.4	Boron	99.3		100	100	97.2	0.252	
EPA 300.0 Rev. 2.1	Chloride	99.3		99.9	97.2	99.8		2.37
	Sulfate	97.0		97.1	94.6	97.0		2.46
EPA 350.1 Rev. 2.0	Ammonia-N	101		90.7	90.4			0.338
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.8		96.8	99.3			2.03
EPA 353.2 Rev. 2.0	NO2NO3-N	100		97.0	94.0			1.65
EPA 365.1 Rev. 2.0	Total-P	101		95.5	98.2			2.37
	Total-P	102		100	102			0.873
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	95.9		88.9	93.3			3.64
SM 2120 B	Color (true)						0.210	
SM 2320 B-97	Alkalinity	101					2.50	4.81
	Alkalinity	97.6					1.79	
SM 2540 C-97	TDS						0.766	
SM 5310 B-00	Organic Carbon	97.6		98.9	100			1.13

Reference Method Descriptions

Method / NELAC Cert. #	Description	Associated Samples
DEP SOP: LC-001-2 (based on EPA 8321B) / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1456067, 1456068, 1456069
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1456055, 1456056, 1456057
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1456064, 1456065, 1456066
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1456064, 1456065, 1456066
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1456055, 1456056, 1456057

Reference Method Descriptions

Method / NELAC Cert. #	Description	Associated Samples
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1456055, 1456056, 1456057
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1456058, 1456059, 1456060
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1456058, 1456059, 1456060
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1456058, 1456059, 1456060
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1456058, 1456059, 1456060
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1456061, 1456062, 1456063
SM 2120 B / E31780	True Color measured at 450 nm or Apparent Color	1456055, 1456056, 1456057
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1456055, 1456056, 1456057
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1456055, 1456056, 1456057
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1456058, 1456059, 1456060

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: LC-001-2 (based on EPA 8321B)	09/21/2012	09/25/2012	Fe-Val Siddell	09/26/2012	S. M. Reddy	1456067, 1456069
	09/21/2012	09/25/2012	Fe-Val Siddell	09/27/2012	S. M. Reddy	1456068
EPA 180.1 Rev. 2.0	09/21/2012			09/21/2012 17:15	Bryan A. Werth	1456055, 1456056, 1456057
EPA 200.7 Rev. 4.4	09/21/2012	09/26/2012	Diana M. Turner	09/28/2012	Joshua Ayres	1456064, 1456065, 1456066
EPA 200.8 Rev. 5.4	09/21/2012	09/26/2012	Diana M. Turner	10/01/2012	Charles J. Peterson	1456064, 1456065, 1456066
EPA 300.0 Rev. 2.1	09/21/2012			09/27/2012	Gary Dearman	1456055, 1456056, 1456057
EPA 350.1 Rev. 2.0	09/21/2012			09/25/2012	Peter D. Kaus	1456058, 1456059, 1456060
EPA 351.2 Rev. 2.0	09/21/2012	09/26/2012	Christopher Armour	09/27/2012	Bryan A. Werth	1456058, 1456059, 1456060
EPA 353.2 Rev. 2.0	09/21/2012			09/27/2012	Sima Feizi	1456058, 1456059, 1456060
EPA 365.1 Rev. 2.0	09/21/2012	09/27/2012	Megan E. Faircloth	09/28/2012	Megan E. Faircloth	1456058, 1456059
	09/21/2012	09/28/2012	Megan E. Faircloth	10/01/2012	Megan E. Faircloth	1456060
EPA 365.1 Rev. 2.0 dissolved	09/21/2012			09/21/2012 16:36	Megan E. Faircloth	1456063
	09/21/2012			09/21/2012 16:37	Megan E. Faircloth	1456061
	09/21/2012			09/21/2012 16:39	Megan E. Faircloth	1456062
SM 2120 B	09/21/2012			09/21/2012 16:28	Blanca Fach	1456055
	09/21/2012			09/21/2012 16:32	Blanca Fach	1456056, 1456057
SM 2320 B-97	09/21/2012			09/28/2012	Dale L. Simmons	1456055
	09/21/2012			09/29/2012	Dale L. Simmons	1456056, 1456057
SM 2540 C-97	09/21/2012			09/25/2012	Yijie Li	1456055, 1456056, 1456057
SM 5310 B-00	09/21/2012			10/01/2012	Rochelle Y Jackson	1456058, 1456059, 1456060