

Chemical Analysis Report

WTRSHD-MGT-2012-09-13-01

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

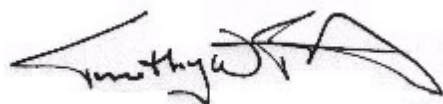
Event Description: **SPRG1207**
Request ID: **RQ-2012-07-23-25**
Customer: **WTRSHD-MGT**
Project ID: **SPG_QTR_WQ**

Send Reports to:
FDEP Ground Water Management Section
2600 Blair Stone Road
Tallahassee, FL 32399-2400
Attn: Gary Maddox

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Certified by: Timothy Fitzpatrick, Program Administrator

Date Certified: 27-SEP-2012 10:02

A handwritten signature in black ink, appearing to read "Timothy Fitzpatrick", with a stylized flourish at the end.

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-2012-09-13-42

Group: Nutrients

Job: TLH-2012-09-13-43

Group: Metals

Job: TLH-2012-09-13-44

Group: Pesticides

Sample Location: 10786**Collection Date/Time: 09/12/2012 03:26 PM****Field ID: MILL POND SPRING****Matrix: W-SURF-FRH**

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1453043	EPA 180.1 Rev. 2.0	Turbidity	0.30		NTU	P244098	
	EPA 300.0 Rev. 2.1	Chloride	9.8		mg Cl/L	P244187	
		Sulfate	41		mg SO4/L	P244192	
	SM 2120 B	Color (true)	4.0	I	PCU	P244102	
	SM 2320 B-97	Alkalinity	145		mg CaCO3/L	P244310	
	SM 2540 C-97	TDS	238		mg/L	P244398	
1453048	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P244165	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.14	I	mg N/L	P244205	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P244345	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P244353	
	SM 5310 B-00	Organic Carbon	1.1		mg C/L	P244307	
1453053	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.057		mg P/L	P244120	
1453058	EPA 200.7 Rev. 4.4	Calcium	60.8		mg/L	P244281	
		Magnesium	10.7		mg/L	P244281	
		Potassium	0.65	I	mg/L	P244423	
		Sodium	6.3		mg/L	P244281	
	EPA 200.8 Rev. 5.4	Boron**	14.3		ug/L	P244298	
1453063	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.010	U	ug/L	P244359	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: The potassium precision data is unavailable due to the small amount of analyte in the QC sample.

DEP SOP: LC-001-2 (based on EPA 8321B): Matrix spike accuracy for sucralose could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: 9677**Collection Date/Time: 09/12/2012 02:10 PM****Field ID: DEVIL'S EAR SPRING****Matrix: W-SURF-FRH**

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1453042	EPA 180.1 Rev. 2.0	Turbidity	0.25		NTU	P244098	
	EPA 300.0 Rev. 2.1	Chloride	9.0		mg Cl/L	P244187	
		Sulfate	16		mg SO4/L	P244192	
	SM 2120 B	Color (true)	3.2	I	PCU	P244102	
	SM 2320 B-97	Alkalinity	178		mg CaCO3/L	P244310	
	SM 2540 C-97	TDS	212		mg/L	P244398	
1453047	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P244165	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.14	I	mg N/L	P244205	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.4		mg N/L	P244345	
	EPA 365.1 Rev. 2.0	Total-P	0.047		mg P/L	P244356	
	SM 5310 B-00	Organic Carbon	0.69	I	mg C/L	P244307	
1453052	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.047		mg P/L	P244120	
1453057	EPA 200.7 Rev. 4.4	Calcium	70.5		mg/L	P244281	
		Magnesium	7.16		mg/L	P244281	
		Potassium	0.60	I	mg/L	P244423	
		Sodium	5.2		mg/L	P244281	
	EPA 200.8 Rev. 5.4	Boron**	14.2		ug/L	P244298	

Field ID: DEVIL'S EAR SPRING

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1453062	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.074		ug/L	P244359	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: The potassium precision data is unavailable due to the small amount of analyte in the QC sample.

DEP SOP: LC-001-2 (based on EPA 8321B): Matrix spike accuracy for sucralose could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: 9713**Collection Date/Time: 09/12/2012 11:04 AM****Field ID: ICHETUCKNEE SPRING MAIN**

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1453040	EPA 180.1 Rev. 2.0	Turbidity	0.25		NTU	P244098	
	EPA 300.0 Rev. 2.1	Chloride	4.4		mg Cl/L	P244187	
		Sulfate	8.4		mg SO4/L	P244192	
	SM 2120 B	Color (true)	2.5	U	PCU	P244102	
	SM 2320 B-97	Alkalinity	154		mg CaCO3/L	P244310	
	SM 2540 C-97	TDS	175		mg/L	P244398	
1453045	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P244165	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.10	I	mg N/L	P244205	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.86		mg N/L	P244344	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P244356	
	SM 5310 B-00	Organic Carbon	0.40	U	mg C/L	P244307	
1453050	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.021		mg P/L	P244120	
1453055	EPA 200.7 Rev. 4.4	Calcium	59.1		mg/L	P244281	
		Magnesium	6.08		mg/L	P244281	
		Potassium	0.30	U	mg/L	P244423	
		Sodium	2.5		mg/L	P244281	
	EPA 200.8 Rev. 5.4	Boron**	9.9		ug/L	P244298	
1453060	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.010	U	ug/L	P244359	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: The potassium precision data is unavailable due to the small amount of analyte in the QC sample.

DEP SOP: LC-001-2 (based on EPA 8321B): Matrix spike accuracy for sucralose could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: 9714**Collection Date/Time: 09/12/2012 04:23 PM****Field ID: MISSION SPRING**

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1453044	EPA 180.1 Rev. 2.0	Turbidity	0.20		NTU	P244098	
	EPA 300.0 Rev. 2.1	Chloride	6.6		mg Cl/L	P244187	
		Sulfate	13		mg SO4/L	P244192	
	SM 2120 B	Color (true)	3.5	I	PCU	P244102	
	SM 2320 B-97	Alkalinity	143		mg CaCO3/L	P244310	
	SM 2540 C-97	TDS	171		mg/L	P244398	
1453049	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P244165	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P244205	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.38		mg N/L	P244345	
	EPA 365.1 Rev. 2.0	Total-P	0.057		mg P/L	P244353	

Field ID: MISSION SPRING

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1453049	SM 5310 B-00	Organic Carbon	0.99		mg C/L	P244307	
1453054	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.056		mg P/L	P244121	
1453059	EPA 200.7 Rev. 4.4	Calcium	52.8		mg/L	P244281	
		Magnesium	7.32		mg/L	P244281	
		Potassium	0.66	I	mg/L	P244423	
		Sodium	4.5		mg/L	P244281	
	EPA 200.8 Rev. 5.4	Boron**	12.8		ug/L	P244298	
1453064	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.010	U	ug/L	P244359	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: The potassium precision data is unavailable due to the small amount of analyte in the QC sample.

DEP SOP: LC-001-2 (based on EPA 8321B): Matrix spike accuracy for sucralose could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: 9743**Collection Date/Time: 09/12/2012 11:52 AM****Field ID: BLUE HOLE SPRING VENT**

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1453041	EPA 180.1 Rev. 2.0	Turbidity	0.20		NTU	P244098	
	EPA 300.0 Rev. 2.1	Chloride	5.3		mg Cl/L	P244187	
		Sulfate	5.2		mg SO4/L	P244192	
	SM 2120 B	Color (true)	2.5	U	PCU	P244102	
	SM 2320 B-97	Alkalinity	145		mg CaCO3/L	P244310	
	SM 2540 C-97	TDS	163		mg/L	P244398	
1453046	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P244165	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.12	I	mg N/L	P244205	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.60		mg N/L	P244345	
	EPA 365.1 Rev. 2.0	Total-P	0.048		mg P/L	P244356	
	SM 5310 B-00	Organic Carbon	0.46	I	mg C/L	P244307	
1453051	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.047		mg P/L	P244120	
1453056	EPA 200.7 Rev. 4.4	Calcium	53.3		mg/L	P244281	
		Magnesium	5.44		mg/L	P244281	
		Potassium	0.48	I	mg/L	P244423	
		Sodium	3.3		mg/L	P244281	
	EPA 200.8 Rev. 5.4	Boron**	11.0		ug/L	P244298	
1453061	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.010	U	ug/L	P244359	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: The potassium precision data is unavailable due to the small amount of analyte in the QC sample.

DEP SOP: LC-001-2 (based on EPA 8321B): Matrix spike accuracy for sucralose could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report

Method Blank Results

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

Batch ID: P244359

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

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

Batch ID: P244359

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P244098

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244281

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Magnesium	0.040	U	mg/L
Sodium	0.50	U	mg/L

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244423

Component	Result	Code	Units
Potassium	0.30	U	mg/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P244298

Component	Result	Code	Units
Boron	2.0	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244187

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244192

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P244165

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244205

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244344

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244345

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244353

Component	Result	Code	Units
Total-P	0.005	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244356

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244120

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244121

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

Reference Method: SM 2120 B

Batch ID: P244102

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97

Batch ID: P244310

Component	Result	Code	Units
Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-97

Batch ID: P244398

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00

Batch ID: P244307

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: P244359

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	51.2	49.6	P/P	40 - 130

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244281

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Magnesium	106		P	85 - 115
Sodium	103		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244423

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Potassium	99.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P244298

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Boron	95.8		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244187

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244192

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P244165

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244205

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.4		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244344

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244345

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244353

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: P244356

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: P244120

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244121

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

Reference Method: SM 2320 B-97

Batch ID: P244310

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Alkalinity	98.9		P	85 - 115

Reference Method: SM 5310 B-00

Batch ID: P244307

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	92.2		P	85 - 115

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244281

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1452947	Calcium	105		P	80 - 120
1452947	Magnesium	107	106	P/P	80 - 120
1452947	Sodium	104		P	80 - 120
1453154	Calcium	102		P	80 - 120
1453154	Magnesium	97.9		P	80 - 120
1453154	Sodium	104		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244423

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1453055	Potassium	102		P	80 - 120
1453188	Potassium	100		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P244298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1452947	Boron	100	103	P/P	80 - 120
1453154	Boron	96.7		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244187

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1452992	Chloride	97.8		P	90 - 110
1453044	Chloride	98.9	99.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244192

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1452992	Sulfate	94.2		P	90 - 110
1453044	Sulfate	92.1	93.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P244165

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1453148	Ammonia-N	106	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244205

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1452994	Kjeldahl Nitrogen	106	96.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244344

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1452994	NO2NO3-N	99.5	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244345

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1453048	NO2NO3-N	94.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244353

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1453047	Total-P	109	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244356

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1453047	Total-P	104	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1452972	O-Phosphate-P	95.9	98.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244121

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1453054	O-Phosphate-P	97.9	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Batch ID: P244307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1452993	Organic Carbon	89.8	91.0	P/P	85 - 115

Quality Assurance Report Precision

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

Batch ID: P244359

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1452452	Sucralose	22.6	Spike	P	0 - 30
LFB	Sucralose	3.17	LCS	P	0 - 30

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P244098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1453103	Turbidity	0.524	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1452947	Calcium	3.25	Sample	P	0 - 20
1452947	Magnesium	2.15	Sample	P	0 - 20
1452947	Sodium	2.84	Sample	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P244298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1452947	Boron	3.27	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1453044	Chloride	0.554	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244192

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1453044	Sulfate	0.813	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P244165

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1453148	Ammonia-N	1.66	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1452994	Kjeldahl Nitrogen	6.48	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244344

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1452994	NO2NO3-N	1.99	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244345

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

Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244345

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1453048	NO2NO3-N	0.251	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244353

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1453047	Total-P	0.976	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244356

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1453047	Total-P	1.14	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244120

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1452972	O-Phosphate-P	2.20	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244121

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1453054	O-Phosphate-P	1.42	Spike	P	0 - 20

Reference Method: SM 2120 B

Batch ID: P244102

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1452998	Color (true)	0.233	Sample	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P244310

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1452943	Alkalinity	3.22	Sample	P	0 - 20
1452954	Alkalinity	18.6	Sample	P	0 - 20

Reference Method: SM 2540 C-97

Batch ID: P244398

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1451777	TDS	1.50	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 5310 B-00

Batch ID: P244307

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1452993	Organic Carbon	1.02	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: 1453060

Field Sample ID: ICHETUCKNEE SPRING MAIN

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose-d6	41.7	P	40 - 150

Lab Sample ID: 1453061

Field Sample ID: BLUE HOLE SPRING VENT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose-d6	54.4	P	40 - 150

Lab Sample ID: 1453062

Field Sample ID: DEVIL'S EAR SPRING

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose-d6	53.5	P	40 - 150

Lab Sample ID: 1453063

Field Sample ID: MILL POND SPRING

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose-d6	49.4	P	40 - 150

Lab Sample ID: 1453064

Field Sample ID: MISSION SPRING

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose-d6	51.5	P	40 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A46936

Included Lab Sample IDs: 1453040, 1453041, 1453042, 1453043, 1453044

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

Quality Assurance Report

Calibration Verification

Reference Method: SM 2120 B

Run ID: A46937

Included Lab Sample IDs: 1453040, 1453041, 1453042, 1453043, 1453044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.2	97.7	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A46946

Included Lab Sample IDs: 1453050, 1453051, 1453052, 1453053, 1453054

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.0	98.3	P/P	90 - 110
O-Phosphate-P	98.5	98.8	P/P	90 - 110
O-Phosphate-P	98.8	97.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A46963

Included Lab Sample IDs: 1453045, 1453046, 1453047, 1453048, 1453049

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	107	104	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A46976

Included Lab Sample IDs: 1453040, 1453041, 1453042, 1453043, 1453044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Chloride	101	100	P/P	90 - 110
Sulfate	96.1	98.4	P/P	90 - 110
Sulfate	98.7	96.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A46984

Included Lab Sample IDs: 1453045, 1453046, 1453047, 1453048, 1453049

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A47014

Included Lab Sample IDs: 1453055, 1453056, 1453057, 1453058, 1453059

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	102	P/P	90 - 110
Magnesium	99.7	99.5	P/P	90 - 110
Sodium	101	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A47023

Included Lab Sample IDs: 1453055, 1453056, 1453057, 1453058, 1453059

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	98.6	98.9	P/P	90 - 110
Boron	98.9	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A47026

Included Lab Sample IDs: 1453045, 1453046, 1453047, 1453048, 1453049

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	88.2	88.0	P/P	85 - 115

Reference Method: SM 2320 B-97

Run ID: A47027

Included Lab Sample IDs: 1453040, 1453041, 1453042, 1453043, 1453044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Alkalinity	95.5	98.0	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A47041

Included Lab Sample IDs: 1453045, 1453046, 1453047, 1453048, 1453049

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.4	P/P	90 - 110
NO2NO3-N	99.8	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A47042

Included Lab Sample IDs: 1453048, 1453049

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A47043

Included Lab Sample IDs: 1453045, 1453046, 1453047

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	95.6	96.0	P/P	90 - 110
Total-P	96.4	95.6	P/P	90 - 110

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

Run ID: A47044

Included Lab Sample IDs: 1453060, 1453061, 1453062, 1453063, 1453064

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	119	120	P/P	70 - 140
Sucralose	120	104	P/P	70 - 140

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A47076

Included Lab Sample IDs: 1453055, 1453056, 1453057, 1453058, 1453059

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Potassium	98.1	97.6	P/P	90 - 110
Potassium	99.1	98.1	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
DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose	51.2	49.6			3.17		22.6
EPA 180.1 Rev. 2.0	Turbidity						0.524	
EPA 200.7 Rev. 4.4	Calcium	105		105	102		3.25	
	Magnesium	106		107	106	97.9	2.15	
	Potassium	99.4		102	100			
	Sodium	103		104	104		2.84	
EPA 200.8 Rev. 5.4	Boron	95.8		100	103	96.7	3.27	
EPA 300.0 Rev. 2.1	Chloride	98.9		97.8	98.9	99.6		0.554
	Sulfate	96.2		94.2	92.1	93.2		0.813
EPA 350.1 Rev. 2.0	Ammonia-N	104		106	104			1.66
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.4		106	96.2			6.48
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.5		99.5	102			1.99
	NO ₂ NO ₃ -N	98.5		94.5				0.251
EPA 365.1 Rev. 2.0	Total-P	101		109	107			0.976
	Total-P	102		104	102			1.14
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103		95.9	98.3			2.20
	O-Phosphate-P	105		97.9	100			1.42
SM 2120 B	Color (true)						0.233	
SM 2320 B-97	Alkalinity	98.9					3.22	18.6
SM 2540 C-97	TDS						1.50	
SM 5310 B-00	Organic Carbon	92.2		89.8	91.0			1.02

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	1453060, 1453061, 1453062, 1453063, 1453064
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1453040, 1453041, 1453042, 1453043, 1453044
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1453055, 1453056, 1453057, 1453058, 1453059
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1453055, 1453056, 1453057, 1453058, 1453059
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1453040, 1453041, 1453042, 1453043, 1453044
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1453040, 1453041, 1453042, 1453043, 1453044
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1453045, 1453046, 1453047, 1453048, 1453049
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1453045, 1453046, 1453047, 1453048, 1453049
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1453045, 1453046, 1453047, 1453048, 1453049
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1453045, 1453046, 1453047, 1453048, 1453049
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1453050, 1453051, 1453052, 1453053, 1453054
SM 2120 B / E31780	True Color measured at 450 nm or Apparent Color	1453040, 1453041, 1453042, 1453043, 1453044
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1453040, 1453041, 1453042, 1453043, 1453044
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1453040, 1453041, 1453042, 1453043, 1453044
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1453045, 1453046, 1453047, 1453048, 1453049

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)	09/13/2012	09/13/2012	Hoor Shaik	09/15/2012	S. M. Reddy	1453060, 1453061, 1453062, 1453063, 1453064
EPA 180.1 Rev. 2.0	09/13/2012			09/13/2012 16:53	Bryan A. Werth	1453040, 1453041, 1453042, 1453043, 1453044
EPA 200.7 Rev. 4.4	09/13/2012	09/17/2012	Elliott D. Healy	09/18/2012	Joshua Ayres	1453055, 1453056, 1453057, 1453058, 1453059
	09/13/2012	09/20/2012	Elliott D. Healy	09/21/2012	Joshua Ayres	1453055, 1453056, 1453057, 1453058, 1453059
EPA 200.8 Rev. 5.4	09/13/2012	09/17/2012	Elliott D. Healy	09/18/2012	Charles J. Peterson	1453055, 1453056, 1453057, 1453058, 1453059
EPA 300.0 Rev. 2.1	09/13/2012			09/14/2012	Gary Dearman	1453044
	09/13/2012			09/15/2012	Gary Dearman	1453040, 1453041, 1453042, 1453043
EPA 350.1 Rev. 2.0	09/13/2012			09/14/2012	Peter D. Kaus	1453045, 1453046, 1453047, 1453048, 1453049
EPA 351.2 Rev. 2.0	09/13/2012	09/14/2012	Christopher Armour	09/17/2012	Bryan A. Werth	1453045, 1453046, 1453047, 1453048, 1453049
EPA 353.2 Rev. 2.0	09/13/2012			09/19/2012	Sima Feizi	1453045, 1453046, 1453047, 1453048, 1453049
EPA 365.1 Rev. 2.0	09/13/2012	09/18/2012	Megan E. Faircloth	09/19/2012	Pallavi R. Gadwal	1453048, 1453049
	09/13/2012	09/18/2012	Megan E. Faircloth	09/20/2012	Pallavi R. Gadwal	1453045, 1453046, 1453047
EPA 365.1 Rev. 2.0 dissolved	09/13/2012			09/13/2012 16:00	Pallavi R. Gadwal	1453054
	09/13/2012			09/13/2012 16:13	Pallavi R. Gadwal	1453050
	09/13/2012			09/13/2012 16:14	Pallavi R. Gadwal	1453051
	09/13/2012			09/13/2012 16:18	Pallavi R. Gadwal	1453052
	09/13/2012			09/13/2012 16:19	Pallavi R. Gadwal	1453053
SM 2120 B	09/13/2012			09/13/2012 15:17	Blanca Fach	1453040
	09/13/2012			09/13/2012 15:18	Blanca Fach	1453041, 1453042
	09/13/2012			09/13/2012 15:19	Blanca Fach	1453043
	09/13/2012			09/13/2012 15:20	Blanca Fach	1453044
SM 2320 B-97	09/13/2012			09/19/2012	Dale L. Simmons	1453040, 1453041, 1453042, 1453043, 1453044
SM 2540 C-97	09/13/2012			09/18/2012	Yijie Li	1453040, 1453041, 1453042, 1453043, 1453044
SM 5310 B-00	09/13/2012			09/19/2012	Rochelle Y Jackson	1453045, 1453046, 1453047, 1453048, 1453049