

Chemical Analysis Report

WTRSHD-MGT-2012-09-21-01

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

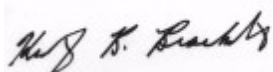
Event Description: **SPRG1207**
Request ID: **RQ-2012-08-27-13**
Customer: **WTRSHD-MGT**
Project ID: **SPG_QTR_WQ**

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: Kathryn Brackett, Environmental Administrator

Date Certified: 10-OCT-2012 09:47



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-2012-09-21-01

Group: Nutrients

Job: TLH-2012-09-21-02

Group: Metals

Job: TLH-2012-09-21-03

Group: Pesticides

Sample Location: 011479**Collection Date/Time: 09/19/2012 02:00 PM****Field ID: MARION SALT SPRINGS****Matrix: W-OTHER**

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1455705	EPA 180.1 Rev. 2.0	Turbidity	0.60		NTU	P244495	
	EPA 300.0 Rev. 2.1	Chloride	1.3E+03		mg Cl/L	P244775	
		Sulfate	340		mg SO4/L	P244781	
	SM 2120 B	Color (true)	2.5	U	PCU	P244467	
	SM 2320 B-97	Alkalinity	65		mg CaCO3/L	P244766	
	SM 2540 C-97	TDS	2.68E+03		mg/L	P244805	
1455708	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P244566	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P244580	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P244742	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P244831	
	SM 5310 B-00	Organic Carbon	0.44	I	mg C/L	P244476	
1455711	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.016		mg P/L	P244425	
1455714	EPA 200.7 Rev. 4.4	Calcium	136		mg/L	P244820	
		Magnesium	81.9		mg/L	P244820	
		Potassium	21.6		mg/L	P244820	
		Sodium	737		mg/L	P244820	
	EPA 200.8 Rev. 5.4	Boron**	258		ug/L	P244961	
1455717	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.010	U	ug/L	P244494	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: One of the matrix spike recoveries is unavailable due to high analyte concentration in the QC sample.

Sample Location: 9670**Collection Date/Time: 09/19/2012 04:51 PM****Field ID: ALEXANDER SPRINGS****Matrix: W-OTHER**

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1455707	EPA 180.1 Rev. 2.0	Turbidity	0.40		NTU	P244496	
	EPA 300.0 Rev. 2.1	Chloride	270		mg Cl/L	P244775	
		Sulfate	70		mg SO4/L	P244781	
	SM 2120 B	Color (true)	2.5	U	PCU	P244467	
	SM 2320 B-97	Alkalinity	83		mg CaCO3/L	P244767	
	SM 2540 C-97	TDS	588		mg/L	P244805	
1455710	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P244566	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P244585	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.041		mg N/L	P244743	
	EPA 365.1 Rev. 2.0	Total-P	0.072		mg P/L	P244831	
	SM 5310 B-00	Organic Carbon	0.41	I	mg C/L	P244713	
1455713	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.047		mg P/L	P244425	
1455716	EPA 200.7 Rev. 4.4	Calcium	48.5		mg/L	P244820	
		Magnesium	22.5		mg/L	P244820	
		Potassium	4.2		mg/L	P244820	
		Sodium	146		mg/L	P244820	
	EPA 200.8 Rev. 5.4	Boron**	54.7		ug/L	P244961	
1455719	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.010	U	ug/L	P244494	

Field ID: ALEXANDER SPRINGS

Matrix: W-OTHER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
Ref. Method and Comment: EPA 300.0 Rev. 2.1: Chloride: One of the matrix spike recoveries is unavailable due to high analyte concentration in the QC sample. EPA 351.2 Rev. 2.0: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.							

Sample Location: 9687

Collection Date/Time: 09/19/2012 03:17 PM

Field ID: SILVER GLEN SPRINGS

Matrix: W-OTHER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1455706	EPA 180.1 Rev. 2.0	Turbidity	0.30		NTU	P244496	
	EPA 300.0 Rev. 2.1	Chloride	340		mg Cl/L	P244775	
		Sulfate	150		mg SO4/L	P244781	
	SM 2120 B	Color (true)	2.5	U	PCU	P244467	
	SM 2320 B-97	Alkalinity	68		mg CaCO3/L	P244767	
	SM 2540 C-97	TDS	812		mg/L	P244805	
1455709	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P244566	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P244575	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.062		mg N/L	P244742	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P244831	
	SM 5310 B-00	Organic Carbon	0.40	U	mg C/L	P244713	
1455712	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.031		mg P/L	P244425	
1455715	EPA 200.7 Rev. 4.4	Calcium	62.5		mg/L	P244820	
		Magnesium	28.8		mg/L	P244820	
		Potassium	6.0		mg/L	P244820	
		Sodium	177		mg/L	P244820	
	EPA 200.8 Rev. 5.4	Boron**	81		ug/L	P244961	
1455718	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.010	U	ug/L	P244494	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Chloride: One of the matrix spike recoveries is unavailable due to high 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: P244494

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P244495

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P244496

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report

Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244820

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P244961

Component	Result	Code	Units
Boron	2.0	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244775

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244781

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P244566

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244575

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244580

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244585

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244742

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: P244743

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244831

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244425

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

Reference Method: SM 2120 B

Batch ID: P244467

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97

Batch ID: P244766

Component	Result	Code	Units
Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2320 B-97

Batch ID: P244767

Component	Result	Code	Units
Alkalinity	0.65	U	mg CaCO3/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: P244476

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

Reference Method: SM 5310 B-00

Batch ID: P244713

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: P244494

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	68.4	67.6	P/P	40 - 130

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244820

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Magnesium	101		P	85 - 115
Potassium	100		P	85 - 115
Sodium	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P244961

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Boron	106		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244775

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244781

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P244566

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244575

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244580

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244585

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244742

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: P244743

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244831

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244425

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.6		P	90 - 110

Reference Method: SM 2320 B-97

Batch ID: P244766

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

Reference Method: SM 2320 B-97

Batch ID: P244767

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Alkalinity	98.7		P	85 - 115

Reference Method: SM 5310 B-00

Batch ID: P244476

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.1		P	85 - 115

Reference Method: SM 5310 B-00

Batch ID: P244713

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

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

Batch ID: P244494

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

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

Batch ID: P244494

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455233	Sucralose	51.6	49.6	P/P	40 - 130

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244820

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455804	Calcium	98.3		P	80 - 120
1455804	Magnesium	101		P	80 - 120
1455804	Potassium	101		P	80 - 120
1455804	Sodium	99.1		P	80 - 120
1456017	Calcium	99.4		P	80 - 120
1456017	Magnesium	105		P	80 - 120
1456017	Potassium	100		P	80 - 120
1456017	Sodium	102		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P244961

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455804	Boron	106	109	P/P	80 - 120
1456017	Boron	107		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244775

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455492	Chloride	96.2	94.7	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244781

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455278	Sulfate	92.8		P	90 - 110
1455492	Sulfate	95.4	93.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P244566

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455857	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244575

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455223	Kjeldahl Nitrogen	97.3	95.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244580

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455497	Kjeldahl Nitrogen	107	107	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244742

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1454041	NO2NO3-N	96.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244743

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455747	NO2NO3-N	98.8	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455751	Total-P	101	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244425

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455712	O-Phosphate-P	93.5	90.7	P/P	90 - 110

Reference Method: SM 5310 B-00

Batch ID: P244476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455708	Organic Carbon	93.8	92.2	P/P	85 - 115

Reference Method: SM 5310 B-00

Batch ID: P244713

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1455560	Organic Carbon	97.8	97.1	P/P	85 - 115

Quality Assurance Report Precision

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

Batch ID: P244494

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455233	Sucralose	3.95	Spike	P	0 - 30
LFB	Sucralose	1.18	LCS	P	0 - 30

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P244495

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455668	Turbidity	4.29	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P244496

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455677	Turbidity	3.30	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P244820

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455804	Calcium	0.740	Sample	P	0 - 20
1455804	Magnesium	0.257	Sample	P	0 - 20
1455804	Potassium	1.83	Sample	P	0 - 20
1455804	Sodium	0.366	Sample	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P244961

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455804	Boron	1.45	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244775

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455492	Chloride	0.731	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P244781

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455492	Sulfate	1.29	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P244566

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455857	Ammonia-N	0.0933	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244575

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455223	Kjeldahl Nitrogen	1.39	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244580

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455497	Kjeldahl Nitrogen	0.233	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P244585

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1454080	Kjeldahl Nitrogen	1.29	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244742

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1454041	NO2NO3-N	0.755	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P244743

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455747	NO2NO3-N	0.952	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P244831

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455751	Total-P	5.88	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P244425

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455712	O-Phosphate-P	2.28	Spike	P	0 - 20

Reference Method: SM 2120 B

Batch ID: P244467

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455735	Color (true)	5.81	Sample	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P244766

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455378	Alkalinity	0.0412	Sample	P	0 - 20
1455492	Alkalinity	2.35	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97

Batch ID: P244767

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455793	Alkalinity	0.0382	Sample	P	0 - 20
1455878	Alkalinity	0.269	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: P244476

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455708	Organic Carbon	1.63	Spike	P	0 - 20

Reference Method: SM 5310 B-00

Batch ID: P244713

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1455560	Organic Carbon	0.510	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: 1455717

Field Sample ID: MARION SALT SPRINGS

Reference Method

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

Surrogate

Sucralose-d6

% Rec.

78.6

Pass/Fail

P

Control Limits

40 - 150

Lab Sample ID: 1455718

Field Sample ID: SILVER GLEN SPRINGS

Reference Method

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

Surrogate

Sucralose-d6

% Rec.

84.0

Pass/Fail

P

Control Limits

40 - 150

Lab Sample ID: 1455719

Field Sample ID: ALEXANDER SPRINGS

Reference Method

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

Surrogate

Sucralose-d6

% Rec.

67.4

Pass/Fail

P

Control Limits

40 - 150

Quality Assurance Report Calibration Verification

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A47078

Included Lab Sample IDs: 1455711, 1455712, 1455713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.5	94.5	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A47090

Included Lab Sample IDs: 1455705, 1455706, 1455707

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	104	101	P/P	85 - 115

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

Run ID: A47097

Included Lab Sample IDs: 1455717, 1455718, 1455719

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	112	99.6	P/P	70 - 140
Sucralose	118	112	P/P	70 - 140

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A47098

Included Lab Sample IDs: 1455705, 1455706, 1455707

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	101	P/P	95 - 105
Turbidity	101	99.5	P/P	95 - 105

Reference Method: SM 5310 B-00

Run ID: A47103

Included Lab Sample IDs: 1455708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	89.9	89.0	P/P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A47127

Included Lab Sample IDs: 1455708, 1455709, 1455710

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.2	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A47131

Included Lab Sample IDs: 1455709

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A47132

Included Lab Sample IDs: 1455708

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A47132

Included Lab Sample IDs: 1455708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.3	94.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A47133

Included Lab Sample IDs: 1455710

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	95.7	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A47186

Included Lab Sample IDs: 1455709, 1455710

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.6	99.8	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A47200

Included Lab Sample IDs: 1455708, 1455709, 1455710

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.6	P/P	90 - 110
NO2NO3-N	99.6	99.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A47208

Included Lab Sample IDs: 1455705, 1455706, 1455707

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Alkalinity	97.0	97.7	P/P	85 - 115
Alkalinity	99.0	97.0	P/P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A47212

Included Lab Sample IDs: 1455705, 1455706, 1455707

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	100	P/P	90 - 110
Chloride	99.9	101	P/P	90 - 110
Sulfate	96.5	98.2	P/P	90 - 110
Sulfate	98.2	96.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A47221

Included Lab Sample IDs: 1455714, 1455715, 1455716

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
SM 2320 B-97	Alkalinity	98.7				0.0382 0.269 0.766	
SM 2540 C-97	TDS						
SM 5310 B-00	Organic Carbon	94.1	93.8	92.2			1.63
	Organic Carbon	97.2	97.8	97.1			0.510

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	1455717, 1455718, 1455719
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1455705, 1455706, 1455707
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1455714, 1455715, 1455716
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1455714, 1455715, 1455716
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1455705, 1455706, 1455707
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1455705, 1455706, 1455707
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1455708, 1455709, 1455710
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1455708, 1455709, 1455710
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1455708, 1455709, 1455710
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1455708, 1455709, 1455710
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1455711, 1455712, 1455713
SM 2120 B / E31780	True Color measured at 450 nm or Apparent Color	1455705, 1455706, 1455707
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1455705, 1455706, 1455707
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1455705, 1455706, 1455707
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1455708, 1455709, 1455710

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	09/21/2012	Fe-Val Siddell	09/22/2012	S. M. Reddy	1455717, 1455718, 1455719
EPA 180.1 Rev. 2.0	09/21/2012			09/21/2012 13:39	Bryan A. Werth	1455705
	09/21/2012			09/21/2012 14:31	Bryan A. Werth	1455706
	09/21/2012			09/21/2012 14:32	Bryan A. Werth	1455707
EPA 200.7 Rev. 4.4	09/21/2012	09/27/2012	Elliott D. Healy	10/01/2012	Joshua Ayres	1455714, 1455715, 1455716
EPA 200.8 Rev. 5.4	09/21/2012	09/27/2012	Elliott D. Healy	10/03/2012	Charles J. Peterson	1455714, 1455715, 1455716
EPA 300.0 Rev. 2.1	09/21/2012			09/27/2012	Gary Dearman	1455705, 1455706, 1455707
EPA 350.1 Rev. 2.0	09/21/2012			09/25/2012	Peter D. Kaus	1455708, 1455709, 1455710
EPA 351.2 Rev. 2.0	09/21/2012	09/24/2012	Christopher Armour	09/25/2012	Bryan A. Werth	1455708, 1455709
	09/21/2012	09/25/2012	Christopher Armour	09/25/2012	Bryan A. Werth	1455710
EPA 353.2 Rev. 2.0	09/21/2012			09/27/2012	Sima Feizi	1455708, 1455709, 1455710
EPA 365.1 Rev. 2.0	09/21/2012	09/27/2012	Megan E. Faircloth	09/28/2012	Megan E. Faircloth	1455708, 1455709, 1455710
EPA 365.1 Rev. 2.0 dissolved	09/21/2012			09/21/2012 12:16	Megan E. Faircloth	1455712
	09/21/2012			09/21/2012 12:19	Megan E. Faircloth	1455711
	09/21/2012			09/21/2012 12:20	Megan E. Faircloth	1455713
SM 2120 B	09/21/2012			09/21/2012 11:32	Blanca Fach	1455705
	09/21/2012			09/21/2012 11:33	Blanca Fach	1455706
	09/21/2012			09/21/2012 11:34	Blanca Fach	1455707
SM 2320 B-97	09/21/2012			09/28/2012	Dale L. Simmons	1455705, 1455706, 1455707
SM 2540 C-97	09/21/2012			09/25/2012	Yijie Li	1455705, 1455706, 1455707
SM 5310 B-00	09/21/2012			09/21/2012	Dale L. Simmons	1455708
	09/21/2012			09/27/2012	Dale L. Simmons	1455709, 1455710