

Chemical Analysis Report

WTRSHD-MGT-2012-03-16-01

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

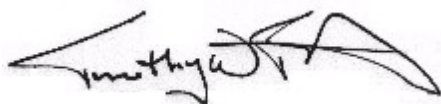
Event Description: **SPRG1201**
Request ID: **RQ-2012-03-12-18**
Customer: **WTRSHD-MGT**
Project ID: **SPG_QTR_WQ**

Send Reports to:
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Certified by: Timothy Fitzpatrick, Program Administrator

Date Certified: 30-MAR-2012 16:25

A handwritten signature in black ink, appearing to read "Timothy W. 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.

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).

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-2012-03-16-05

Job: TLH-2012-03-16-06

Job: TLH-2012-03-16-07

Group: Nutrients

Group: Metals

Group: Pesticides

Sample Location: CYPRESS SPRING**Collection Date/Time: 03/15/2012 01:27 PM****Field ID: CYPRESS SPRING****Matrix: W-SURF-FRH**

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1415723	EPA 180.1 Rev. 2.0	Turbidity	0.30		NTU	P237379	
	EPA 300.0 Rev. 2.1	Chloride	3.5		mg Cl/L	P237826	
		Sulfate	1.2		mg SO4/L	P237827	
	SM 2120 B	Color (true)	2.5	U	PCU	P237448	
	SM 2320 B-97	Alkalinity	107	A	mg CaCO3/L	P237700	
	SM 2540 C-97	TDS	121		mg/L	P237795	
1415726	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P237478	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P237718	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.46		mg N/L	P237560	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P237683	
	SM 5310 B-00	Organic Carbon	1.0	U	mg C/L	P237667	
1415729	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P237414	
1415732	EPA 200.7 Rev. 4.4	Boron	15	U	ug/L	P237746	
		Calcium	36.5		mg/L	P237746	
		Magnesium	5.40		mg/L	P237746	
		Potassium	0.43	I	mg/L	P237746	
		Sodium	2.5		mg/L	P237746	
1415735	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.0094	U	ug/L	P237545	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: The calcium matrix spike recoveries are unavailable due to high analyte concentration in the QC sample.

Sample Location: GAINER #1C SPRING**Collection Date/Time: 03/15/2012 11:45 AM****Field ID: GAINER #1C SPRING****Matrix: W-SURF-FRH**

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1415722	EPA 180.1 Rev. 2.0	Turbidity	0.35		NTU	P237379	
	EPA 300.0 Rev. 2.1	Chloride	3.1		mg Cl/L	P237826	
		Sulfate	2.8		mg SO4/L	P237827	
	SM 2120 B	Color (true)	2.5	U	PCU	P237448	
	SM 2320 B-97	Alkalinity	70		mg CaCO3/L	P237700	
	SM 2540 C-97	TDS	79		mg/L	P237795	
1415725	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P237478	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	I	mg N/L	P237718	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P237560	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P237683	
	SM 5310 B-00	Organic Carbon	1.0	U	mg C/L	P237667	
1415728	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.014		mg P/L	P237414	
1415731	EPA 200.7 Rev. 4.4	Boron	15	U	ug/L	P237746	
		Calcium	25.1		mg/L	P237746	
		Magnesium	3.18		mg/L	P237746	
		Potassium	0.38	I	mg/L	P237746	
		Sodium	1.7	I	mg/L	P237746	
1415734	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.0095	U	ug/L	P237545	

Field ID: GAINER #1C SPRING

Matrix: W-SURF-FRH

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

EPA 200.7 Rev. 4.4: The calcium matrix spike recoveries are unavailable due to high analyte concentration in the QC sample.

Sample Location: MORRISON SPRING**Collection Date/Time: 03/15/2012 04:20 PM****Field ID: MORRISON SPRING**

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1415724	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P237379	
	EPA 300.0 Rev. 2.1	Chloride	2.8		mg Cl/L	P237826	
		Sulfate	3.4		mg SO4/L	P237827	
	SM 2120 B	Color (true)	2.5	U	PCU	P237448	
	SM 2320 B-97	Alkalinity	111		mg CaCO3/L	P237700	
	SM 2540 C-97	TDS	116		mg/L	P237795	
1415727	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P237478	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.093	I	mg N/L	P237718	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17		mg N/L	P237560	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P237683	
	SM 5310 B-00	Organic Carbon	1.0	U	mg C/L	P237667	
1415730	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.022		mg P/L	P237414	
1415733	EPA 200.7 Rev. 4.4	Boron	15	U	ug/L	P237746	
		Calcium	33.2		mg/L	P237746	
		Magnesium	8.66		mg/L	P237746	
		Potassium	0.59	I	mg/L	P237746	
		Sodium	1.6	I	mg/L	P237746	
1415736	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.0094	U	ug/L	P237545	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: The calcium matrix spike recoveries are 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: P237545**

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 180.1 Rev. 2.0**Batch ID: P237379**

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4**Batch ID: P237746**

Component	Result	Code	Units
Boron	15	U	ug/L
Calcium	0.075	U	mg/L
Magnesium	0.040	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P237746

Component	Result	Code	Units
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P237826

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P237827

Component	Result	Code	Units
Sulfate	0.20	U	mg SO ₄ /L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P237478

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P237718

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P237560

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P237683

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P237414

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

Reference Method: SM 2120 B

Batch ID: P237448

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97

Batch ID: P237700

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

Reference Method: SM 2540 C-97

Batch ID: P237795

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 5310 B-00

Batch ID: P237667

Component	Result	Code	Units
Organic Carbon	1.0	U	mg C/L

Quality Assurance Report

Laboratory Control Sample Accuracy

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

Batch ID: P237545

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	77.6	87.7	P/P	40 - 130

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P237746

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Boron	97.9		P	85 - 115
Calcium	103		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	103		P	85 - 115
Sodium	100		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P237826

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P237827

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P237478

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P237718

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P237560

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P237683

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P237414

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

Reference Method: SM 2320 B-97

Batch ID: P237700

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

Reference Method: SM 5310 B-00

Batch ID: P237667

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

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

Batch ID: P237545

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1415675	Sucralose	71.0	73.7	P/P	40 - 130

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P237746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1414312	Boron	102	102	P/P	80 - 120
1414312	Magnesium	99.5		P	80 - 120
1414312	Potassium	104	99.8	P/P	80 - 120
1414312	Sodium	101		P	80 - 120

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P237826

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1415665	Chloride	102		P	90 - 110
1415787	Chloride	101	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P237827

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1415665	Sulfate	95.1		P	90 - 110
1415787	Sulfate	98.1	97.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P237478

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1415727	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P237718

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1415750	Kjeldahl Nitrogen	97.7	97.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P237560

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1415752	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P237683

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1415705	Total-P	104	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P237414

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1415710	O-Phosphate-P	95.9	99.2	P/P	90 - 110

Reference Method: SM 5310 B-00

Batch ID: P237667

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1415481	Organic Carbon	99.2	99.6	P/P	85 - 115

Quality Assurance Report

Precision

Quality Assurance Report Precision

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

Batch ID: P237545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1415675	Sucralose	1.98	Spike	P	0 - 40
LFB	Sucralose	12.2	LCS	P	0 - 40

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P237379

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1415692	Turbidity	3.50	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P237746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1414312	Boron	0.249	Spike	P	0 - 20
1414312	Calcium	0.325	Sample	P	0 - 20
1414312	Magnesium	0.959	Sample	P	0 - 20
1414312	Potassium	3.71	Spike	P	0 - 20
1414312	Sodium	0.460	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P237826

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1415787	Chloride	0.188	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P237827

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1415787	Sulfate	0.709	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P237478

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1415727	Ammonia-N	0.994	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P237718

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1415750	Kjeldahl Nitrogen	0.605	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P237560

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1415752	NO2NO3-N	0.358	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P237683

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1415705	Total-P	1.09	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P237414

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1415710	O-Phosphate-P	3.21	Spike	P	0 - 20

Reference Method: SM 2120 B

Batch ID: P237448

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1415692	Color (true)	1.38	Sample	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P237700

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1415723	Alkalinity	0.325	Sample	P	0 - 20
1415888	Alkalinity	0.290	Sample	P	0 - 20

Reference Method: SM 2540 C-97

Batch ID: P237795

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1415747	TDS	0.778	Sample	P	0 - 10

Reference Method: SM 5310 B-00

Batch ID: P237667

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1415481	Organic Carbon	0.257	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

Quality Assurance Report Surrogates

Lab Sample ID: 1415734

Field Sample ID: GAINER #1C SPRING

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose-d6	63.6	P	40 - 150

Lab Sample ID: 1415735

Field Sample ID: CYPRESS SPRING

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose-d6	57.6	P	40 - 150

Lab Sample ID: 1415736

Field Sample ID: MORRISON SPRING

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose-d6	65.1	P	40 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A44111

Included Lab Sample IDs: 1415722, 1415723, 1415724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A44122

Included Lab Sample IDs: 1415728, 1415729, 1415730

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	98.0	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A44136

Included Lab Sample IDs: 1415722, 1415723, 1415724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.8	P/P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A44149

Included Lab Sample IDs: 1415725, 1415726, 1415727

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.0	98.8	P/P	90 - 110
Ammonia-N	98.8	99.4	P/P	90 - 110

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

Run ID: A44170

Included Lab Sample IDs: 1415734, 1415735, 1415736

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

Calibration Verification

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

Run ID: A44170

Included Lab Sample IDs: 1415734, 1415735, 1415736

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	123	115	P/P	70 - 140
Sucralose	135	123	P/P	70 - 140

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A44182

Included Lab Sample IDs: 1415725, 1415726, 1415727

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A44220

Included Lab Sample IDs: 1415725, 1415726, 1415727

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	103	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A44231

Included Lab Sample IDs: 1415725, 1415726, 1415727

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	98.9	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A44243

Included Lab Sample IDs: 1415722, 1415723, 1415724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Alkalinity	98.5	102	P/P	85 - 115

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A44257

Included Lab Sample IDs: 1415725, 1415726, 1415727

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.9	97.9	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A44265

Included Lab Sample IDs: 1415731, 1415732, 1415733

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	97.8	98.9	P/P	90 - 110
Calcium	101	104	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Potassium	101	102	P/P	90 - 110
Sodium	98.8	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A44300

Included Lab Sample IDs: 1415722, 1415723, 1415724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.2	97.6	P/P	90 - 110
Sulfate	96.6	95.3	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		LCS	Precision SMP	MS
DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose	77.6	87.7	71.0	73.7	12.2		1.98
EPA 180.1 Rev. 2.0	Turbidity						3.50	
EPA 200.7 Rev. 4.4	Boron	97.9		102	102			0.249
	Calcium	103					0.325	
	Magnesium	102		99.5			0.959	
	Potassium	103		104	99.8			3.71
	Sodium	100		101			0.460	
EPA 300.0 Rev. 2.1	Chloride	103		101	101	102		0.188
	Sulfate	97.4		98.1	97.1	95.1		0.709
EPA 350.1 Rev. 2.0	Ammonia-N	101		100	101			0.994
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100		97.7	97.0			0.605
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102		101	101			0.358
EPA 365.1 Rev. 2.0	Total-P	100		104	102			1.09
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.0		95.9	99.2			3.21
SM 2120 B	Color (true)						1.38	
SM 2320 B-97	Alkalinity	103					0.325	
							0.290	
SM 2540 C-97	TDS						0.778	
SM 5310 B-00	Organic Carbon	98.0		99.2	99.6			0.257

Reference Method Descriptions

Method / NELAC Cert. #	Description
DEP SOP: LC-001-2 (based on EPA 8321B) / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L
SM 2120 B / E31780	True Color measured at 450 nm or Apparent Color
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L

Reference Method Descriptions

Method / NELAC Cert. #

SM 2540 C-97 / E31780

SM 5310 B-00 / E31780

Description

Total Dissolved Solids in aqueous matrices

Nonpurgeable Organic Carbon in aqueous matrices

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)	03/16/2012	03/20/2012	Hoor Shaik	03/21/2012	S. M. Reddy	1415734, 1415735, 1415736
EPA 180.1 Rev. 2.0	03/16/2012			03/16/2012 15:05	Bryan A. Werth	1415722, 1415723, 1415724
EPA 200.7 Rev. 4.4	03/16/2012	03/22/2012	Elliott D. Healy	03/26/2012	Joshua Ayres	1415731, 1415732, 1415733
EPA 300.0 Rev. 2.1	03/16/2012			03/23/2012	Gary Dearman	1415722, 1415723, 1415724
EPA 350.1 Rev. 2.0	03/16/2012			03/20/2012	Diana M. Dunbar	1415725, 1415726, 1415727
EPA 351.2 Rev. 2.0	03/16/2012	03/22/2012	Bryan A. Werth	03/23/2012	Christopher Armour	1415725, 1415726, 1415727
EPA 353.2 Rev. 2.0	03/16/2012			03/20/2012	Peter D. Kaus	1415725, 1415726, 1415727
EPA 365.1 Rev. 2.0	03/16/2012	03/22/2012	Pallavi R. Gadwal	03/23/2012	Megan E. Faircloth	1415725, 1415726, 1415727
EPA 365.1 Rev. 2.0 dissolved	03/16/2012			03/16/2012 15:35	Pallavi R. Gadwal	1415728
	03/16/2012			03/16/2012 15:36	Pallavi R. Gadwal	1415729
	03/16/2012			03/16/2012 15:37	Pallavi R. Gadwal	1415730
SM 2120 B	03/16/2012			03/16/2012 14:53	Blanca Fach	1415722
	03/16/2012			03/16/2012 14:54	Blanca Fach	1415723
	03/16/2012			03/16/2012 14:55	Blanca Fach	1415724
SM 2320 B-97	03/16/2012			03/23/2012	Rochelle Y Jackson	1415722, 1415723, 1415724
SM 2540 C-97	03/16/2012			03/21/2012	Ping Hua	1415722, 1415723, 1415724
SM 5310 B-00	03/16/2012			03/22/2012	Dale L. Simmons	1415725, 1415726
	03/16/2012			03/23/2012	Dale L. Simmons	1415727