

Chemical Analysis Report

WTRSHD-MGT-2012-01-18-01

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

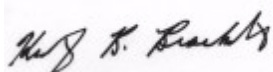
Event Description: **SPRG1201**
Request ID: **RQ-2012-01-09-31**
Customer: **WTRSHD-MGT**
Project ID: **SPG_QTR_WQ**

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

For additional information please contact
Timothy W. Fitzpatrick
Liang-Tsair Lin, Ph.D.
Colin Wright, Ph.D.
Kathryn Brackett
Thekkekalathil Chandrasekhar, PhD, QA Officer
Phone (850) 245-8085

Certified by: Kathryn Brackett, Environmental Administrator

Date Certified: 08-FEB-2012 09:21



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-2012-01-18-21

Group: Nutrients

Job: TLH-2012-01-18-22

Group: Metals

Job: TLH-2012-01-18-23

Group: Pesticides

Sample Location: 9677**Collection Date/Time: 01/17/2012 03:45 PM****Field ID: DEVIL'S EAR SPRING****Matrix: W-SURF-FRH**

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1402571	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P235065	
	EPA 300.0 Rev. 2.1	Chloride	8.1		mg Cl/L	P235276	
		Sulfate	15		mg SO4/L	P235285	
	SM 2120 B	Color (true)	2.5	U	PCU	P235069	
	SM 2320 B-97	Alkalinity	182		mg CaCO3/L	P235318	
	SM 2540 C-97	TDS	214	A	mg/L	P235363	
1402573	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P235129	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P235270	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.6		mg N/L	P235114	
	EPA 365.1 Rev. 2.0	Total-P	0.042		mg P/L	P235330	
	SM 5310 B-00	Organic Carbon	1.0	U	mg C/L	P235226	
1402575	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.041		mg P/L	P235089	
1402577	EPA 200.7 Rev. 4.4	Boron	17	I	ug/L	P235386	
		Calcium	68.7		mg/L	P235386	
		Magnesium	7.11		mg/L	P235386	
		Potassium	0.59	I	mg/L	P235386	
		Sodium	4.1		mg/L	P235386	
1402579	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.041	I	ug/L	P235527	

Ref. Method and Comment:

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

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

Sample Location: 9713**Collection Date/Time: 01/17/2012 01:47 PM****Field ID: ICHETUCKNEE SPRING MAIN****Matrix: W-SURF-FRH**

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1402570	EPA 180.1 Rev. 2.0	Turbidity	0.30		NTU	P235065	
	EPA 300.0 Rev. 2.1	Chloride	4.4		mg Cl/L	P235276	
		Sulfate	7.9		mg SO4/L	P235285	
	SM 2120 B	Color (true)	2.5	U	PCU	P235069	
	SM 2320 B-97	Alkalinity	155		mg CaCO3/L	P235318	
	SM 2540 C-97	TDS	167		mg/L	P235362	
1402572	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P235128	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.097	I	mg N/L	P235269	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.89		mg N/L	P235112	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P235330	
	SM 5310 B-00	Organic Carbon	1.0	U	mg C/L	P235226	
1402574	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.023		mg P/L	P235089	
1402576	EPA 200.7 Rev. 4.4	Boron	15	U	ug/L	P235386	
		Calcium	56.1		mg/L	P235386	
		Magnesium	5.92		mg/L	P235386	
		Potassium	0.30	U	mg/L	P235386	
		Sodium	2.3		mg/L	P235386	

Field ID: ICHETUCKNEE SPRING MAIN

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
1402578	DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose**	0.0099	U	ug/L	P235527	

Ref. Method and Comment:

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

DEP SOP: LC-001-2 (based on EPA 8321B): Matrix spike accuracy and precision 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: P235527

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P235065

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P235386

Component	Result	Code	Units
Boron	15	U	ug/L
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 300.0 Rev. 2.1

Batch ID: P235276

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P235285

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P235128

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P235129

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P235269

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P235270

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P235112

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P235114

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: P235330

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P235089

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

Reference Method: SM 2120 B

Batch ID: P235069

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97

Batch ID: P235318

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

Reference Method: SM 2540 C-97

Batch ID: P235362

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-97

Batch ID: P235363

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 5310 B-00

Batch ID: P235226

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: P235527

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	76.6	68.9	P/P	40 - 130

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P235386

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Boron	103		P	85 - 115
Calcium	98.8		P	85 - 115
Magnesium	98.7		P	85 - 115
Potassium	103		P	85 - 115
Sodium	96.8		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P235276

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P235285

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	91.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P235128

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P235129

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P235269

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P235270

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P235112

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P235114

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: P235330

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: P235089

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

Reference Method: SM 2320 B-97

Batch ID: P235318

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

Reference Method: SM 5310 B-00

Batch ID: P235226

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P235386

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

Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P235386

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1401529	Boron	107	107	P/P	80 - 120
1401529	Calcium	101		P	80 - 120
1401529	Magnesium	101		P	80 - 120
1401529	Potassium	101	103	P/P	80 - 120
1401529	Sodium	98.7		P	80 - 120
1401679	Boron	106		P	80 - 120
1401679	Calcium	98.2		P	80 - 120
1401679	Magnesium	95.2		P	80 - 120
1401679	Potassium	102		P	80 - 120
1401679	Sodium	96.0		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P235276

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1402570	Chloride	98.6	96.3	P/P	90 - 110
1402653	Chloride	95.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P235285

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1402570	Sulfate	92.7	93.3	P/P	90 - 110
1402653	Sulfate	92.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P235128

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1402557	Ammonia-N	102	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P235129

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1402616	Ammonia-N	103	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P235269

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1402556	Kjeldahl Nitrogen	97.3	93.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P235270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1402573	Kjeldahl Nitrogen	92.1	92.1	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P235112

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1402556	NO2NO3-N	98.5	97.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P235114

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1402594	NO2NO3-N	98.0	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P235330

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1401948	Total-P	100	97.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P235089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1402554	O-Phosphate-P	94.1	95.7	P/P	90 - 110

Reference Method: SM 5310 B-00

Batch ID: P235226

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1402572	Organic Carbon	101	98.4	P/P	85 - 115

Quality Assurance Report

Precision

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

Batch ID: P235527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Sucralose	10.6	LCS	P	0 - 30

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P235065

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1402521	Turbidity	1.26	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P235386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1401529	Boron	0.789	Spike	P	0 - 20
1401529	Calcium	1.50	Sample	P	0 - 20
1401529	Magnesium	2.27	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P235386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1401529	Potassium	0.643	Sample	P	0 - 20
1401529	Sodium	1.47	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P235276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1402570	Chloride	2.05	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P235285

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1402570	Sulfate	0.476	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P235128

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1402557	Ammonia-N	0.972	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P235129

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1402616	Ammonia-N	1.29	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P235269

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1402556	Kjeldahl Nitrogen	4.24	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P235270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1402573	Kjeldahl Nitrogen	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P235112

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1402556	NO2NO3-N	1.02	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P235114

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1402594	NO2NO3-N	0.512	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P235330

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1401948	Total-P	2.18	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P235089

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1402554	O-Phosphate-P	1.53	Spike	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P235318

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1402457	Alkalinity	0.175	Sample	P	0 - 20
1402521	Alkalinity	1.10	Sample	P	0 - 20

Reference Method: SM 2540 C-97

Batch ID: P235362

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1403156	TDS	0.964	Sample	P	0 - 10

Reference Method: SM 2540 C-97

Batch ID: P235363

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1402571	TDS	0.466	Sample	P	0 - 10

Reference Method: SM 5310 B-00

Batch ID: P235226

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1402572	Organic Carbon	2.71	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: 1402578

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	75.8	P	40 - 150

Lab Sample ID: 1402579

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	62.2	P	40 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A43110

Included Lab Sample IDs: 1402570, 1402571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A43111

Included Lab Sample IDs: 1402570, 1402571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	95.5	96.1	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A43123

Included Lab Sample IDs: 1402574, 1402575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	93.4	92.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A43126

Included Lab Sample IDs: 1402572, 1402573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	103	P/P	90 - 110
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A43137

Included Lab Sample IDs: 1402572, 1402573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	99.2	P/P	90 - 110
Ammonia-N	99.2	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A43180

Included Lab Sample IDs: 1402572, 1402573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	96.0	P/P	85 - 115

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

Run ID: A43184

Included Lab Sample IDs: 1402578, 1402579

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	86.6	95.9	P/P	70 - 140

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A43191

Included Lab Sample IDs: 1402572, 1402573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.5	103	P/P	90 - 110
Kjeldahl Nitrogen	99.5	105	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A43199

Included Lab Sample IDs: 1402570, 1402571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	107	P/P	90 - 110
Chloride	107	105	P/P	90 - 110
Sulfate	94.4	100	P/P	90 - 110
Sulfate	100	94.1	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A43213

Included Lab Sample IDs: 1402570, 1402571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Alkalinity	99.6	98.6	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A43217

Included Lab Sample IDs: 1402572, 1402573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.9	97.1	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A43245

Included Lab Sample IDs: 1402576, 1402577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	98.4	97.2	P/P	90 - 110
Calcium	98.3	99.0	P/P	90 - 110
Magnesium	99.0	99.0	P/P	90 - 110
Potassium	101	100	P/P	90 - 110
Sodium	95.4	95.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision		
							LCS	SMP	MS
DEP SOP: LC-001-2 (based on EPA 8321B)	Sucralose	76.6	68.9				10.6		
EPA 180.1 Rev. 2.0	Turbidity							1.26	
EPA 200.7 Rev. 4.4	Boron	103		107	107	106			0.789
	Calcium	98.8		101	98.2			1.50	
	Magnesium	98.7		101	95.2			2.27	
	Potassium	103		101	103	102		0.643	
	Sodium	96.8		98.7	96.0			1.47	
EPA 300.0 Rev. 2.1	Chloride	95.8		98.6	96.3	95.3			2.05
	Sulfate	91.5		92.7	93.3	92.4			0.476
EPA 350.1 Rev. 2.0	Ammonia-N	100		102	104				0.972
	Ammonia-N	99.6		103	105				1.29
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.1		97.3	93.2				4.24
	Kjeldahl Nitrogen	96.5		92.1	92.1				0.0
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0		98.5	97.5				1.02
	NO2NO3-N	100		98.0	97.5				0.512
EPA 365.1 Rev. 2.0	Total-P	100		100	97.7				2.18
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.4		94.1	95.7				1.53
SM 2320 B-97	Alkalinity	99.4						0.175	1.10
SM 2540 C-97	TDS							0.964	
	TDS							0.466	
SM 5310 B-00	Organic Carbon	96.4		101	98.4				2.71

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
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices
SM 5310 B-00 / E31780	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)	01/18/2012	01/18/2012	Hoor Shaik	01/20/2012	S. M. Reddy	1402578, 1402579
EPA 180.1 Rev. 2.0	01/18/2012			01/18/2012 16:00	Blanca Fach	1402570, 1402571
EPA 200.7 Rev. 4.4	01/18/2012	01/19/2012	Elliott D. Healy	01/24/2012	Elisa J Lutz	1402576, 1402577
EPA 300.0 Rev. 2.1	01/18/2012			01/20/2012	Ping Hua	1402570, 1402571
EPA 350.1 Rev. 2.0	01/18/2012			01/19/2012	Diana M. Dunbar	1402572, 1402573
EPA 351.2 Rev. 2.0	01/18/2012	01/20/2012	Bryan A. Werth	01/23/2012	Pallavi R. Gadwal	1402572, 1402573
EPA 353.2 Rev. 2.0	01/18/2012			01/19/2012	Sima Feizi	1402572, 1402573
EPA 365.1 Rev. 2.0	01/18/2012	01/19/2012	Pallavi R. Gadwal	01/25/2012	Pallavi R. Gadwal	1402572, 1402573
EPA 365.1 Rev. 2.0 dissolved	01/18/2012			01/18/2012 17:24	Pallavi R. Gadwal	1402574
	01/18/2012			01/18/2012 17:25	Pallavi R. Gadwal	1402575
SM 2120 B	01/18/2012			01/18/2012 14:46	Rochelle Y Jackson	1402570
	01/18/2012			01/18/2012 14:47	Rochelle Y Jackson	1402571
SM 2320 B-97	01/18/2012			01/24/2012	Dale L. Simmons	1402570, 1402571
SM 2540 C-97	01/18/2012			01/20/2012	Yijie Li	1402570, 1402571
SM 5310 B-00	01/18/2012			01/23/2012	Rochelle Y Jackson	1402572, 1402573