Chemical Analysis Report

NE-DIST-2017-03-28-01

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

Event Description: **Jerry, Rocky , Ichetucknee SCI's, Peacock lake**
Request ID: **RQ-2017-03-27-08**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
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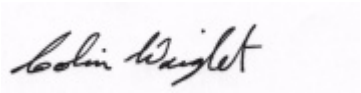
Certified by: Colin Wright, Program Administrator

Date Certified: 24-APR-2017 11:42



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Nutrients.

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.

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.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

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 and/or the analysis did not meet established quality control criteria.
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).

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.

Sample Location: ROCKY CR. @ CR 136 **Collection Date/Time: 03/27/2017 12:00**

Field ID: G1NE023403272017 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1883693	EPA 180.1 Rev. 2.0	Turbidity	4.3		NTU	P322450	
	EPA 300.0 Rev. 2.1	Chloride	12	A	mg Cl/L	P322945	
		Sulfate	0.95		mg SO4/L	P323743	
	SM 2120 B	Color (true)	370		PCU	P322334	
	SM 2320 B-97	Total Alkalinity	9.6		mg CaCO3/L	P322802	
	SM 2540 C-97	TDS	89		mg/L	P322946	
	SM 2540 D-97	TSS	6	I	mg/L	P322696	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P323008	
1883696	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P322421	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P322353	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P322473	
	EPA 365.1 Rev. 2.0	Total-P	0.57		mg P/L	P322394	
	SM 5310 B-00	Organic Carbon	27		mg C/L	P322430	
1883699	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.44		mg P/L	P322361	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: ROCKY CR. @ CR 136 DUPLICATE **Collection Date/Time: 03/27/2017 12:15**

Field ID: G1NE023403272017 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1883694	EPA 180.1 Rev. 2.0	Turbidity	4.8		NTU	P322450	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P322945	
		Sulfate	0.99		mg SO4/L	P323743	
	SM 2120 B	Color (true)	370		PCU	P322334	
	SM 2320 B-97	Total Alkalinity	9.4		mg CaCO3/L	P322802	
	SM 2540 C-97	TDS	87		mg/L	P322946	
	SM 2540 D-97	TSS	6	I	mg/L	P322696	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P323008	
1883697	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P322421	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P322353	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P322473	
	EPA 365.1 Rev. 2.0	Total-P	0.59		mg P/L	P322394	
	SM 5310 B-00	Organic Carbon	27		mg C/L	P322430	
1883700	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.44		mg P/L	P322361	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: PEACOCK LAKE CENTER **Collection Date/Time: 03/27/2017 14:50**

Field ID: G1NE041703272017 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1883695	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P322450	
	EPA 300.0 Rev. 2.1	Chloride	8.1		mg Cl/L	P323117	
		Sulfate	4.3		mg SO4/L	P323120	

Field ID: G1NE041703272017 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1883695	SM 2120 B	Color (true)	47		PCU	P322338	
	SM 2320 B-97	Total Alkalinity	7.8		mg CaCO3/L	P322802	
	SM 2540 C-97	TDS	45		mg/L	P322946	
	SM 2540 D-97	TSS	18		mg/L	P322696	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P323008	
1883698	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P322421	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P322353	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P322473	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P322394	
	SM 5310 B-00	Organic Carbon	8.6		mg C/L	P322430	
1883701	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.060		mg P/L	P322361	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P322450

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322945

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323117

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323120

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323743

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322421

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322353

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322473

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322394

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322361

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

Reference Method: SM 2120 B
Batch ID: P322334

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P322338

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P322802

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-97
Batch ID: P322946

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P322696

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P323008

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P322430

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322945

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323117

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323120

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	94.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323743

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322421

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322353

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322473

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322473

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322394

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322361

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

Reference Method: SM 2320 B-97
Batch ID: P322802

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P323008

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P322430

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.9		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322945

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1883693	Chloride	98.9		P	90 - 110
1883694	Chloride	98.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1883912	Chloride	98.7		P	90 - 110
1884041	Chloride	98.2		P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1883912	Sulfate	94.3		P	90 - 110
1884041	Sulfate	94.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323743

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1887532	Sulfate	98.3		P	90 - 110
1887533	Sulfate	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322421

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1883465	Ammonia-N	100	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322353

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1883716	Kjeldahl Nitrogen	102	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322473

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1883698	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322394

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1883575	Total-P	106	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322361

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1883579	O-Phosphate-P	95.9	97.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P323008

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1883034	Fluoride	98.8	99.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P322430

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1883696	Organic Carbon	105		P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P322450

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883467	Turbidity	0.980	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322945

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883693	Chloride	0.683	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884041	Chloride	0.279	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323120

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884041	Sulfate	0.174	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323743

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887532	Sulfate	2.90	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322421

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883465	Ammonia-N	0.0358	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322353

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883716	Kjeldahl Nitrogen	2.23	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322473

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883698	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322394

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883575	Total-P	2.12	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883579	O-Phosphate-P	1.39	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P322334

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883637	Color (true)	4.00	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P322338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883467	Color (true)	2.22	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P322802

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883034	Total Alkalinity	3.74	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P322946

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883464	TDS	0.414	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P323008

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883034	Fluoride	0.506	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P322430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883696	Organic Carbon	1.23	Spike	P	0 - 20

Quality Assurance Report
Precision

* 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
Calibration Verification

Reference Method: SM 2120 B
Run ID: A75415
Included Lab Sample IDs: 1883693, 1883694, 1883695

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	85 - 115
Color (true)	102	103	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A75424
Included Lab Sample IDs: 1883699, 1883700, 1883701

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	97.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A75437
Included Lab Sample IDs: 1883696, 1883697, 1883698

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

Reference Method: SM 5310 B-00
Run ID: A75441
Included Lab Sample IDs: 1883696, 1883697, 1883698

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.2	95.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A75454
Included Lab Sample IDs: 1883693, 1883694, 1883695

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
Run ID: A75458
Included Lab Sample IDs: 1883696, 1883697, 1883698

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A75463
Included Lab Sample IDs: 1883696, 1883697, 1883698

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A75469
Included Lab Sample IDs: 1883696, 1883697, 1883698

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

Reference Method: SM 2320 B-97
Run ID: A75578
Included Lab Sample IDs: 1883693, 1883694, 1883695

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	104	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A75640
Included Lab Sample IDs: 1883693, 1883694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.7	97.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A75665
Included Lab Sample IDs: 1883693, 1883694, 1883695

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A75723
Included Lab Sample IDs: 1883695

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.3	98.9	P/P	90 - 110
Sulfate	94.6	97.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A75903
Included Lab Sample IDs: 1883693, 1883694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	93.9	99.1	P/P	90 - 110
Sulfate	97.3	96.2	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
EPA 180.1 Rev. 2.0	Turbidity				0.980	

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 300.0 Rev. 2.1	Chloride	97.5	98.9	98.5		0.683	
	Chloride	96.6	98.2	98.7		0.279	
	Sulfate	94.9	94.4	94.3		0.174	
	Sulfate	98.0	98.3	96.9		2.90	
EPA 350.1 Rev. 2.0	Ammonia-N	98.7	100	100			0.0358
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	102	98.2			2.23
EPA 353.2 Rev. 2.0	NO2NO3-N	101	100	100			0.0
EPA 365.1 Rev. 2.0	Total-P	109	106	104			2.12
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	95.9	97.4			1.39
SM 2120 B	Color (true)					4.00	
	Color (true)					2.22	
SM 2320 B-97	Total Alkalinity	104				3.74	
SM 2540 C-97	TDS					0.414	
SM 4500 F-C-97	Fluoride	97.4	98.8	99.6			0.506
SM 5310 B-00	Organic Carbon	97.9	105				1.23

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1883693, 1883694, 1883695
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1883693, 1883694, 1883695
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1883693, 1883694, 1883695
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1883696, 1883697, 1883698
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1883696, 1883697, 1883698
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1883696, 1883697, 1883698
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1883696, 1883697, 1883698
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1883699, 1883700, 1883701
SM 2120 B / E31780	True Color measured at 450 nm	1883693, 1883694, 1883695
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1883693, 1883694, 1883695
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1883693, 1883694, 1883695
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1883693, 1883694, 1883695
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1883693, 1883694, 1883695
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1883696, 1883697, 1883698

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	03/28/2017			03/28/2017 16:08	Blanca Fach	1883693, 1883694, 1883695
EPA 300.0 Rev. 2.1	03/28/2017			04/06/2017	Ping Hua	1883693, 1883694
	03/28/2017			04/10/2017	Ping Hua	1883695
	03/28/2017			04/19/2017	Ping Hua	1883693
	03/28/2017			04/20/2017	Ping Hua	1883694
EPA 350.1 Rev. 2.0	03/28/2017			03/29/2017	Julie Michelle Frank	1883696, 1883697, 1883698
EPA 351.2 Rev. 2.0	03/28/2017	03/29/2017	Adrian Shelby	03/30/2017	Joseph Suarez	1883696, 1883697, 1883698
EPA 353.2 Rev. 2.0	03/28/2017			03/30/2017	Beverly Y. Sanders	1883696, 1883697, 1883698
EPA 365.1 Rev. 2.0	03/28/2017	03/29/2017	Vijayalakshmi Reddy	03/30/2017	Christopher Armour	1883696, 1883697, 1883698
EPA 365.1 Rev. 2.0 dissolved	03/28/2017			03/28/2017 15:19	Virginia P. Brown	1883701
	03/28/2017			03/28/2017 15:22	Virginia P. Brown	1883699
	03/28/2017			03/28/2017 15:23	Virginia P. Brown	1883700
SM 2120 B	03/28/2017			03/28/2017 15:56	Julie Michelle Frank	1883693
	03/28/2017			03/28/2017 15:57	Julie Michelle Frank	1883694
	03/28/2017			03/28/2017 16:14	Julie Michelle Frank	1883695
SM 2320 B-97	03/28/2017			04/05/2017	Dale L. Simmons	1883693, 1883694, 1883695
SM 2540 C-97	03/28/2017			03/30/2017	Sima Feizi	1883693, 1883694, 1883695
SM 2540 D-97	03/28/2017			03/30/2017	Sima Feizi	1883693, 1883694, 1883695
SM 4500 F-C-97	03/28/2017			04/07/2017	Dale L. Simmons	1883693, 1883694, 1883695
SM 5310 B-00	03/28/2017			03/29/2017	Julie Michelle Frank	1883696, 1883697, 1883698