

Chemical Analysis Report

WQAP-2017-01-12-01

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

Event Description: **Suwannee 3**
Request ID: **RQ-2017-01-09-15**
Customer: **WQAP**
Project ID: **SMP**

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Date Certified: 07-FEB-2017 11:58



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: SUNSHINE LAKE CENTER

Collection Date/Time: 01/11/2017 10:45

Field ID: G1NE0857 01112017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1863403	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P318179	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P318471	
		Sulfate	1.1		mg SO4/L	P318476	
	SM 2120 B	Color (true)	43		PCU	P318183	
	SM 2320 B-97	Total Alkalinity	9.8		mg CaCO3/L	P318453	
	SM 2540 C-97	TDS	62		mg/L	P318747	
	SM 2540 D-97	TSS	2	U	mg/L	P318594	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P318457	
1863406	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P318268	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P318198	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17		mg N/L	P318605	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P318352	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P318261	
1863409	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.068		mg P/L	P318189	

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: RHUDA BRANCH @ 192 AVE (NW 8TH TERR)

Collection Date/Time: 01/11/2017 11:25

Field ID: G1NE0625 01112017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1863404	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P318179	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P318471	
		Sulfate	25		mg SO4/L	P318476	
	SM 2120 B	Color (true)	85	A	PCU	P318183	
	SM 2320 B-97	Total Alkalinity	14		mg CaCO3/L	P318453	
	SM 2540 C-97	TDS	139		mg/L	P318748	
	SM 2540 D-97	TSS	2	U	mg/L	P318595	
	SM 4500 F-C-97	Fluoride	0.18		mg F/L	P318457	
1863407	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P318268	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P318198	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P318605	
	EPA 365.1 Rev. 2.0	Total-P	0.28		mg P/L	P318352	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P318261	
1863410	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.27		mg P/L	P318189	

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: FIVE MILE CREEK @ SR 239A

Collection Date/Time: 01/11/2017 12:40

Field ID: G1NE0643 01112017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1863405	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P318179	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P318471	
		Sulfate	0.94		mg SO4/L	P318476	

Field ID: G1NE0643 01112017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1863405	SM 2120 B	Color (true)	570		PCU	P318183	
	SM 2320 B-97	Total Alkalinity	2.8		mg CaCO3/L	P318453	
	SM 2540 C-97	TDS	163		mg/L	P318748	
	SM 2540 D-97	TSS	2	U	mg/L	P318595	
	SM 4500 F-C-97	Fluoride	0.048	I	mg F/L	P318457	
1863408	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P318268	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P318198	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P318605	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P318352	
	SM 5310 B-00	Organic Carbon	71		mg C/L	P318261	
1863411	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P318189	

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: P318179

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P318471

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P318476

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P318268

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P318198

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P318605

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P318352

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P318189

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

Reference Method: SM 2120 B
Batch ID: P318183

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P318453

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

Reference Method: SM 2540 C-97
Batch ID: P318747

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P318748

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P318594

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P318595

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P318457

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P318261

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: P318471

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: P318476

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P318268

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P318198

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.4		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P318605

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P318352

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	92.7		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P318189

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

Reference Method: SM 2320 B-97
Batch ID: P318453

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

Reference Method: SM 2320 B-97
Batch ID: P318453

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P318457

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.0		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P318261

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318471

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1863364	Chloride	99.0		P	90 - 110
1863403	Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1863364	Sulfate	95.3		P	90 - 110
1863403	Sulfate	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P318268

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1863321	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P318198

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1863396	Kjeldahl Nitrogen	89.4	92.0	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P318605

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1863321	NO2NO3-N	100	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P318352

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1863386	Total-P	90.9	93.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P318189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1863471	O-Phosphate-P	97.7	96.9	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P318457

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1863363	Fluoride	96.4	96.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P318261

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1863078	Organic Carbon	97.8	96.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P318179

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863385	Turbidity	2.57	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318471

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863364	Chloride	0.0402	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318476

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863364	Sulfate	0.249	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P318268

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863321	Ammonia-N	0.171	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P318198

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863396	Kjeldahl Nitrogen	2.57	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P318605

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863321	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P318352

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863386	Total-P	2.22	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P318189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863471	O-Phosphate-P	0.666	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P318183

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863404	Color (true)	0.212	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P318453

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863363	Total Alkalinity	0.625	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P318747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863314	TDS	0.781	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P318748

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863459	TDS	2.26	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P318457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863363	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P318261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863078	Organic Carbon	1.13	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 Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A73906
Included Lab Sample IDs: 1863403, 1863404, 1863405

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

Reference Method: SM 2120 B
Run ID: A73908
Included Lab Sample IDs: 1863403, 1863404, 1863405

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	85 - 115
Color (true)	99.7	102	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A73910
Included Lab Sample IDs: 1863409, 1863410, 1863411

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.7	98.6	P/P	90 - 110
O-Phosphate-P	98.6	98.7	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A73931
Included Lab Sample IDs: 1863406, 1863407, 1863408

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.5	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A73934
Included Lab Sample IDs: 1863406, 1863407, 1863408

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A73934

Included Lab Sample IDs: 1863406, 1863407, 1863408

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.5	98.0	P/P	90 - 110
Ammonia-N	98.0	96.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A73954

Included Lab Sample IDs: 1863406, 1863407, 1863408

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.7	96.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A73993

Included Lab Sample IDs: 1863403, 1863404, 1863405

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.5	101	P/P	90 - 110
Chloride	99.7	99.5	P/P	90 - 110
Sulfate	91.0	97.6	P/P	90 - 110
Sulfate	97.4	91.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A74007

Included Lab Sample IDs: 1863406, 1863407

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.9	97.4	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A74010

Included Lab Sample IDs: 1863403, 1863404, 1863405

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	104	P/P	90 - 110
Total Alkalinity	104	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A74010

Included Lab Sample IDs: 1863403, 1863404, 1863405

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	99.0	P/P	90 - 110
Fluoride	99.5	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A74055

Included Lab Sample IDs: 1863408

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
 Run ID: A74070
 Included Lab Sample IDs: 1863406, 1863407, 1863408

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	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
EPA 180.1 Rev. 2.0	Turbidity				2.57	
EPA 300.0 Rev. 2.1	Chloride	99.2	99.0 98.3		0.0402	
	Sulfate	96.3	95.3 96.9		0.249	
EPA 350.1 Rev. 2.0	Ammonia-N	106	101 101			0.171
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.4	89.4 92.0			2.57
EPA 353.2 Rev. 2.0	NO2NO3-N	104	100 100			0.0
EPA 365.1 Rev. 2.0	Total-P	92.7	90.9 93.4			2.22
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	97.7 96.9			0.666
SM 2120 B	Color (true)				0.212	
SM 2320 B-97	Total Alkalinity	103			0.625	
SM 2540 C-97	TDS				0.781	
	TDS				2.26	
SM 4500 F-C-97	Fluoride	96.0	96.4 96.4			0.0
SM 5310 B-00	Organic Carbon	99.4	97.8 96.6			1.13

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1863403, 1863404, 1863405
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1863403, 1863404, 1863405
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1863403, 1863404, 1863405
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1863406, 1863407, 1863408
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1863406, 1863407, 1863408
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1863406, 1863407, 1863408
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1863406, 1863407, 1863408
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1863409, 1863410, 1863411
SM 2120 B / E31780	True Color measured at 450 nm	1863403, 1863404, 1863405
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1863403, 1863404, 1863405
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1863403, 1863404, 1863405
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1863403, 1863404, 1863405
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1863403, 1863404, 1863405
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1863406, 1863407, 1863408

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	01/12/2017			01/12/2017 14:52	Sima Feizi	1863403, 1863404, 1863405
EPA 300.0 Rev. 2.1	01/12/2017			01/19/2017	Ping Hua	1863403
	01/12/2017			01/20/2017	Ping Hua	1863404, 1863405
EPA 350.1 Rev. 2.0	01/12/2017			01/13/2017	Sofia Elnemr	1863406, 1863407, 1863408
EPA 351.2 Rev. 2.0	01/12/2017	01/13/2017	Adrian Shelby	01/17/2017	Joseph Suarez	1863406, 1863407, 1863408
EPA 353.2 Rev. 2.0	01/12/2017			01/24/2017	Beverly Y. Sanders	1863406, 1863407, 1863408
EPA 365.1 Rev. 2.0	01/12/2017	01/18/2017	Vijayalakshmi Reddy	01/19/2017	Lipi Saha	1863406, 1863407
	01/12/2017	01/18/2017	Vijayalakshmi Reddy	01/23/2017	Lipi Saha	1863408
EPA 365.1 Rev. 2.0 dissolved	01/12/2017			01/12/2017 14:56	Julia Storbeck	1863411
	01/12/2017			01/12/2017 15:04	Julia Storbeck	1863410
	01/12/2017			01/12/2017 15:07	Julia Storbeck	1863409
SM 2120 B	01/12/2017			01/12/2017 15:11	Jared I. Manley	1863404
	01/12/2017			01/12/2017 15:12	Jared I. Manley	1863403
	01/12/2017			01/12/2017 15:25	Jared I. Manley	1863405
SM 2320 B-97	01/12/2017			01/19/2017	Dale L. Simmons	1863403, 1863404, 1863405
SM 2540 C-97	01/12/2017			01/17/2017	Sima Feizi	1863403, 1863404, 1863405
SM 2540 D-97	01/12/2017			01/17/2017	Sima Feizi	1863403, 1863404, 1863405
SM 4500 F-C-97	01/12/2017			01/19/2017	Dale L. Simmons	1863403, 1863404, 1863405
SM 5310 B-00	01/12/2017			01/13/2017	Julie Michelle Frank	1863406, 1863407, 1863408