

Chemical Analysis Report

CEN-DIST-2017-01-13-02

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

Event Description: **Shady Brook/Lk Blue Cove**
Request ID: **RQ-2017-01-09-52**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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3319 Maguire Blvd., Suite 232
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Certified by: Colin Wright, Program Administrator

Date Certified: 09-FEB-2017 10:55

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

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: Lake Blue Cove @ 150M SW of Center

Collection Date/Time: 01/12/2017 11:45

Field ID: G4CE0022

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1864020	EPA 180.1 Rev. 2.0	Turbidity	3.1	A	NTU	P318251	
	EPA 300.0 Rev. 2.1	Chloride	2.6	A	mg Cl/L	P318666	
		Sulfate	0.20	U	mg SO4/L	P318668	
	SM 2120 B	Color (true)	7.7		PCU	P318249	
	SM 2320 B-97	Total Alkalinity	38		mg CaCO3/L	P318454	
	SM 2540 C-97	TDS	52		mg/L	P318517	
	SM 2540 D-97	TSS	4	I	mg/L	P318603	
	SM 4500 F-C-97	Fluoride	0.28		mg F/L	P318458	
1864022	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P318438	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.78		mg N/L	P318322	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.59		mg N/L	P318607	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P318353	
	SM 5310 B-00	Organic Carbon	5.8		mg C/L	P318332	
1864024	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.15		mg P/L	P318255	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Shady Brook @ 500 m US of CR 35

Collection Date/Time: 01/12/2017 13:15

Field ID: G1CE0015

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1864021	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P318251	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P318667	
		Sulfate	5.9		mg SO4/L	P318669	
	SM 2120 B	Color (true)	64		PCU	P318249	
	SM 2320 B-97	Total Alkalinity	150	A	mg CaCO3/L	P318454	
	SM 2540 C-97	TDS	240	A	mg/L	P318517	
	SM 2540 D-97	TSS	3	I	mg/L	P318603	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P318458	
1864023	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P318438	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P318323	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P318607	
	EPA 365.1 Rev. 2.0	Total-P	0.067		mg P/L	P318353	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P318332	
1864025	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.059		mg P/L	P318255	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P318251

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318666

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318667

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318668

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318669

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P318438

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P318322

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P318323

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P318607

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: P318353

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P318255

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

Reference Method: SM 2120 B
Batch ID: P318249

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P318454

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

Reference Method: SM 2540 C-97
Batch ID: P318517

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P318603

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P318458

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P318332

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: P318666

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318666

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318667

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318668

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	93.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318669

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P318438

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: P318322

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P318323

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P318607

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	110		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P318353

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	92.9		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P318255

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

Reference Method: SM 2320 B-97
Batch ID: P318454

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

Reference Method: SM 4500 F-C-97
Batch ID: P318458

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

Reference Method: SM 5310 B-00
Batch ID: P318332

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.3		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318666

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1863460	Chloride	99.6		P	90 - 110
1864020	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318667

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1864385	Chloride	99.8		P	90 - 110
1864474	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318668

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1863460	Sulfate	92.4		P	90 - 110
1864020	Sulfate	94.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318669

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1864385	Sulfate	97.4		P	90 - 110
1864474	Sulfate	97.1		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P318438

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1864022	Ammonia-N	97.8	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P318322

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1863445	Kjeldahl Nitrogen	95.9	96.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P318323

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1864046	Kjeldahl Nitrogen	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P318607

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1864023	NO2NO3-N	104	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P318255

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1864048	O-Phosphate-P	97.5	99.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P318458

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1864021	Fluoride	96.7	96.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P318332

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1863444	Organic Carbon	94.0	93.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P318251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1864020	Turbidity	0.0	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1864020	Chloride	0.569	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318667

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1864474	Chloride	0.429	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P318669

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1864474	Sulfate	0.369	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P318438

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1864022	Ammonia-N	0.402	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P318322

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863445	Kjeldahl Nitrogen	0.331	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P318323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1864046	Kjeldahl Nitrogen	0.812	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P318607

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1864023	NO2NO3-N	1.17	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P318353

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863464	Total-P	0.586	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P318255

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1864048	O-Phosphate-P	1.43	Spike	P	0 - 20

Reference Method: SM 2120 B
 Batch ID: P318249

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1864045	Color (true)	1.86	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P318454

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1864021	Total Alkalinity	0.0147	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
 Batch ID: P318517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1864021	TDS	3.76	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P318458

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1864021	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P318332

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1863444	Organic Carbon	0.456	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: SM 2120 B
 Run ID: A73924
 Included Lab Sample IDs: 1864020, 1864021

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.2	100	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A73925

Included Lab Sample IDs: 1864020, 1864021

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: A73929

Included Lab Sample IDs: 1864024, 1864025

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.3	95.6	P/P	90 - 110
O-Phosphate-P	96.8	96.3	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A73961

Included Lab Sample IDs: 1864022, 1864023

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.6	92.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A73986

Included Lab Sample IDs: 1864022, 1864023

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	101	P/P	90 - 110
Kjeldahl Nitrogen	99.9	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A74005

Included Lab Sample IDs: 1864022, 1864023

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A74007

Included Lab Sample IDs: 1864022, 1864023

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.4	98.3	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A74010

Included Lab Sample IDs: 1864020, 1864021

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

Reference Method: SM 4500 F-C-97

Run ID: A74010

Included Lab Sample IDs: 1864020, 1864021

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

Reference Method: SM 4500 F-C-97

Run ID: A74010

Included Lab Sample IDs: 1864020, 1864021

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A74070

Included Lab Sample IDs: 1864022, 1864023

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A74088

Included Lab Sample IDs: 1864020, 1864021

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	102	P/P	90 - 110
Chloride	101	101	P/P	90 - 110
Sulfate	103	97.8	P/P	90 - 110
Sulfate	98.1	95.1	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				0.0	
EPA 300.0 Rev. 2.1	Chloride	100	101 99.6		0.569	
	Chloride	101	100 99.8		0.429	
	Sulfate	93.5	94.8 92.4			
	Sulfate	97.8	97.1 97.4		0.369	
EPA 350.1 Rev. 2.0	Ammonia-N	106	97.8 97.2			0.402
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	95.9 96.2			0.331
	Kjeldahl Nitrogen	101	101 102			0.812
EPA 353.2 Rev. 2.0	NO2NO3-N	110	104 102			1.17
EPA 365.1 Rev. 2.0	Total-P	92.9				0.586
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.3	97.5 99.4			1.43
SM 2120 B	Color (true)				1.86	
SM 2320 B-97	Total Alkalinity	104			0.0147	
SM 2540 C-97	TDS				3.76	
SM 4500 F-C-97	Fluoride	96.0	96.7 96.7			0.0
SM 5310 B-00	Organic Carbon	95.3	94.0 93.5			0.456

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
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Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1864020, 1864021
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1864020, 1864021
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1864020, 1864021
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1864022, 1864023
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1864022, 1864023
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1864022, 1864023
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1864022, 1864023
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1864024, 1864025
SM 2120 B / E31780	True Color measured at 450 nm	1864020, 1864021
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1864020, 1864021
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1864020, 1864021
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1864020, 1864021
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1864020, 1864021
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1864022, 1864023

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	01/13/2017			01/13/2017 14:25	Sima Feizi	1864020, 1864021
EPA 300.0 Rev. 2.1	01/13/2017			01/24/2017	Ping Hua	1864020, 1864021
EPA 350.1 Rev. 2.0	01/13/2017			01/18/2017	Sofia Elnemr	1864022, 1864023
EPA 351.2 Rev. 2.0	01/13/2017	01/18/2017	Adrian Shelby	01/18/2017	Joseph Suarez	1864022, 1864023
EPA 353.2 Rev. 2.0	01/13/2017			01/24/2017	Beverly Y. Sanders	1864022, 1864023
EPA 365.1 Rev. 2.0	01/13/2017	01/18/2017	Vijayalakshmi Reddy	01/19/2017	Lipi Saha	1864022, 1864023
EPA 365.1 Rev. 2.0 dissolved	01/13/2017			01/13/2017 15:22	Julia Storbeck	1864025
	01/13/2017			01/13/2017 15:33	Julia Storbeck	1864024
SM 2120 B	01/13/2017			01/13/2017 14:05	Jared I. Manley	1864020
	01/13/2017			01/13/2017 14:06	Jared I. Manley	1864021
SM 2320 B-97	01/13/2017			01/19/2017	Dale L. Simmons	1864020, 1864021
SM 2540 C-97	01/13/2017			01/18/2017	Yijie Li	1864020, 1864021
SM 2540 D-97	01/13/2017			01/18/2017	Yijie Li	1864020, 1864021
SM 4500 F-C-97	01/13/2017			01/19/2017	Dale L. Simmons	1864020, 1864021
SM 5310 B-00	01/13/2017			01/17/2017	Julie Michelle Frank	1864022, 1864023