

Chemical Analysis Report

NE-DIST-2019-10-30-02

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

Event Description: **Suwannee Central**
Request ID: **RQ-2019-10-28-10**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 20-NOV-2019 08:20

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 by the Florida Department of Health Environmental Laboratory Certification Program 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: 10/29/2019 10:30

Field ID: G1NE 0857

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2132382	EPA 180.1 Rev. 2.0	Turbidity	7.9		NTU	P373487	
	EPA 300.0 Rev. 2.1	Chloride	7.8		mg Cl/L	P373764	
		Sulfate	0.99		mg SO4/L	P373768	
	SM 2120 B	Color (true)	51		PCU	P373423	
	SM 2320 B-97	Total Alkalinity	10		mg CaCO3/L	P373972	
	SM 2540 C-97	TDS	50		mg/L	P374015	
	SM 2540 D-97	TSS	8	I	mg/L	P374011	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P373679	
2132384	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P373635	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P373739	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P373475	
	EPA 365.1 Rev. 2.0	Total-P	0.096		mg P/L	P373509	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P373545	
2132386	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P373433	

Ref. Method and Comment:

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: The result was confirmed on 11/14/2019.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample. The result was confirmed on 11/06/2019.

Sample Location: Sunshine Lake Center

Collection Date/Time: 10/29/2019 10:35

Field ID: G1NE0857 DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2132383	EPA 180.1 Rev. 2.0	Turbidity	8.7		NTU	P373487	
	EPA 300.0 Rev. 2.1	Chloride	7.7		mg Cl/L	P373764	
		Sulfate	0.99		mg SO4/L	P373768	
	SM 2120 B	Color (true)	52		PCU	P373423	
	SM 2320 B-97	Total Alkalinity	10		mg CaCO3/L	P373972	
	SM 2540 C-97	TDS	50		mg/L	P374015	
	SM 2540 D-97	TSS	7	I	mg/L	P374011	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P373679	
2132385	EPA 350.1 Rev. 2.0	Ammonia-N	0.010		mg N/L	P373635	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P373739	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P373475	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P373509	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P373545	
2132387	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P373433	

Ref. Method and Comment:

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: The result was confirmed on 11/14/2019.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample. The result was confirmed on 11/06/2019.

Sample Location: Sunshine Lake Center

Collection Date/Time: 10/29/2019 10:45

Field ID: FB G1NE0857

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2132388	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P373487	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P373764	
		Sulfate	0.20	U	mg SO4/L	P373768	
	SM 2120 B	Color (true)	2.5	U	PCU	P373423	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P373972	
	SM 2540 C-97	TDS	15	U	mg/L	P374014	
	SM 2540 D-97	TSS	2	U	mg/L	P374010	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P373679	
2132389	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P373636	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P373739	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P373475	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P373509	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P373545	
2132390	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P373433	

Ref. Method and Comment:

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high 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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373487

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373764

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373768

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373635

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373636

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373739

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373475

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373509

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373433

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2120 B
Batch ID: P373423

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P373972

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

Reference Method: SM 2540 C-97
Batch ID: P374014

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P374015

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P374010

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P374011

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P373679

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P373545

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: P373764

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373768

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373635

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373636

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373739

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: P373475

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373509

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.1		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373433

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

Reference Method: SM 2120 B
Batch ID: P373423

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.6		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P373972

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P373679

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P373545

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	104		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132347	Chloride	102		P	90 - 110
2132533	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373768

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132347	Sulfate	101		P	90 - 110
2132533	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373635

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132280	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373636

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132534	Ammonia-N	99.4	91.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373739

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132534	Kjeldahl Nitrogen	105	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373475

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132335	NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373433

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132446	O-Phosphate-P	97.3	96.4	P/P	90 - 110

Reference Method: SM 5310 B-00
Batch ID: P373545

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2132180	Organic Carbon	99.4	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373487

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132356	Turbidity	1.94	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132347	Chloride	0.619	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373768

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132347	Sulfate	1.13	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373635

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132280	Ammonia-N	0.596	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373636

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132534	Ammonia-N	6.24	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373739

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132534	Kjeldahl Nitrogen	0.762	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373475

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132335	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373509

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132358	Total-P	3.94	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P373433

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132446	O-Phosphate-P	0.807	Spike	P	0 - 20

Reference Method: SM 2120 B
 Batch ID: P373423

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132362	Color (true)	0.105	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P373972

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132397	Total Alkalinity	0.0749	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
 Batch ID: P374014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132190	TDS	3.47	Sample	P	0 - 10

Reference Method: SM 2540 C-97
 Batch ID: P374015

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132444	TDS	1.93	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P373679

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132444	Fluoride	0.939	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
 Batch ID: P373545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2132180	Organic Carbon	0.983	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A95352

Included Lab Sample IDs: 2132382, 2132383, 2132388

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.9	98.8	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95354

Included Lab Sample IDs: 2132386, 2132387, 2132390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95369

Included Lab Sample IDs: 2132384, 2132385, 2132389

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95372

Included Lab Sample IDs: 2132382, 2132383, 2132388

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105

Reference Method: SM 5310 B-00

Run ID: A95387

Included Lab Sample IDs: 2132384, 2132385, 2132389

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95412

Included Lab Sample IDs: 2132384, 2132385

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	103	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95415

Included Lab Sample IDs: 2132389

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95438

Included Lab Sample IDs: 2132384, 2132385, 2132389

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A95466

Included Lab Sample IDs: 2132382, 2132383, 2132388

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A95511

Included Lab Sample IDs: 2132382, 2132383, 2132388

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95560

Included Lab Sample IDs: 2132384, 2132385, 2132389

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	104	P/P	90 - 110
Kjeldahl Nitrogen	104	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A95613

Included Lab Sample IDs: 2132382, 2132383, 2132388

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.8	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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					1.94	
EPA 300.0 Rev. 2.1	Chloride	102	102	102		0.619	
	Sulfate	102	101	102		1.13	
EPA 350.1 Rev. 2.0	Ammonia-N	99.4	100	101			0.596
	Ammonia-N	99.9	99.4	91.2			6.24
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	105	104			0.762
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5	99.5	99.5			0.0
EPA 365.1 Rev. 2.0	Total-P	99.1					3.94
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.4	97.3	96.4			0.807
SM 2120 B	Color (true)	98.6				0.105	
SM 2320 B-97	Total Alkalinity	101				0.0749	
SM 2540 C-97	TDS					3.47	
	TDS					1.93	
SM 4500 F-C-97	Fluoride	101					0.939
SM 5310 B-00	Organic Carbon	104	99.4	101			0.983

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2132382, 2132383, 2132388
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2132382, 2132383, 2132388
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2132382, 2132383, 2132388
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2132384, 2132385, 2132389
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2132384, 2132385, 2132389
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2132384, 2132385, 2132389
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2132384, 2132385, 2132389
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2132386, 2132387, 2132390
SM 2120 B / E31780	True Color measured at 450 nm	2132382, 2132383, 2132388
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2132382, 2132383, 2132388
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2132382, 2132383, 2132388
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2132382, 2132383, 2132388
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2132382, 2132383, 2132388
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2132384, 2132385, 2132389

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	10/30/2019			10/30/2019 15:14	Blanca Fach	2132382, 2132383, 2132388
EPA 300.0 Rev. 2.1	10/30/2019			11/05/2019 17:03	Jhamieka S. Greenwood	2132382
	10/30/2019			11/05/2019 17:40	Jhamieka S. Greenwood	2132383
	10/30/2019			11/05/2019 17:52	Jhamieka S. Greenwood	2132388
EPA 350.1 Rev. 2.0	10/30/2019			11/01/2019 12:10	Ping Hua	2132384
	10/30/2019			11/01/2019 12:11	Ping Hua	2132385
	10/30/2019			11/01/2019 12:34	Ping Hua	2132389
EPA 351.2 Rev. 2.0	10/30/2019	11/06/2019 12:52	Sima Feizi	11/07/2019 16:43	Jhamieka S. Greenwood	2132384
	10/30/2019	11/06/2019 12:52	Sima Feizi	11/07/2019 16:45	Jhamieka S. Greenwood	2132385
	10/30/2019	11/06/2019 12:52	Sima Feizi	11/07/2019 16:50	Jhamieka S. Greenwood	2132389
EPA 353.2 Rev. 2.0	10/30/2019			10/31/2019 10:04	Beverly Y. Sanders	2132384
	10/30/2019			10/31/2019 10:05	Beverly Y. Sanders	2132385
	10/30/2019			10/31/2019 10:06	Beverly Y. Sanders	2132389
EPA 365.1 Rev. 2.0	10/30/2019	10/31/2019 12:13	Lipi Saha	11/01/2019 16:06	Julia Storbeck	2132384
	10/30/2019	10/31/2019 12:13	Lipi Saha	11/01/2019 16:07	Julia Storbeck	2132385
	10/30/2019	10/31/2019 12:13	Lipi Saha	11/01/2019 16:32	Julia Storbeck	2132389
EPA 365.1 Rev. 2.0 dissolved	10/30/2019			10/30/2019 17:49	Julia Storbeck	2132390
	10/30/2019			10/30/2019 17:53	Julia Storbeck	2132386
	10/30/2019			10/30/2019 17:54	Julia Storbeck	2132387
SM 2120 B	10/30/2019			10/30/2019 14:38	Madeline Funaro	2132382, 2132383
	10/30/2019			10/30/2019 14:39	Madeline Funaro	2132388
SM 2320 B-97	10/30/2019			11/08/2019 12:36	Dale L. Simmons	2132382
	10/30/2019			11/08/2019 12:45	Dale L. Simmons	2132383
	10/30/2019			11/08/2019 12:51	Dale L. Simmons	2132388
SM 2540 C-97	10/30/2019			11/01/2019 14:21	Yijie Li	2132382, 2132383, 2132388
SM 2540 D-97	10/30/2019			11/01/2019 14:21	Yijie Li	2132382, 2132383, 2132388
SM 4500 F-C-97	10/30/2019			11/01/2019 15:15	Dale L. Simmons	2132382
	10/30/2019			11/01/2019 15:44	Dale L. Simmons	2132383
	10/30/2019			11/01/2019 16:15	Dale L. Simmons	2132388
SM 5310 B-00	10/30/2019			10/31/2019 20:30	Lauren Lees	2132384
	10/30/2019			10/31/2019 20:46	Lauren Lees	2132385
	10/30/2019			10/31/2019 21:04	Lauren Lees	2132389