

Chemical Analysis Report

SW-DIST-2022-06-08-01

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

Event Description: **Run 1 Springs Run**
Request ID: **RQ-2022-06-06-15**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Date Certified: 30-JUN-2022 10:05



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: Jurassic Spring

Collection Date/Time: 06/07/2022 11:30

Field ID: G5SW0178

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2333175	DEP SOP: NU-094-1	Color (true)**	5.1	I	PCU	P414912	
	EPA 180.1 Rev. 2.0	Turbidity	0.60	I	NTU	P414917	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P415411	
		Sulfate	13		mg SO4/L	P415416	
	SM 2320 B-2011	Total Alkalinity	88		mg CaCO3/L	P415388	
	SM 2540 C-2011	TDS	127		mg/L	P415244	
	SM 2540 D-2011	TSS	2	U	mg/L	P415247	
	SM 4500-F- C-2011	Fluoride	0.068	I	mg F/L	P415393	
2333179	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P415586	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.17	I	mg N/L	P415099	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.43		mg N/L	P415722	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P415066	
	SM 5310 B-2011	Organic Carbon	0.68	I	mg C/L	P415295	

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-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Highland Lake Center

Collection Date/Time: 06/07/2022 10:10

Field ID: G5SW0180

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2333176	DEP SOP: NU-094-1	Color (true)**	72	A	PCU	P414912	
	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P414917	
	EPA 300.0 Rev. 2.1	Chloride	4.6		mg Cl/L	P415411	
		Sulfate	0.20	I	mg SO4/L	P415416	
	SM 2320 B-2011	Total Alkalinity	30		mg CaCO3/L	P415388	
	SM 2540 C-2011	TDS	77		mg/L	P415244	
	SM 2540 D-2011	TSS	9	I	mg/L	P415247	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P415393	
	2333180	EPA 350.1 Rev. 2.0	0.011		mg N/L	P415586	
		EPA 351.2 Rev. 2.0	1.8		mg N/L	P415097	
		EPA 353.2 Rev. 2.0	0.004	U	mg N/L	P415722	
		EPA 365.1 Rev. 2.0	0.022		mg P/L	P415066	
	SM 5310 B-2011	Organic Carbon	19		mg C/L	P415295	

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-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: House Spring

Collection Date/Time: 06/07/2022 11:40

Field ID: G5SW0177

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2333177	DEP SOP: NU-094-1	Color (true)**	4.4	I	PCU	P414912	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	I	NTU	P414917	
	EPA 300.0 Rev. 2.1	Chloride	6.1		mg Cl/L	P415411	
		Sulfate	14		mg SO4/L	P415416	
	SM 2320 B-2011	Total Alkalinity	80		mg CaCO3/L	P415388	
	SM 2540 C-2011	TDS	100		mg/L	P415244	
	SM 2540 D-2011	TSS	2	U	mg/L	P415247	
	SM 4500-F- C-2011	Fluoride	0.067	I	mg F/L	P415393	
	2333181	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P415586
		EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P415099
		EPA 353.2 Rev. 2.0	NO2NO3-N	0.53		mg N/L	P415722
		EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P415066
	SM 5310 B-2011	Organic Carbon	0.54	I	mg C/L	P415295	

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-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Weeki Wachee Spring

Collection Date/Time: 06/07/2022 09:15

Field ID: G5SW0179

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2333178	DEP SOP: NU-094-1	Color (true)**	5.1	I	PCU	P414912	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P414917	
	EPA 300.0 Rev. 2.1	Chloride	9.7		mg Cl/L	P415411	
		Sulfate	12		mg SO4/L	P415416	
	SM 2320 B-2011	Total Alkalinity	156	A	mg CaCO3/L	P415388	
	SM 2540 C-2011	TDS	189		mg/L	P415244	
	SM 2540 D-2011	TSS	2	U	mg/L	P415247	
	SM 4500-F- C-2011	Fluoride	0.096	I	mg F/L	P415393	
2333182	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P415586	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.086	I	mg N/L	P415097	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.93		mg N/L	P415722	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P415066	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P415295	

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-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P414912

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414917

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415411

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415416

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415586

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415097

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415099

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415722

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415066

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P415388

Component	Result	Code	Units
Total Alkalinity	1.0	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2011
Batch ID: P415244

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P415247

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P415393

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P415295

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P414912

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414917

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	97.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415411

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415416

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415586

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415097

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415099

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415722

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415066

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P415388

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P415393

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P415295

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333069	Chloride	101		P	90 - 110
2333176	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415416

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333069	Sulfate	101		P	90 - 110
2333176	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415586

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333179	Ammonia-N	101	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415097

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333139	Kjeldahl Nitrogen	95.1	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415099

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2332730	Kjeldahl Nitrogen	104	95.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415722

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333149	NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333192	Total-P	103	103	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P415393

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333178	Fluoride	103	103	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P415295

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2332821	Organic Carbon	94.5	95.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P414912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333176	Color (true)	0.806	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333107	Turbidity	4.08	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333069	Chloride	0.739	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333179	Ammonia-N	1.17	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415097

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333139	Kjeldahl Nitrogen	2.64	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415099

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2332730	Kjeldahl Nitrogen	6.34	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415722

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333149	NO2NO3-N	1.00	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333192	Total-P	0.321	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P415388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333178	Total Alkalinity	0.100	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P415244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333107	TDS	5.58	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P415393

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333178	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P415295

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2332821	Organic Carbon	0.428	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A112681

Included Lab Sample IDs: 2333175, 2333176, 2333177, 2333178

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	105	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A112682

Included Lab Sample IDs: 2333175, 2333176, 2333177, 2333178

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A112849

Included Lab Sample IDs: 2333179, 2333180, 2333181, 2333182

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A112862

Included Lab Sample IDs: 2333180, 2333182

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	108	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A112869

Included Lab Sample IDs: 2333179, 2333180, 2333181, 2333182

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.8	96.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A112887

Included Lab Sample IDs: 2333179, 2333181

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.0	94.1	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A112906

Included Lab Sample IDs: 2333175, 2333176, 2333177, 2333178

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	102	P/P	90 - 110
Total Alkalinity	102	99.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A112906

Included Lab Sample IDs: 2333175, 2333176, 2333177, 2333178

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

Reference Method: SM 4500-F- C-2011

Run ID: A112906

Included Lab Sample IDs: 2333175, 2333176, 2333177, 2333178

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A112925

Included Lab Sample IDs: 2333175, 2333176, 2333177, 2333178

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Chloride	101	101	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110
Sulfate	102	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A112990

Included Lab Sample IDs: 2333179, 2333180, 2333181, 2333182

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.1	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113042

Included Lab Sample IDs: 2333179, 2333180, 2333181, 2333182

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	99.0	P/P	90 - 110
NO2NO3-N	99.0	98.5	P/P	90 - 110
NO2NO3-N	99.0	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		Precision	
					LCS	MS
DEP SOP: NU-094-1	Color (true)	101			0.806	
EPA 180.1 Rev. 2.0	Turbidity	97.0			4.08	
EPA 300.0 Rev. 2.1	Chloride	102	101	101	0.739	
	Sulfate	101	101	101		
EPA 350.1 Rev. 2.0	Ammonia-N	100	101	99.4		1.17
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.6	95.1	98.0		2.64
	Kjeldahl Nitrogen	95.2	104	95.6		6.34
EPA 353.2 Rev. 2.0	NO2NO3-N	100	100	99.5		1.00
EPA 365.1 Rev. 2.0	Total-P	104	103	103		0.321
SM 2320 B-2011	Total Alkalinity	103			0.100	
SM 2540 C-2011	TDS				5.58	
SM 4500-F- C-2011	Fluoride	102	103	103		0.0
SM 5310 B-2011	Organic Carbon	93.2	94.5	95.0		0.428

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2333175, 2333176, 2333177, 2333178
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2333175, 2333176, 2333177, 2333178
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2333175, 2333176, 2333177, 2333178
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2333175, 2333176, 2333177, 2333178
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2333179, 2333180, 2333181, 2333182
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2333179, 2333180, 2333181, 2333182
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2333179, 2333180, 2333181, 2333182
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2333179, 2333180, 2333181, 2333182
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2333175, 2333176, 2333177, 2333178
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2333175, 2333176, 2333177, 2333178
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2333175, 2333176, 2333177, 2333178
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2333175, 2333176, 2333177, 2333178
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2333179, 2333180, 2333181, 2333182

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	06/08/2022			06/08/2022 16:22	Samantha L Bates	2333175
	06/08/2022			06/08/2022 16:23	Samantha L Bates	2333176
	06/08/2022			06/08/2022 16:24	Samantha L Bates	2333177
	06/08/2022			06/08/2022 16:25	Samantha L Bates	2333178
EPA 180.1 Rev. 2.0	06/08/2022			06/08/2022 15:01	Khloe J Berg	2333175
	06/08/2022			06/08/2022 15:03	Khloe J Berg	2333176
	06/08/2022			06/08/2022 15:05	Khloe J Berg	2333177
	06/08/2022			06/08/2022 15:07	Khloe J Berg	2333178
EPA 300.0 Rev. 2.1	06/08/2022			06/16/2022 00:49	Anna M. Plaviak	2333176
	06/08/2022			06/16/2022 03:14	Anna M. Plaviak	2333175
	06/08/2022			06/16/2022 03:26	Anna M. Plaviak	2333177
	06/08/2022			06/16/2022 03:38	Anna M. Plaviak	2333178
EPA 350.1 Rev. 2.0	06/08/2022			06/22/2022 15:13	Judith K. Clark	2333179
	06/08/2022			06/22/2022 15:17	Judith K. Clark	2333180
	06/08/2022			06/22/2022 15:19	Judith K. Clark	2333181
	06/08/2022			06/22/2022 15:20	Judith K. Clark	2333182
EPA 351.2 Rev. 2.0	06/08/2022	06/14/2022 16:18	Samantha L Bates	06/15/2022 17:03	Alexandra J Mattheus	2333180
	06/08/2022	06/14/2022 16:18	Samantha L Bates	06/15/2022 17:05	Alexandra J Mattheus	2333182
	06/08/2022	06/14/2022 16:18	Samantha L Bates	06/16/2022 11:33	Alexandra J Mattheus	2333179
	06/08/2022	06/14/2022 16:18	Samantha L Bates	06/16/2022 11:35	Alexandra J Mattheus	2333181
EPA 353.2 Rev. 2.0	06/08/2022			06/24/2022 11:58	Beverly Y. Sanders	2333179
	06/08/2022			06/24/2022 12:00	Beverly Y. Sanders	2333181
	06/08/2022			06/24/2022 12:13	Beverly Y. Sanders	2333180
	06/08/2022			06/24/2022 12:20	Beverly Y. Sanders	2333182
EPA 365.1 Rev. 2.0	06/08/2022	06/13/2022 16:25	Simonne.V. Calhoun	06/15/2022 15:19	James L Waggeberby	2333179
	06/08/2022	06/13/2022 16:25	Simonne.V. Calhoun	06/15/2022 15:27	James L Waggeberby	2333180
	06/08/2022	06/13/2022 16:25	Simonne.V. Calhoun	06/15/2022 15:28	James L Waggeberby	2333181
	06/08/2022	06/13/2022 16:25	Simonne.V. Calhoun	06/15/2022 15:29	James L Waggeberby	2333182
SM 2320 B-2011	06/08/2022			06/16/2022 20:49	Dale L. Simmons	2333178
	06/08/2022			06/16/2022 23:26	Dale L. Simmons	2333175
	06/08/2022			06/16/2022 23:40	Dale L. Simmons	2333176
	06/08/2022			06/16/2022 23:53	Dale L. Simmons	2333177
SM 2540 C-2011	06/08/2022			06/10/2022 14:26	Yijie Li	2333175, 2333176, 2333177, 2333178
SM 2540 D-2011	06/08/2022			06/10/2022 14:26	Yijie Li	2333175, 2333176, 2333177, 2333178
SM 4500-F- C-2011	06/08/2022			06/16/2022 20:37	Dale L. Simmons	2333178
	06/08/2022			06/16/2022 23:26	Dale L. Simmons	2333175
	06/08/2022			06/16/2022 23:40	Dale L. Simmons	2333176
	06/08/2022			06/16/2022 23:53	Dale L. Simmons	2333177
SM 5310 B-2011	06/08/2022			06/15/2022 20:14	Khloe J Berg	2333179
	06/08/2022			06/15/2022 20:30	Khloe J Berg	2333180

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	06/08/2022			06/15/2022 20:45	Khloe J Berg	2333181
	06/08/2022			06/15/2022 20:58	Khloe J Berg	2333182