

Chemical Analysis Report

CEN-DIST-2021-06-15-03

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

Event Description: **Park/Gem/Theresa**
Request ID: **RQ-2021-06-14-34**
Customer: **CEN-DIST**
Project ID: **SMP**

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Date Certified: 12-JUL-2021 14:15



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: Lake Park @ Center

Collection Date/Time: 06/14/2021 10:51

Field ID: G2CE0009

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2254928	EPA 180.1 Rev. 2.0	Turbidity	2.8	A	NTU	P399733	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P399908	
		Sulfate	18		mg SO4/L	P399910	
	SM 2120 B-2011	Color (true)	11		PCU	P399727	
	SM 2320 B-2011	Total Alkalinity	69	J	mg CaCO3/L	P400153	LCS
	SM 2540 C-2011	TDS	108		mg/L	P400230	
	SM 2540 D-2011	TSS	4	I	mg/L	P400045	
	SM 4500 F-C-2011	Fluoride	0.067	I	mg F/L	P400621	
2254931	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P400176	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P399934	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P399763	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P399997	
	SM 5310 B-2011	Organic Carbon	7.0		mg C/L	P400250	
2254934	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P399724	

Ref. Method and Comment:

SM 2320 B-2011: Refer to the Lab Analysis Report for an explanation of QC Codes.

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Lake Gem at Center

Collection Date/Time: 06/14/2021 11:20

Field ID: G2CE0204

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2254929	EPA 180.1 Rev. 2.0	Turbidity	4.4		NTU	P399733	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P399908	
		Sulfate	14		mg SO4/L	P399910	
	SM 2120 B-2011	Color (true)	12		PCU	P399727	
	SM 2320 B-2011	Total Alkalinity	81		mg CaCO3/L	P399965	
	SM 2540 C-2011	TDS	130		mg/L	P400230	
	SM 2540 D-2011	TSS	6	I	mg/L	P400045	
	SM 4500 F-C-2011	Fluoride	0.066	I	mg F/L	P399969	MS
2254932	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P400286	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P399934	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P399763	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P399997	
	SM 5310 B-2011	Organic Carbon	8.9		mg C/L	P400250	
2254935	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P399724	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Lake Theresa @ Center

Collection Date/Time: 06/14/2021 12:30

Field ID: G4CE0151

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2254930	EPA 180.1 Rev. 2.0	Turbidity	6.6		NTU	P399733	
	EPA 300.0 Rev. 2.1	Chloride	10		mg Cl/L	P399908	
		Sulfate	2.2		mg SO4/L	P399910	
		Color (true)	38		PCU	P399727	
	SM 2320 B-2011	Total Alkalinity	65		mg CaCO3/L	P399965	
	SM 2540 C-2011	TDS	106	A	mg/L	P400230	
	SM 2540 D-2011	TSS	7	IA	mg/L	P400045	
	SM 4500 F-C-2011	Fluoride	0.11		mg F/L	P399969	MS
2254933	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P400177	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P399934	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.053		mg N/L	P399763	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P399997	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P400250	
2254936	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.034		mg P/L	P399724	

Ref. Method and Comment:

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: EPA 180.1 Rev. 2.0
Batch ID: P399733

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399908

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399910

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400176

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400177

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400286

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P399934

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P399763

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P399997

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399724

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

Reference Method: SM 2120 B-2011
Batch ID: P399727

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P399965

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

Reference Method: SM 2320 B-2011
Batch ID: P400153

Component	Result	Code	Units
Total Alkalinity	0.72	I	mg CaCO ₃ /L

Reference Method: SM 2540 C-2011
Batch ID: P400230

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P400045

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P399969

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P400621

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P400250

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: P399908

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399910

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400176

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400177

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400286

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P399934

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.4		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P399763

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P399997

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399724

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.6		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P399727

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.9		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P399965

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P400153

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	107		F	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P399969

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P400621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P400250

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399908

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254844	Chloride	97.4		P	90 - 110
2255034	Chloride	98.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399910

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254844	Sulfate	98.1		P	90 - 110
2255034	Sulfate	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400176

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254819	Ammonia-N	102	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400177

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255013	Ammonia-N	94.8	96.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400286

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254899	Ammonia-N	99.2	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P399934

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254876	Kjeldahl Nitrogen	96.7	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P399763

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254876	NO2NO3-N	98.5	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P399997

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254931	Total-P	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399724

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254900	O-Phosphate-P	100	100	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P399969

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255065	Fluoride	108	107	F/F	92 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P400621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257021	Fluoride	103	103	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P400250

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254932	Organic Carbon	93.9	95.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P399733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254928	Turbidity	4.95	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254844	Chloride	0.164	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254844	Sulfate	1.13	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400176

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254819	Ammonia-N	3.18	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400177

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255013	Ammonia-N	1.53	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400286

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254899	Ammonia-N	1.20	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P399934

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254876	Kjeldahl Nitrogen	0.864	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P399763

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254876	NO2NO3-N	0.509	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P399997

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254931	Total-P	1.06	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P399724

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254900	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: SM 2120 B-2011

Batch ID: P399727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254970	Color (true)	0.450	Sample	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P399965

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255065	Total Alkalinity	0.0720	Sample	P	0 - 5.2

Reference Method: SM 2320 B-2011

Batch ID: P400153

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255387	Total Alkalinity	0.495	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011

Batch ID: P400230

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254930	TDS	6.57	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011

Batch ID: P399969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255065	Fluoride	0.462	Spike	P	0 - 2.1

Reference Method: SM 4500 F-C-2011

Batch ID: P400621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257021	Fluoride	0.469	Spike	P	0 - 2.1

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P400250

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254932	Organic Carbon	0.935	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A106081

Included Lab Sample IDs: 2254934, 2254935, 2254936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	98.2	P/P	90 - 110
O-Phosphate-P	98.7	98.7	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A106082

Included Lab Sample IDs: 2254928, 2254929, 2254930

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	99.6	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106084

Included Lab Sample IDs: 2254928, 2254929, 2254930

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106098

Included Lab Sample IDs: 2254931, 2254932, 2254933

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A106105

Included Lab Sample IDs: 2254928, 2254929, 2254930

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

Reference Method: SM 2320 B-2011

Run ID: A106182

Included Lab Sample IDs: 2254929, 2254930

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.8	96.9	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A106182

Included Lab Sample IDs: 2254929, 2254930

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106209

Included Lab Sample IDs: 2254933

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106209

Included Lab Sample IDs: 2254933

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106212

Included Lab Sample IDs: 2254931, 2254932, 2254933

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.7	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106217

Included Lab Sample IDs: 2254931, 2254932

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	98.8	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A106248

Included Lab Sample IDs: 2254928

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	106	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106261

Included Lab Sample IDs: 2254931, 2254933

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	98.7	P/P	90 - 110
Ammonia-N	98.9	98.4	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A106304

Included Lab Sample IDs: 2254931, 2254932, 2254933

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	97.0	P/P	90 - 110
Organic Carbon	97.0	97.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106327

Included Lab Sample IDs: 2254932

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A106477

Included Lab Sample IDs: 2254928

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: A106477

Included Lab Sample IDs: 2254928

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	104	103	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
EPA 180.1 Rev. 2.0	Turbidity				4.95	
EPA 300.0 Rev. 2.1	Chloride	99.4	97.4	98.8	0.164	
	Sulfate	95.9	98.1	96.9	1.13	
EPA 350.1 Rev. 2.0	Ammonia-N	98.4	102	99.0		3.18
	Ammonia-N	97.8	94.8	96.4		1.53
	Ammonia-N	101	99.2	100		1.20
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.4	96.7	98.2		0.864
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.0	98.5	98.0		0.509
EPA 365.1 Rev. 2.0	Total-P	102	103	104		1.06
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.6	100	100		0.0
SM 2120 B-2011	Color (true)	97.9			0.450	
SM 2320 B-2011	Total Alkalinity	101			0.0720	
	Total Alkalinity	107			0.495	
SM 2540 C-2011	TDS				6.57	
SM 4500 F-C-2011	Fluoride	101	108	107		0.462
	Fluoride	101	103	103		0.469
SM 5310 B-2011	Organic Carbon	96.2	93.9	95.2		0.935

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2254928, 2254929, 2254930
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2254928, 2254929, 2254930
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2254928, 2254929, 2254930
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2254931, 2254932, 2254933
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2254931, 2254932, 2254933
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2254931, 2254932, 2254933
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2254931, 2254932, 2254933
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2254934, 2254935, 2254936
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2254928, 2254929, 2254930
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2254928, 2254929, 2254930
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2254928, 2254929, 2254930
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2254928, 2254929, 2254930
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2254928, 2254929, 2254930
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2254931, 2254932, 2254933

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	06/15/2021			06/15/2021 15:51	Sarah A Nixon	2254928, 2254929, 2254930
EPA 300.0 Rev. 2.1	06/15/2021			06/17/2021 21:56	Lipi Saha	2254928
	06/15/2021			06/17/2021 22:08	Lipi Saha	2254929
	06/15/2021			06/17/2021 22:21	Lipi Saha	2254930
EPA 350.1 Rev. 2.0	06/15/2021			06/24/2021 13:16	Roberta Tatti	2254931
	06/15/2021			06/24/2021 13:40	Roberta Tatti	2254933
	06/15/2021			06/28/2021 12:09	Ping Hua	2254932
EPA 351.2 Rev. 2.0	06/15/2021	06/18/2021 14:20	Benjamin T. Nordmann	06/21/2021 12:48	Letuzia M De Oliveira	2254931
	06/15/2021	06/18/2021 14:20	Benjamin T. Nordmann	06/21/2021 12:49	Letuzia M De Oliveira	2254932
	06/15/2021	06/18/2021 14:20	Benjamin T. Nordmann	06/21/2021 12:51	Letuzia M De Oliveira	2254933
EPA 353.2 Rev. 2.0	06/15/2021			06/16/2021 09:17	Beverly Y. Sanders	2254931
	06/15/2021			06/16/2021 09:18	Beverly Y. Sanders	2254932
	06/15/2021			06/16/2021 09:19	Beverly Y. Sanders	2254933
EPA 365.1 Rev. 2.0	06/15/2021	06/21/2021 16:53	Madeline Gruver	06/22/2021 11:52	Shengyu Ding	2254933
	06/15/2021	06/21/2021 16:53	Madeline Gruver	06/22/2021 14:21	Shengyu Ding	2254931
	06/15/2021	06/21/2021 16:53	Madeline Gruver	06/22/2021 14:22	Shengyu Ding	2254932
EPA 365.1 Rev. 2.0 dissolved	06/15/2021			06/15/2021 15:21	Ping Hua	2254934, 2254935
	06/15/2021			06/15/2021 15:26	Ping Hua	2254936
SM 2120 B-2011	06/15/2021			06/15/2021 16:35	Sarah A Nixon	2254928
	06/15/2021			06/15/2021 16:36	Sarah A Nixon	2254929, 2254930
SM 2320 B-2011	06/15/2021			06/19/2021 06:53	Dale L. Simmons	2254929
	06/15/2021			06/19/2021 07:05	Dale L. Simmons	2254930
	06/15/2021			06/23/2021 20:14	Patrick M. Roche	2254928
SM 2540 C-2011	06/15/2021			06/18/2021 15:41	Yijie Li	2254928, 2254929, 2254930
SM 2540 D-2011	06/15/2021			06/18/2021 15:41	Yijie Li	2254928, 2254929, 2254930
SM 4500 F-C-2011	06/15/2021			06/19/2021 06:53	Dale L. Simmons	2254929
	06/15/2021			06/19/2021 07:05	Dale L. Simmons	2254930
	06/15/2021			07/07/2021 06:08	Patrick M. Roche	2254928
SM 5310 B-2011	06/15/2021			06/23/2021 21:18	Madeline Gruver	2254932
	06/15/2021			06/23/2021 22:11	Madeline Gruver	2254933
	06/15/2021			06/24/2021 01:29	Madeline Gruver	2254931