

Chemical Analysis Report

SE-DIST-2019-12-20-01

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

Event Description: **SMP Okee Finale**
Request ID: **RQ-2019-12-16-57**
Customer: **SE-DIST**
Project ID: **SMP**

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 14-JAN-2020 15:40



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: Taylor Creek @ 70

Collection Date/Time: 12/19/2019 11:15

Field ID: G1SE0011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2145832	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P376271	
	EPA 300.0 Rev. 2.1	Chloride	69		mg Cl/L	P376811	
		Sulfate	46		mg SO4/L	P376815	
	SM 2120 B-2011	Color (true)	73	A	PCU	P376280	
	SM 2320 B-2011	Total Alkalinity	165	A	mg CaCO3/L	P376377	
	SM 2540 C-2011	TDS	360		mg/L	P376548	
	SM 2540 D-2011	TSS	4	I	mg/L	P376537	
	SM 4500 F-C-2011	Fluoride	0.14		mg F/L	P376381	
2145834	EPA 350.1 Rev. 2.0	Ammonia-N	0.73		mg N/L	P376468	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P376585	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.82		mg N/L	P376476	
	EPA 365.1 Rev. 2.0	Total-P	0.26		mg P/L	P376308	
	SM 5310 B-2011	Organic Carbon	18		mg C/L	P376455	
2145836	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.17		mg P/L	P376299	

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: Taylor Creek @ 441

Collection Date/Time: 12/19/2019 11:40

Field ID: G1SE0001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2145829	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P376271	
	EPA 300.0 Rev. 2.1	Chloride	65	A	mg Cl/L	P376811	
		Sulfate	36	A	mg SO4/L	P376815	
	SM 2120 B-2011	Color (true)	200		PCU	P376280	
	SM 2320 B-2011	Total Alkalinity	70		mg CaCO3/L	P376377	
	SM 2540 C-2011	TDS	278	A	mg/L	P376548	
	SM 2540 D-2011	TSS	5	IA	mg/L	P376537	
	SM 4500 F-C-2011	Fluoride	0.11		mg F/L	P376381	
2145830	EPA 350.1 Rev. 2.0	Ammonia-N	0.18		mg N/L	P376468	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P376585	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.49		mg N/L	P376476	
	EPA 365.1 Rev. 2.0	Total-P	0.37		mg P/L	P376307	
	SM 5310 B-2011	Organic Carbon	28		mg C/L	P376455	
2145831	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.28		mg P/L	P376299	

Ref. Method and Comment:

SM 2540 D-2011: 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: Taylor Creek @ 98

Collection Date/Time: 12/19/2019 13:10

Field ID: G1SE0025

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2145833	EPA 180.1 Rev. 2.0	Turbidity	6.1	A	NTU	P376271	
	EPA 300.0 Rev. 2.1	Chloride	71		mg Cl/L	P376811	
		Sulfate	38		mg SO4/L	P376815	
	SM 2120 B-2011	Color (true)	92		PCU	P376280	
	SM 2320 B-2011	Total Alkalinity	167		mg CaCO3/L	P376377	
	SM 2540 C-2011	TDS	365		mg/L	P376548	
	SM 2540 D-2011	TSS	10	I	mg/L	P376537	
	SM 4500 F-C-2011	Fluoride	0.15		mg F/L	P376381	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P376468	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P376585	
2145835	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P376476	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P376308	
	SM 5310 B-2011	Organic Carbon	25		mg C/L	P376455	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.073		mg P/L	P376299	
	dissolved						

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: L-63 canal @ SE 86th Blvd.

Collection Date/Time: 12/19/2019 15:00

Field ID: G1SE0022

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2145838	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P376271	
	EPA 300.0 Rev. 2.1	Chloride	110		mg Cl/L	P376811	
		Sulfate	66		mg SO4/L	P376815	
	SM 2120 B-2011	Color (true)	120		PCU	P376280	
	SM 2320 B-2011	Total Alkalinity	104		mg CaCO3/L	P376377	
	SM 2540 C-2011	TDS	389		mg/L	P376548	
	SM 2540 D-2011	TSS	3	I	mg/L	P376537	
	SM 4500 F-C-2011	Fluoride	0.13		mg F/L	P376381	
2145839	EPA 350.1 Rev. 2.0	Ammonia-N	0.039		mg N/L	P376468	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P376752	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.083		mg N/L	P376476	
	EPA 365.1 Rev. 2.0	Total-P	0.26		mg P/L	P376308	
	SM 5310 B-2011	Organic Carbon	23		mg C/L	P376455	
2145840	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.19		mg P/L	P376299	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: 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: P376271

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376811

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376815

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376468

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376585

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376752

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376476

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376307

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376308

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: P376299

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

Reference Method: SM 2120 B-2011
Batch ID: P376280

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P376377

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

Reference Method: SM 2540 C-2011
Batch ID: P376548

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P376537

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P376381

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P376455

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: P376811

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376815

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376468

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376585

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376752

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376476

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376307

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376308

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376299

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P376280

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.9		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P376377

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P376381

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

Reference Method: SM 5310 B-2011
Batch ID: P376455

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376811

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145829	Chloride	99.7		P	90 - 110
2145968	Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376815

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145829	Sulfate	101		P	90 - 110
2145968	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376468

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145513	Ammonia-N	97.5	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376585

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145302	Kjeldahl Nitrogen	105	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145456	NO2NO3-N	99.4	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145834	Total-P	108	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376299

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145837	O-Phosphate-P	95.7	97.4	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P376381

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145832	Fluoride	102	102	P/P	89 - 106

Reference Method: SM 5310 B-2011
Batch ID: P376455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145834	Organic Carbon	95.8	97.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P376271

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145833	Turbidity	3.60	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376811

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145829	Chloride	0.325	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376815

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145829	Sulfate	0.123	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145513	Ammonia-N	0.503	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145302	Kjeldahl Nitrogen	2.66	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145839	Kjeldahl Nitrogen	7.43	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376476

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145456	NO2NO3-N	0.456	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145417	Total-P	0.375	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P376308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145834	Total-P	0.0435	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P376299

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145837	O-Phosphate-P	1.01	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
 Batch ID: P376280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145832	Color (true)	0.455	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
 Batch ID: P376377

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145832	Total Alkalinity	0.0199	Sample	P	0 - 2.8

Reference Method: SM 2540 C-2011
 Batch ID: P376548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145829	TDS	1.80	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P376381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145832	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
 Batch ID: P376455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145834	Organic Carbon	0.835	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A96514

Included Lab Sample IDs: 2145829, 2145832, 2145833, 2145838

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

Reference Method: SM 2120 B-2011

Run ID: A96516

Included Lab Sample IDs: 2145829, 2145832, 2145833, 2145838

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	105	102	P/P	90 - 115
Color (true)	99.6	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A96528

Included Lab Sample IDs: 2145831, 2145836, 2145837, 2145840

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

Reference Method: SM 2320 B-2011

Run ID: A96559

Included Lab Sample IDs: 2145829, 2145832, 2145833, 2145838

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	104	P/P	90 - 110
Total Alkalinity	104	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A96559

Included Lab Sample IDs: 2145829, 2145832, 2145833, 2145838

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	103	104	P/P	90 - 110
Fluoride	103	105	P/P	90 - 110
Fluoride	104	103	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A96584

Included Lab Sample IDs: 2145830, 2145834, 2145835, 2145839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	103	99.2	P/P	90 - 110
Organic Carbon	99.2	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A96586

Included Lab Sample IDs: 2145830, 2145834, 2145835, 2145839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	97.7	P/P	90 - 110
Ammonia-N	97.7	98.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A96590

Included Lab Sample IDs: 2145830, 2145834, 2145835, 2145839

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96642

Included Lab Sample IDs: 2145830, 2145834, 2145835, 2145839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	104	P/P	90 - 110
Total-P	104	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96702

Included Lab Sample IDs: 2145830, 2145834, 2145835

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	108	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A96770

Included Lab Sample IDs: 2145829, 2145832, 2145833, 2145838

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	103	P/P	90 - 110
Chloride	103	102	P/P	90 - 110
Sulfate	102	102	P/P	90 - 110
Sulfate	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96789

Included Lab Sample IDs: 2145839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	99.8	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					3.60	
EPA 300.0 Rev. 2.1	Chloride	103	99.7	99.3		0.325	
	Sulfate	103	101	100		0.123	
EPA 350.1 Rev. 2.0	Ammonia-N	98.7	97.5	96.8			0.503
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	105	101			2.66
	Kjeldahl Nitrogen	98.5					7.43
EPA 353.2 Rev. 2.0	NO2NO3-N	101	99.4	98.8			0.456
EPA 365.1 Rev. 2.0	Total-P	104					0.375
	Total-P	103	108	108			0.0435
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5	95.7	97.4			1.01
SM 2120 B-2011	Color (true)	99.9				0.455	
SM 2320 B-2011	Total Alkalinity	104				0.0199	
SM 2540 C-2011	TDS					1.80	
SM 4500 F-C-2011	Fluoride	101	102	102			0.0
SM 5310 B-2011	Organic Carbon	97.6	95.8	97.4			0.835

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2145829, 2145832, 2145833, 2145838
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2145829, 2145832, 2145833, 2145838
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2145829, 2145832, 2145833, 2145838
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2145830, 2145834, 2145835, 2145839
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2145830, 2145834, 2145835, 2145839
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2145830, 2145834, 2145835, 2145839
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2145830, 2145834, 2145835, 2145839
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2145831, 2145836, 2145837, 2145840
SM 2120 B-2011 / E31780	True Color measured at 450 nm	2145829, 2145832, 2145833, 2145838
SM 2320 B-2011 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2145829, 2145832, 2145833, 2145838
SM 2540 C-2011 / E31780	Total Dissolved Solids in aqueous matrices	2145829, 2145832, 2145833, 2145838
SM 2540 D-2011 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2145829, 2145832, 2145833, 2145838
SM 4500 F-C-2011 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2145829, 2145832, 2145833, 2145838
SM 5310 B-2011 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2145830, 2145834, 2145835, 2145839

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	12/20/2019			12/20/2019 15:03	Yen Ta	2145829, 2145832, 2145833, 2145838
EPA 300.0 Rev. 2.1	12/20/2019			01/08/2020 06:33	Jhamieka S. Greenwood	2145829
	12/20/2019			01/08/2020 07:57	Jhamieka S. Greenwood	2145832
	12/20/2019			01/08/2020 08:34	Jhamieka S. Greenwood	2145833
	12/20/2019			01/08/2020 08:46	Jhamieka S. Greenwood	2145838
EPA 350.1 Rev. 2.0	12/20/2019			12/26/2019 19:01	Ping Hua	2145830
	12/20/2019			12/26/2019 19:09	Ping Hua	2145835
	12/20/2019			12/26/2019 19:15	Ping Hua	2145834
	12/20/2019			12/26/2019 19:18	Ping Hua	2145839
EPA 351.2 Rev. 2.0	12/20/2019	01/02/2020 13:10	Sima Feizi	01/03/2020 15:43	Virginia P. Brown	2145830
	12/20/2019	01/02/2020 13:10	Sima Feizi	01/03/2020 15:44	Virginia P. Brown	2145834
	12/20/2019	01/02/2020 13:10	Sima Feizi	01/03/2020 15:46	Virginia P. Brown	2145835
	12/20/2019	01/08/2020 13:00	Sima Feizi	01/09/2020 14:29	Virginia P. Brown	2145839
EPA 353.2 Rev. 2.0	12/20/2019			12/27/2019 11:35	Beverly Y. Sanders	2145839
	12/20/2019			12/27/2019 12:10	Beverly Y. Sanders	2145830
	12/20/2019			12/27/2019 12:12	Beverly Y. Sanders	2145834
	12/20/2019			12/27/2019 12:13	Beverly Y. Sanders	2145835
EPA 365.1 Rev. 2.0	12/20/2019	12/23/2019 11:37	Yen Ta	12/30/2019 12:14	Benjamin T. Nordmann	2145830
	12/20/2019	12/23/2019 11:37	Yen Ta	12/30/2019 12:20	Benjamin T. Nordmann	2145834
	12/20/2019	12/23/2019 11:37	Yen Ta	12/30/2019 12:23	Benjamin T. Nordmann	2145835
	12/20/2019	12/23/2019 11:37	Yen Ta	12/30/2019 12:24	Benjamin T. Nordmann	2145839
EPA 365.1 Rev. 2.0 dissolved	12/20/2019			12/20/2019 16:34	Virginia P. Brown	2145837
	12/20/2019			12/20/2019 16:37	Virginia P. Brown	2145831
	12/20/2019			12/20/2019 16:38	Virginia P. Brown	2145836, 2145840
SM 2120 B-2011	12/20/2019			12/20/2019 16:03	Madeline Funaro	2145832
	12/20/2019			12/20/2019 16:04	Madeline Funaro	2145833
	12/20/2019			12/20/2019 16:05	Madeline Funaro	2145838
	12/20/2019			12/20/2019 16:32	Madeline Funaro	2145829
SM 2320 B-2011	12/20/2019			12/24/2019 19:13	Dale L. Simmons	2145832
	12/20/2019			12/24/2019 21:53	Dale L. Simmons	2145829
	12/20/2019			12/24/2019 22:05	Dale L. Simmons	2145833
	12/20/2019			12/24/2019 23:00	Dale L. Simmons	2145838
SM 2540 C-2011	12/20/2019			12/23/2019 16:45	Yijie Li	2145829, 2145832, 2145833, 2145838
SM 2540 D-2011	12/20/2019			12/23/2019 16:45	Yijie Li	2145829, 2145832, 2145833, 2145838
SM 4500 F-C-2011	12/20/2019			12/24/2019 18:19	Dale L. Simmons	2145832
	12/20/2019			12/24/2019 21:53	Dale L. Simmons	2145829
	12/20/2019			12/24/2019 22:05	Dale L. Simmons	2145833
	12/20/2019			12/24/2019 23:00	Dale L. Simmons	2145838
SM 5310 B-2011	12/20/2019			12/26/2019 23:27	Madeline Funaro	2145834
	12/20/2019			12/27/2019 01:12	Madeline Funaro	2145830

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	12/20/2019			12/27/2019 01:25	Madeline Funaro	2145835
	12/20/2019			12/27/2019 01:38	Madeline Funaro	2145839