

Chemical Analysis Report

SO-DIST-2020-06-09-01

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

Event Description: **2020 SMP : Peace River**
Request ID: **RQ-2020-04-13-15**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 29-JUN-2020 10:04

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: Peace River Estuary

Collection Date/Time: 06/08/2020 09:20

Field ID: G3SD0148

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2175143	EPA 180.1 Rev. 2.0	Turbidity	4.3		NTU	P382978	
	EPA 300.0 Rev. 2.1	Bromide	1.9		mg Br/L	P383319	
	SM 2320 B-2011	Total Alkalinity	48		mg CaCO3/L	P383085	
	SM 2540 D-2011	TSS	6	I	mg/L	P383449	
	SM 4500 F-C-2011	Fluoride	0.43		mg F/L	P383088	
2175144	EPA 350.1 Rev. 2.0	Ammonia-N	0.091		mg N/L	P383169	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P383073	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.42		mg N/L	P383006	
	EPA 365.1 Rev. 2.0	Total-P	0.61		mg P/L	P383013	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P383058	
2175145	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.52		mg P/L	P382989	

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: PeaceRiver HorseCreek2

Collection Date/Time: 06/08/2020 10:15

Field ID: G3SD0154

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2175146	EPA 180.1 Rev. 2.0	Turbidity	11	A	NTU	P382979	
	EPA 300.0 Rev. 2.1	Chloride	31		mg Cl/L	P383135	
		Sulfate	78		mg SO4/L	P383138	
		Color (true)	210		PCU	P382974	
	SM 2320 B-2011	Total Alkalinity	41		mg CaCO3/L	P383085	
	SM 2540 C-2011	TDS	262	A	mg/L	P383512	
	SM 2540 D-2011	TSS	21	A	mg/L	P383446	
	SM 4500 F-C-2011	Fluoride	0.39		mg F/L	P383088	
2175147	EPA 350.1 Rev. 2.0	Ammonia-N	0.089		mg N/L	P383169	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P383073	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.71		mg N/L	P383007	
	EPA 365.1 Rev. 2.0	Total-P	0.78		mg P/L	P383013	
	SM 5310 B-2011	Organic Carbon	23		mg C/L	P383058	
2175148	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.51		mg P/L	P382989	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P382978

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P382979

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383135

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383138

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383319

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383169

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383073

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383006

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383007

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383013

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P382989

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

Reference Method: SM 2120 B-2011
Batch ID: P382974

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P383085

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

Reference Method: SM 2540 C-2011
Batch ID: P383512

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P383446

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P383449

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P383088

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P383058

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: P383135

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383138

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383319

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383169

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383073

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: P383006

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383007

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: P383013

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P382989

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P382974

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.8		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P383085

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.8		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P383088

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P383058

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2174945	Chloride	103		P	90 - 110
2175082	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383138

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2174945	Sulfate	105		P	90 - 110
2175082	Sulfate	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383319

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175177	Bromide	96.5	93.4	P/P	90 - 110
2176090	Bromide	91.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383169

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175217	Ammonia-N	96.3	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175086	Kjeldahl Nitrogen	98.9	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383006

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175030	NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175216	NO2NO3-N	99.3	98.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383013

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175077	Total-P	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P382989

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175079	O-Phosphate-P	91.5	93.7	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P383088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175215	Fluoride	97.6	98.1	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P383058

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175077	Organic Carbon	98.8	99.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P382978

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175075	Turbidity	4.33	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P382979

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175146	Turbidity	2.62	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383135

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175082	Chloride	0.750	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175082	Sulfate	0.719	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383319

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175177	Bromide	3.11	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383169

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175217	Ammonia-N	1.60	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175086	Kjeldahl Nitrogen	7.29	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175030	NO2NO3-N	0.501	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175216	NO2NO3-N	0.866	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175077	Total-P	0.384	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P382989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175079	O-Phosphate-P	2.22	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P382974

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175075	Color (true)	4.73	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P383085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175215	Total Alkalinity	0.885	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P383512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175146	TDS	5.71	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P383446

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175146	TSS	3.85	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P383088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175215	Fluoride	0.477	Spike	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P383058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175077	Organic Carbon	0.246	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-2011

Run ID: A99227

Included Lab Sample IDs: 2175146

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A99228

Included Lab Sample IDs: 2175143, 2175146

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	102	P/P	95 - 105
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99237

Included Lab Sample IDs: 2175145, 2175148

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99240

Included Lab Sample IDs: 2175144, 2175147

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

Reference Method: SM 5310 B-2011

Run ID: A99255

Included Lab Sample IDs: 2175144, 2175147

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.5	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99256

Included Lab Sample IDs: 2175144, 2175147

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

Reference Method: SM 2320 B-2011

Run ID: A99271

Included Lab Sample IDs: 2175143, 2175146

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.3	97.6	P/P	90 - 110
Total Alkalinity	97.6	95.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A99271

Included Lab Sample IDs: 2175143, 2175146

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: A99271

Included Lab Sample IDs: 2175143, 2175146

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	103	P/P	90 - 110
Fluoride	102	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A99295

Included Lab Sample IDs: 2175146

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99309

Included Lab Sample IDs: 2175144, 2175147

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A99330

Included Lab Sample IDs: 2175144, 2175147

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.1	103	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A99373

Included Lab Sample IDs: 2175143

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	101	99.7	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 SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					4.33	
	Turbidity					2.62	
EPA 300.0 Rev. 2.1	Bromide	100	96.5	93.4	91.1		3.11
	Chloride	102	104	103		0.750	
	Sulfate	104	106	105		0.719	
EPA 350.1 Rev. 2.0	Ammonia-N	98.6	96.3	98.0			1.60
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	98.9	108			7.29
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.0	100	99.5			0.501
	NO ₂ NO ₃ -N	99.5	99.3	98.3			0.866
EPA 365.1 Rev. 2.0	Total-P	104	106	106			0.384
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.3	91.5	93.7			2.22
SM 2120 B-2011	Color (true)	98.8				4.73	
SM 2320 B-2011	Total Alkalinity	98.8				0.885	
SM 2540 C-2011	TDS					5.71	
SM 2540 D-2011	TSS					3.85	
SM 4500 F-C-2011	Fluoride	99.0	97.6	98.1			0.477
SM 5310 B-2011	Organic Carbon	98.8	98.8	99.1			0.246

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2175143, 2175146
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2175143
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2175146
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2175146
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2175144, 2175147
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2175144, 2175147
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2175144, 2175147
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2175144, 2175147
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2175145, 2175148
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2175146
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2175143, 2175146
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2175146
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2175143, 2175146
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2175143, 2175146
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2175144, 2175147

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	06/09/2020			06/09/2020 17:02	Yen Ta	2175143, 2175146
EPA 300.0 Rev. 2.1	06/09/2020			06/11/2020 13:54	Elliott Rodriguez	2175146
	06/09/2020			06/16/2020 20:53	Elliott Rodriguez	2175143
EPA 350.1 Rev. 2.0	06/09/2020			06/13/2020 13:39	Ping Hua	2175144
	06/09/2020			06/13/2020 13:41	Ping Hua	2175147
EPA 351.2 Rev. 2.0	06/09/2020	06/11/2020 09:27	Sima Feizi	06/15/2020 13:08	Jhamieka S. Greenwood	2175144
	06/09/2020	06/11/2020 09:27	Sima Feizi	06/15/2020 13:09	Jhamieka S. Greenwood	2175147
EPA 353.2 Rev. 2.0	06/09/2020			06/10/2020 08:56	Beverly Y. Sanders	2175144
	06/09/2020			06/10/2020 09:09	Beverly Y. Sanders	2175147
EPA 365.1 Rev. 2.0	06/09/2020	06/10/2020 13:08	Yen Ta	06/11/2020 08:20	Lipi Saha	2175144
	06/09/2020	06/10/2020 13:08	Yen Ta	06/11/2020 08:21	Lipi Saha	2175147
EPA 365.1 Rev. 2.0 dissolved	06/09/2020			06/09/2020 16:04	Carlos Miranda	2175145
	06/09/2020			06/09/2020 16:06	Carlos Miranda	2175148
SM 2120 B-2011	06/09/2020			06/09/2020 16:04	Blanca Fach	2175146
SM 2320 B-2011	06/09/2020			06/10/2020 19:24	Dale L. Simmons	2175146
	06/09/2020			06/10/2020 21:11	Dale L. Simmons	2175143
SM 2540 C-2011	06/09/2020			06/12/2020 15:15	Yijie Li	2175146
SM 2540 D-2011	06/09/2020			06/12/2020 15:15	Yijie Li	2175143, 2175146
SM 4500 F-C-2011	06/09/2020			06/10/2020 19:24	Dale L. Simmons	2175146
	06/09/2020			06/10/2020 21:11	Dale L. Simmons	2175143
SM 5310 B-2011	06/09/2020			06/10/2020 16:48	David Boose	2175144
	06/09/2020			06/10/2020 17:01	David Boose	2175147