

Chemical Analysis Report

NW-DIST-2018-09-11-01

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

Event Description: **Choctawhatchee North run**
Request ID: **RQ-2018-09-10-30**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
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Date Certified: 26-SEP-2018 18:08



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 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: Choctawhatchee River upstream Hwy 90 Boat Ramp **Collection Date/Time: 09/10/2018 11:20**

Field ID: G3NW0052

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023721	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P351496	
	EPA 300.0 Rev. 2.1	Chloride	4.2		mg Cl/L	P351984	
		Sulfate	1.7		mg SO4/L	P351988	
	SM 2120 B	Color (true)	38	A	PCU	P351434	
	SM 2320 B-97	Total Alkalinity	31		mg CaCO3/L	P351705	
	SM 2540 C-97	TDS	68		mg/L	P351797	
	SM 2540 D-97	TSS	15		mg/L	P351730	
	SM 4500 F-C-97	Fluoride	0.043	I	mg F/L	P351708	
2023724	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P351628	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P351569	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.39		mg N/L	P351589	
	EPA 365.1 Rev. 2.0	Total-P	0.049		mg P/L	P351502	
	SM 5310 B-00	Organic Carbon	6.4		mg C/L	P351876	
2023727	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.016		mg P/L	P351443	

Sample Location: Choctawhatchee River upstream of Holmes Creek

Collection Date/Time: 09/10/2018 13:00

Field ID: G3NW0129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023722	EPA 180.1 Rev. 2.0	Turbidity	14		NTU	P351496	
	EPA 300.0 Rev. 2.1	Chloride	3.7		mg Cl/L	P351984	
		Sulfate	1.3		mg SO4/L	P351988	
	SM 2120 B	Color (true)	100		PCU	P351433	
	SM 2320 B-97	Total Alkalinity	22		mg CaCO3/L	P351705	
	SM 2540 C-97	TDS	60		mg/L	P351798	
	SM 2540 D-97	TSS	7	I	mg/L	P351731	
	SM 4500 F-C-97	Fluoride	0.037	I	mg F/L	P351708	
2023725	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P351628	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P351569	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P351589	
	EPA 365.1 Rev. 2.0	Total-P	0.043		mg P/L	P351502	
	SM 5310 B-00	Organic Carbon	7.8		mg C/L	P351876	
2023728	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P351445	

Ref. Method and Comment:

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

Sample Location: Choctawhatchee River South of Carlisle Lake Collection Date/Time: 09/10/2018 14:20

Field ID: G3NW0130

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023723	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P351496	
	EPA 300.0 Rev. 2.1	Chloride	3.7		mg Cl/L	P351984	
		Sulfate	1.4		mg SO4/L	P351988	
	SM 2120 B	Color (true)	46		PCU	P351434	
	SM 2320 B-97	Total Alkalinity	27		mg CaCO3/L	P351705	
	SM 2540 C-97	TDS	65		mg/L	P351798	
	SM 2540 D-97	TSS	11		mg/L	P351731	
	SM 4500 F-C-97	Fluoride	0.040	I	mg F/L	P351708	
2023726	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P351628	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P351569	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.25		mg N/L	P351589	
	EPA 365.1 Rev. 2.0	Total-P	0.046		mg P/L	P351502	
	SM 5310 B-00	Organic Carbon	7.6		mg C/L	P351876	
2023729	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P351445	

Ref. Method and Comment:

SM 2540 D-97: 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: P351496

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351984

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351988

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351628

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351569

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351589

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351502

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351443

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351445

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P351433

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P351434

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P351705

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

Reference Method: SM 2540 C-97
Batch ID: P351797

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P351798

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351730

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351731

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P351708

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P351876

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: P351984

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351988

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351628

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351569

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351589

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351502

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.6		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351443

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351445

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

Reference Method: SM 2120 B
Batch ID: P351433

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.3		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P351434

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.8		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P351705

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P351708

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	100		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351984

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023174	Chloride	98.2		P	90 - 110
2023721	Chloride	99.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351988

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023174	Sulfate	98.3		P	90 - 110
2023721	Sulfate	98.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351628

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023724	Ammonia-N	98.9	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351569

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023694	Kjeldahl Nitrogen	100	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351589

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023618	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351502

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023743	Total-P	97.0	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351443

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023581	O-Phosphate-P	96.8	96.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351445

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023728	O-Phosphate-P	98.9	96.3	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P351708

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024161	Fluoride	96.3	96.3	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P351876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023654	Organic Carbon	101	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351496

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023541	Turbidity	6.88	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351984

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023174	Chloride	0.135	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023174	Sulfate	0.0848	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351628

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023724	Ammonia-N	1.25	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351569

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023694	Kjeldahl Nitrogen	0.561	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351589

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023618	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023743	Total-P	0.425	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351443

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023581	O-Phosphate-P	0.172	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351445

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023728	O-Phosphate-P	2.38	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P351433

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023807	Color (true)	2.81	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P351434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023721	Color (true)	10.3	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P351705

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024161	Total Alkalinity	1.46	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P351797

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023579	TDS	0.749	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P351798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023748	TDS	4.68	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P351730

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023579	TSS	7.69	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P351708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024161	Fluoride	0.0	Spike	P	0 - 3.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P351876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023654	Organic Carbon	0.403	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A86405

Included Lab Sample IDs: 2023721, 2023722, 2023723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.7	99.7	P/P	90 - 115
Color (true)	99.7	100	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A86408

Included Lab Sample IDs: 2023727, 2023728, 2023729

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	97.3	P/P	90 - 110
O-Phosphate-P	101	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A86432

Included Lab Sample IDs: 2023721, 2023722, 2023723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	104	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86459

Included Lab Sample IDs: 2023724, 2023725, 2023726

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86460

Included Lab Sample IDs: 2023724, 2023725, 2023726

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86472

Included Lab Sample IDs: 2023724, 2023725, 2023726

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

Reference Method: SM 2320 B-97

Run ID: A86511

Included Lab Sample IDs: 2023721, 2023722, 2023723

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

Reference Method: SM 4500 F-C-97

Run ID: A86511

Included Lab Sample IDs: 2023721, 2023722, 2023723

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

Reference Method: SM 4500 F-C-97

Run ID: A86511

Included Lab Sample IDs: 2023721, 2023722, 2023723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86527

Included Lab Sample IDs: 2023724, 2023725, 2023726

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A86566

Included Lab Sample IDs: 2023721, 2023722, 2023723

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

Reference Method: SM 5310 B-00

Run ID: A86572

Included Lab Sample IDs: 2023724, 2023725, 2023726

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.8	98.3	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					6.88	
EPA 300.0 Rev. 2.1	Chloride	100	98.2	99.5		0.135	
	Sulfate	99.2	98.3	98.1		0.0848	
EPA 350.1 Rev. 2.0	Ammonia-N	99.5	98.9	101			1.25
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.5	100	101			0.561
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	102	102			0.0
EPA 365.1 Rev. 2.0	Total-P	96.6	97.0	97.4			0.425
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.2	96.8	96.6			0.172
	O-Phosphate-P	98.2	98.9	96.3			2.38
SM 2120 B	Color (true)	99.3				2.81	
	Color (true)	99.8				10.3	
SM 2320 B-97	Total Alkalinity	102				1.46	
SM 2540 C-97	TDS					0.749	
	TDS					4.68	
SM 2540 D-97	TSS					7.69	
SM 4500 F-C-97	Fluoride	96.9	96.3	96.3			0.0
SM 5310 B-00	Organic Carbon	100	101	102			0.403

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2023721, 2023722, 2023723
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2023721, 2023722, 2023723
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2023721, 2023722, 2023723
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2023724, 2023725, 2023726
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2023724, 2023725, 2023726
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2023724, 2023725, 2023726
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2023724, 2023725, 2023726
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2023727, 2023728, 2023729
SM 2120 B / E31780	True Color measured at 450 nm	2023721, 2023722, 2023723
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2023721, 2023722, 2023723
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2023721, 2023722, 2023723
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2023721, 2023722, 2023723
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2023721, 2023722, 2023723
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2023724, 2023725, 2023726

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	09/11/2018			09/11/2018 15:38	Megan Treadwell	2023721, 2023722, 2023723
EPA 300.0 Rev. 2.1	09/11/2018			09/18/2018 16:19	Lipi Saha	2023721
	09/11/2018			09/18/2018 19:32	Lipi Saha	2023722
	09/11/2018			09/18/2018 19:44	Lipi Saha	2023723
EPA 350.1 Rev. 2.0	09/11/2018			09/13/2018 11:10	Ping Hua	2023724
	09/11/2018			09/13/2018 11:15	Ping Hua	2023725
	09/11/2018			09/13/2018 11:16	Ping Hua	2023726
EPA 351.2 Rev. 2.0	09/11/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 11:56	Joseph Suarez	2023724
	09/11/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 11:57	Joseph Suarez	2023725
	09/11/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 11:59	Joseph Suarez	2023726
EPA 353.2 Rev. 2.0	09/11/2018			09/13/2018 13:37	Lauren Bottorf	2023724
	09/11/2018			09/13/2018 13:38	Lauren Bottorf	2023725
	09/11/2018			09/13/2018 13:39	Lauren Bottorf	2023726
EPA 365.1 Rev. 2.0	09/11/2018	09/12/2018 12:10	Sima Feizi	09/13/2018 13:23	Beverly Y. Sanders	2023724
	09/11/2018	09/12/2018 12:10	Sima Feizi	09/13/2018 13:24	Beverly Y. Sanders	2023725
	09/11/2018	09/12/2018 12:10	Sima Feizi	09/13/2018 13:25	Beverly Y. Sanders	2023726
EPA 365.1 Rev. 2.0 dissolved	09/11/2018			09/11/2018 14:26	Lipi Saha	2023728
	09/11/2018			09/11/2018 14:42	Lipi Saha	2023727
	09/11/2018			09/11/2018 14:43	Lipi Saha	2023729
SM 2120 B	09/11/2018			09/11/2018 15:33	DeAsia Armster	2023722
	09/11/2018			09/11/2018 15:45	DeAsia Armster	2023721
	09/11/2018			09/11/2018 15:46	DeAsia Armster	2023723
SM 2320 B-97	09/11/2018			09/13/2018 20:37	Dale L. Simmons	2023721
	09/11/2018			09/13/2018 20:47	Dale L. Simmons	2023722
	09/11/2018			09/13/2018 20:58	Dale L. Simmons	2023723
SM 2540 C-97	09/11/2018			09/12/2018 15:16	Yijie Li	2023721, 2023722, 2023723
SM 2540 D-97	09/11/2018			09/12/2018 15:16	Yijie Li	2023721, 2023722, 2023723
SM 4500 F-C-97	09/11/2018			09/13/2018 20:37	Dale L. Simmons	2023721
	09/11/2018			09/13/2018 20:47	Dale L. Simmons	2023722
	09/11/2018			09/13/2018 20:58	Dale L. Simmons	2023723
SM 5310 B-00	09/11/2018			09/18/2018 04:17	Megan Treadwell	2023724
	09/11/2018			09/18/2018 04:29	Megan Treadwell	2023725
	09/11/2018			09/18/2018 04:41	Megan Treadwell	2023726