

Chemical Analysis Report

SO-DIST-2024-01-30-01

Florida DEP Laboratory
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DOH Accreditation E31780

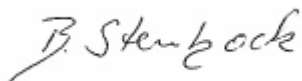
Event Description: **Gordon River TMDL**
Request ID: **RQ-2024-01-08-47**
Customer: **SO-DIST**
Project ID: **TMDL**

Send Reports to:
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FLDEP South District Office
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Date Certified: 19-FEB-2024 17:40



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: GORDON RIVER AT ROCK CREEK

Collection Date/Time: 01/29/2024 11:05

Field ID: G1SD0131

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2464315	DEP SOP: NU-094-1	Color (true)	25		PCU	P440647	
	EPA 180.1 Rev. 2.0	Turbidity	5.4		NTU	P440655	
	EPA 300.0 Rev. 2.1	Chloride	9.5E+03		mg Cl/L	P441022	
		Sulfate	1.3E+03		mg SO4/L	P441025	
	SM 2320 B-2011	Total Alkalinity	188		mg CaCO3/L	P441087	
	SM 2540 C-2015	TDS	1.76E+04		mg/L	P441271	
	SM 2540 D-2015	TSS	5	I	mg/L	P441049	
	SM 4500-F- C-2011	Fluoride	0.62		mg F/L	P441091	
2464318	EPA 350.1 Rev. 2.0	Ammonia-N	0.072		mg N/L	P440728	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P441525	MS, RPD
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P440882	
	EPA 365.1 Rev. 2.0	Total-P	0.031		mg P/L	P440813	
	SM 5310 B-2014	Organic Carbon	7.6		mg C/L	P440887	
2464321	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P440661	

Ref. Method and Comment:
 SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: GORDON RIVER AT BAKER PARK

Collection Date/Time: 01/29/2024 11:25

Field ID: G1SD0132

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2464316	DEP SOP: NU-094-1	Color (true)	27		PCU	P440647	
	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P440655	
	EPA 300.0 Rev. 2.1	Chloride	8.8E+03		mg Cl/L	P441022	
		Sulfate	1.3E+03		mg SO4/L	P441025	
	SM 2320 B-2011	Total Alkalinity	192		mg CaCO3/L	P441087	
	SM 2540 C-2015	TDS	1.51E+04		mg/L	P441271	
	SM 2540 D-2015	TSS	5	I	mg/L	P441049	
	SM 4500-F- C-2011	Fluoride	0.59		mg F/L	P441091	
2464319	EPA 350.1 Rev. 2.0	Ammonia-N	0.074		mg N/L	P440728	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P441525	MS, RPD
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P440882	
	EPA 365.1 Rev. 2.0	Total-P	0.033		mg P/L	P440866	MS
	SM 5310 B-2014	Organic Carbon	7.6		mg C/L	P440887	
2464322	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P440661	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: GORDON RIVER NEAR AVION PL

Collection Date/Time: 01/29/2024 11:40

Field ID: G1SD0133					Matrix: W-SURF-SLT		
Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2464317	DEP SOP: NU-094-1	Color (true)	28		PCU	P440647	
	EPA 180.1 Rev. 2.0	Turbidity	3.9		NTU	P440655	
	EPA 300.0 Rev. 2.1	Chloride	7.8E+03		mg Cl/L	P441022	
		Sulfate	1.1E+03		mg SO4/L	P441025	
	SM 2320 B-2011	Total Alkalinity	196		mg CaCO3/L	P441087	
	SM 2540 C-2015	TDS	1.34E+04		mg/L	P441271	
	SM 2540 D-2015	TSS	4	I	mg/L	P441049	
	SM 4500-F- C-2011	Fluoride	0.53		mg F/L	P441091	
2464320	EPA 350.1 Rev. 2.0	Ammonia-N	0.082		mg N/L	P440728	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P441525	MS, RPD
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.099		mg N/L	P440882	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P440866	MS
	SM 5310 B-2014	Organic Carbon	8.0		mg C/L	P440887	
2464323	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.009	I	mg P/L	P440661	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P440647

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P440655

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441022

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441025

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440728

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441525

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440882

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440813

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440866

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: P440661

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

Reference Method: SM 2320 B-2011
Batch ID: P441087

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-2015
Batch ID: P441271

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P441049

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P441091

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P440887

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P440647

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	104		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P440655

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441022

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441025

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440728

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441525

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440882

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440813

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440866

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P440661

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

Reference Method: SM 2320 B-2011
Batch ID: P441087

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.0		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P441271

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	103		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P441049

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	106		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P441091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.3		P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P440887

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441022

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2464297	Chloride	99.0		P	90 - 110
2464404	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441025

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2464297	Sulfate	99.8		P	90 - 110
2464404	Sulfate	98.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440728

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463810	Ammonia-N	96.2	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441525

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2468031	Kjeldahl Nitrogen	136	108	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440882

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2464318	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440813

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463811	Total-P	90.3	93.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440866

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2464494	Total-P	111	106	F/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P440661

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2464321	O-Phosphate-P	101	99.6	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P441091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2464492	Fluoride	96.1	95.4	P/P	94 - 106

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2014
Batch ID: P440887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2464320	Organic Carbon	89.4	90.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P440647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464290	Color (true)	1.07	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P440655

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464287	Turbidity	1.66	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464297	Chloride	0.00684	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441025

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464297	Sulfate	0.311	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440728

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463810	Ammonia-N	3.41	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441525

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2468031	Kjeldahl Nitrogen	20.5	Spike	F	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P440882

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464318	NO2NO3-N	0.976	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463811	Total-P	3.51	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P440866

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464494	Total-P	4.48	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P440661

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464321	O-Phosphate-P	1.21	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P441087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464492	Total Alkalinity	0.187	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P441271

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464664	TDS	2.57	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P441091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464492	Fluoride	0.467	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P440887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464320	Organic Carbon	0.774	Spike	P	0 - 15

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

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A123898

Included Lab Sample IDs: 2464315, 2464316, 2464317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A123901

Included Lab Sample IDs: 2464315, 2464316, 2464317

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A123902

Included Lab Sample IDs: 2464321, 2464322, 2464323

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.1	99.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123920

Included Lab Sample IDs: 2464318, 2464319, 2464320

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A123976

Included Lab Sample IDs: 2464318

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A123980

Included Lab Sample IDs: 2464318, 2464319, 2464320

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	104	P/P	90 - 110

Reference Method: SM 5310 B-2014

Run ID: A123981

Included Lab Sample IDs: 2464318, 2464319, 2464320

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	109	94.1	P/P	70 - 130

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A123999

Included Lab Sample IDs: 2464319, 2464320

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.5	97.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A124027

Included Lab Sample IDs: 2464315, 2464316, 2464317

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: A124053

Included Lab Sample IDs: 2464315, 2464316, 2464317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.7	97.8	P/P	90 - 110
Total Alkalinity	97.2	95.7	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A124053

Included Lab Sample IDs: 2464315, 2464316, 2464317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	94.6	96.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A124242

Included Lab Sample IDs: 2464318, 2464319, 2464320

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.4	95.7	P/P	90 - 110
Kjeldahl Nitrogen	95.7	104	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
DEP SOP: NU-094-1	Color (true)	104			1.07	
EPA 180.1 Rev. 2.0	Turbidity	104			1.66	
EPA 300.0 Rev. 2.1	Chloride	101	99.0	101	0.0068	
	Sulfate	100	99.8	98.5	0.311	
EPA 350.1 Rev. 2.0	Ammonia-N	94.0	96.2	101		3.41
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	136	108		20.5
EPA 353.2 Rev. 2.0	NO2NO3-N	100	104	103		0.976
EPA 365.1 Rev. 2.0	Total-P	105	90.3	93.6		3.51
	Total-P	104	111	106		4.48
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	101	99.6		1.21
SM 2320 B-2011	Total Alkalinity	98.0			0.187	
SM 2540 C-2015	TDS	103			2.57	
SM 2540 D-2015	TSS	106				
SM 4500-F- C-2011	Fluoride	94.3	96.1	95.4		0.467
SM 5310 B-2014	Organic Carbon	96.6	89.4	90.3		0.774

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2464315, 2464316, 2464317
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2464315, 2464316, 2464317
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2464315, 2464316, 2464317
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2464315, 2464316, 2464317
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2464318, 2464319, 2464320
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2464318, 2464319, 2464320
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2464318, 2464319, 2464320
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2464318, 2464319, 2464320
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2464321, 2464322, 2464323
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2464315, 2464316, 2464317
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2464315, 2464316, 2464317
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2464315, 2464316, 2464317
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2464315, 2464316, 2464317
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2464318, 2464319, 2464320

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	01/30/2024			01/30/2024 15:11	Samantha L Bates	2464315
	01/30/2024			01/30/2024 15:12	Samantha L Bates	2464316
	01/30/2024			01/30/2024 15:13	Samantha L Bates	2464317
EPA 180.1 Rev. 2.0	01/30/2024			01/30/2024 14:27	Dipa Joshi	2464315
	01/30/2024			01/30/2024 14:28	Dipa Joshi	2464316
	01/30/2024			01/30/2024 14:29	Dipa Joshi	2464317
EPA 300.0 Rev. 2.1	01/30/2024			02/06/2024 06:31	James L Waggeberby	2464315
	01/30/2024			02/06/2024 06:46	James L Waggeberby	2464316
	01/30/2024			02/06/2024 07:01	James L Waggeberby	2464317
EPA 350.1 Rev. 2.0	01/30/2024			01/31/2024 14:25	Ping Hua	2464318
	01/30/2024			01/31/2024 14:26	Ping Hua	2464319
	01/30/2024			01/31/2024 14:28	Ping Hua	2464320
EPA 351.2 Rev. 2.0	01/30/2024	02/16/2024 11:20	Samantha L Bates	02/19/2024 10:57	Samantha L Bates	2464318
	01/30/2024	02/16/2024 11:20	Samantha L Bates	02/19/2024 11:03	Samantha L Bates	2464319
	01/30/2024	02/16/2024 11:20	Samantha L Bates	02/19/2024 11:06	Samantha L Bates	2464320
EPA 353.2 Rev. 2.0	01/30/2024			02/02/2024 14:10	Fadila Guebre	2464318
	01/30/2024			02/02/2024 14:16	Fadila Guebre	2464319
	01/30/2024			02/02/2024 14:18	Fadila Guebre	2464320
EPA 365.1 Rev. 2.0	01/30/2024	02/01/2024 15:22	Adam P Silver	02/02/2024 13:34	Simonne.V. Calhoun	2464318
	01/30/2024	02/02/2024 13:37	Adam P Silver	02/05/2024 12:52	Chandler E Cox	2464319
	01/30/2024	02/02/2024 13:37	Adam P Silver	02/05/2024 12:53	Chandler E Cox	2464320
EPA 365.1 Rev. 2.0 dissolved	01/30/2024			01/30/2024 16:12	Adam P Silver	2464321
	01/30/2024			01/30/2024 16:14	Adam P Silver	2464322
	01/30/2024			01/30/2024 16:15	Adam P Silver	2464323
SM 2320 B-2011	01/30/2024			02/07/2024 03:31	Dale L. Simmons	2464315
	01/30/2024			02/07/2024 03:45	Dale L. Simmons	2464316
	01/30/2024			02/07/2024 04:53	Dale L. Simmons	2464317
SM 2540 C-2015	01/30/2024			02/02/2024 15:41	Yijie Li	2464315, 2464316, 2464317
SM 2540 D-2015	01/30/2024			02/02/2024 15:41	Yijie Li	2464315, 2464316, 2464317
SM 4500-F- C-2011	01/30/2024			02/07/2024 01:29	Dale L. Simmons	2464315
	01/30/2024			02/07/2024 01:34	Dale L. Simmons	2464316
	01/30/2024			02/07/2024 01:40	Dale L. Simmons	2464317
SM 5310 B-2014	01/30/2024			02/03/2024 05:06	Khloe J Berg	2464320
	01/30/2024			02/03/2024 08:01	Khloe J Berg	2464318
	01/30/2024			02/03/2024 08:15	Khloe J Berg	2464319