

Chemical Analysis Report

SO-DIST-2024-04-10-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **TMDL Gordon River**
Request ID: **RQ-2024-04-08-04**
Customer: **SO-DIST**
Project ID: **TMDL**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
Attn: Nicole Reistad

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Marek Topolski, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 30-APR-2024 09:53



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: 04/09/2024 09:45

Field ID: G1SD0131

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481120	DEP SOP: NU-094-1	Color (true)	11		PCU	P444078	
	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P444076	
	EPA 300.0 Rev. 2.1	Chloride	1.5E+04		mg Cl/L	P444495	
		Sulfate	2.0E+03		mg SO4/L	P444498	
	SM 2320 B-2011	Total Alkalinity	155		mg CaCO3/L	P444418	
	SM 2540 C-2015	TDS	2.55E+04		mg/L	P444537	
	SM 2540 D-2015	TSS	16		mg/L	P444437	
	SM 4500-F- C-2011	Fluoride	0.98		mg F/L	P444422	
2481123	EPA 350.1 Rev. 2.0	Ammonia-N	0.048		mg N/L	P444258	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.55		mg N/L	P444145	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P444298	
	EPA 365.1 Rev. 2.0	Total-P	0.056		mg P/L	P444252	
	SM 5310 B-2014	Organic Carbon	6.2		mg C/L	P444176	
2481126	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.013		mg P/L	P444147	

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: 04/09/2024 10:05

Field ID: G1SD0132

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481121	DEP SOP: NU-094-1	Color (true)	15		PCU	P444078	
	EPA 180.1 Rev. 2.0	Turbidity	8.0		NTU	P444076	
	EPA 300.0 Rev. 2.1	Chloride	1.3E+04		mg Cl/L	P444495	
		Sulfate	1.8E+03		mg SO4/L	P444498	
	SM 2320 B-2011	Total Alkalinity	166		mg CaCO3/L	P444418	
	SM 2540 C-2015	TDS	2.28E+04		mg/L	P444538	
	SM 2540 D-2015	TSS	10	I	mg/L	P444437	
2481124	SM 4500-F- C-2011	Fluoride	0.89		mg F/L	P444422	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P444258	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P444145	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P444298	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P444252	
2481127	SM 5310 B-2014	Organic Carbon	6.5		mg C/L	P444176	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.01	I	mg P/L	P444147	

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: 04/09/2024 10:25

Field ID: G1SD0133

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481122	DEP SOP: NU-094-1	Color (true)	18		PCU	P444078	
	EPA 180.1 Rev. 2.0	Turbidity	6.1		NTU	P444076	
	EPA 300.0 Rev. 2.1	Chloride	1.2E+04		mg Cl/L	P444495	
		Sulfate	1.7E+03		mg SO4/L	P444498	
	SM 2320 B-2011	Total Alkalinity	170		mg CaCO3/L	P444418	
	SM 2540 C-2015	TDS	2.13E+04		mg/L	P444538	
	SM 2540 D-2015	TSS	10	I	mg/L	P444437	
	SM 4500-F- C-2011	Fluoride	0.84		mg F/L	P444422	
2481125	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P444258	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P444272	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P444298	
	EPA 365.1 Rev. 2.0	Total-P	0.038		mg P/L	P444252	
	SM 5310 B-2014	Organic Carbon	7.3		mg C/L	P444176	
2481128	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P444147	

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: P444078

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444076

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444495

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444498

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444258

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444145

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444272

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444298

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444252

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: P444147

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

Reference Method: SM 2320 B-2011
Batch ID: P444418

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

Reference Method: SM 2540 C-2015
Batch ID: P444537

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015
Batch ID: P444538

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P444437

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P444422

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P444176

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: P444078

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	95.8		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444076

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444495

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444498

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444258

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444145

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444272

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444298

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: P444252

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P444147

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

Reference Method: SM 2320 B-2011
Batch ID: P444418

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P444537

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	94.8		P	85 - 115

Reference Method: SM 2540 C-2015
Batch ID: P444538

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	102		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P444437

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	110		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P444422

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	103		P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P444176

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.5		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444495

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481155	Chloride	101		P	90 - 110
2481243	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444498

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481155	Sulfate	101		P	90 - 110
2481243	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444258

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481081	Ammonia-N	98.4	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444145

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481124	Kjeldahl Nitrogen	99.0	98.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444272

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481318	Kjeldahl Nitrogen	104	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480780	NO2NO3-N	91.1	90.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444252

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481235	Total-P	92.6	95.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P444147

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481082	O-Phosphate-P	98.0	98.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P444422

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481614	Fluoride	105	105	P/P	94 - 106

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2014
Batch ID: P444176

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480831	Organic Carbon	89.6	90.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P444078

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481001	Color (true)	10.9	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444076

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481016	Turbidity	13.9	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444495

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481155	Chloride	1.11	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444498

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481155	Sulfate	0.449	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481081	Ammonia-N	1.36	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444145

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481124	Kjeldahl Nitrogen	0.675	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444272

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481318	Kjeldahl Nitrogen	1.82	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480780	NO2NO3-N	0.550	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444252

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481235	Total-P	3.11	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P444147

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481082	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P444418

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481614	Total Alkalinity	1.51	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P444537

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480875	TDS	7.46	Sample	P	0 - 10

Reference Method: SM 2540 C-2015
Batch ID: P444538

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480572	TDS	5.44	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P444422

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481614	Fluoride	0.0	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P444176

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480831	Organic Carbon	1.27	Spike	P	0 - 15

* 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: A125266

Included Lab Sample IDs: 2481120, 2481121, 2481122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.0	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A125267

Included Lab Sample IDs: 2481120, 2481121, 2481122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.9	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A125293

Included Lab Sample IDs: 2481126, 2481127, 2481128

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.1	99.2	P/P	90 - 110

Reference Method: SM 5310 B-2014

Run ID: A125303

Included Lab Sample IDs: 2481123, 2481124, 2481125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	128	98.8	P/P	70 - 130

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A125325

Included Lab Sample IDs: 2481123, 2481124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.3	96.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A125326

Included Lab Sample IDs: 2481123, 2481124, 2481125

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A125335

Included Lab Sample IDs: 2481123, 2481124, 2481125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A125336

Included Lab Sample IDs: 2481123, 2481124, 2481125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	99.0	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A125342
Included Lab Sample IDs: 2481120, 2481121, 2481122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.6	100	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125378
Included Lab Sample IDs: 2481125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.9	99.9	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A125379
Included Lab Sample IDs: 2481120, 2481121, 2481122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	95.3	P/P	90 - 110
Total Alkalinity	95.3	96.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A125379
Included Lab Sample IDs: 2481120, 2481121, 2481122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	105	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	SMP	MS
DEP SOP: NU-094-1	Color (true)	95.8				10.9	
EPA 180.1 Rev. 2.0	Turbidity	103				13.9	
EPA 300.0 Rev. 2.1	Chloride	102	101	101		1.11	
	Sulfate	103	101	101		0.449	
EPA 350.1 Rev. 2.0	Ammonia-N	97.8	98.4	100			1.36
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.1	99.0	98.3			0.675
	Kjeldahl Nitrogen	104	104	102			1.82
EPA 353.2 Rev. 2.0	NO2NO3-N	100	91.1	90.6			0.550
EPA 365.1 Rev. 2.0	Total-P	96.3	92.6	95.6			3.11
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	98.0	98.0			0.0
SM 2320 B-2011	Total Alkalinity	102				1.51	
SM 2540 C-2015	TDS	94.8				7.46	
	TDS	102				5.44	
SM 2540 D-2015	TSS	110					
SM 4500-F- C-2011	Fluoride	103	105	105			0.0
SM 5310 B-2014	Organic Carbon	98.5	89.6	90.9			1.27

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2481120, 2481121, 2481122
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2481120, 2481121, 2481122
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2481120, 2481121, 2481122
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2481120, 2481121, 2481122
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2481123, 2481124, 2481125
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2481123, 2481124, 2481125
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2481123, 2481124, 2481125
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2481123, 2481124, 2481125
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2481126, 2481127, 2481128
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2481120, 2481121, 2481122
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2481120, 2481121, 2481122
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2481120, 2481121, 2481122
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2481120, 2481121, 2481122
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2481123, 2481124, 2481125

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	04/10/2024			04/10/2024 14:59	Jessica K Wilks	2481120
	04/10/2024			04/10/2024 15:00	Jessica K Wilks	2481121, 2481122
	04/10/2024			04/10/2024 13:01	Jessica K Wilks	2481120
EPA 180.1 Rev. 2.0	04/10/2024			04/10/2024 13:02	Jessica K Wilks	2481121
	04/10/2024			04/10/2024 13:04	Jessica K Wilks	2481122
	04/10/2024			04/17/2024 17:50	James L Waggeberby	2481120
EPA 300.0 Rev. 2.1	04/10/2024			04/17/2024 18:05	James L Waggeberby	2481121
	04/10/2024			04/17/2024 18:20	James L Waggeberby	2481122
	04/10/2024			04/15/2024 11:32	Khloe J Berg	2481123
EPA 350.1 Rev. 2.0	04/10/2024			04/15/2024 11:34	Khloe J Berg	2481124
	04/10/2024			04/15/2024 11:35	Khloe J Berg	2481125
	04/10/2024	04/12/2024 07:57	Simonne.V. Calhoun	04/15/2024 13:23	Robyn Blevins	2481123
EPA 351.2 Rev. 2.0	04/10/2024	04/12/2024 07:57	Simonne.V. Calhoun	04/15/2024 13:24	Robyn Blevins	2481124
	04/10/2024	04/16/2024 10:48	Simonne.V. Calhoun	04/17/2024 18:07	Ping Hua	2481125
	04/10/2024			04/15/2024 14:28	Fadila Guebre	2481123
EPA 353.2 Rev. 2.0	04/10/2024			04/15/2024 14:29	Fadila Guebre	2481124
	04/10/2024			04/15/2024 14:30	Fadila Guebre	2481125
	04/10/2024	04/15/2024 12:54	Adam P Silver	04/16/2024 12:43	Chandler E Cox	2481123
EPA 365.1 Rev. 2.0	04/10/2024	04/15/2024 12:54	Adam P Silver	04/16/2024 12:44	Chandler E Cox	2481124
	04/10/2024	04/15/2024 12:54	Adam P Silver	04/16/2024 12:45	Chandler E Cox	2481125
EPA 365.1 Rev. 2.0 dissolved	04/10/2024			04/10/2024 14:43	Adam P Silver	2481126, 2481127
	04/10/2024			04/10/2024 14:44	Adam P Silver	2481128
	04/10/2024			04/17/2024 08:14	Adam P Silver	2481120
SM 2320 B-2011	04/10/2024			04/17/2024 09:19	Adam P Silver	2481121
	04/10/2024			04/17/2024 09:32	Adam P Silver	2481122
	04/10/2024			04/12/2024 16:19	Yijie Li	2481120, 2481121, 2481122
SM 2540 C-2015	04/10/2024			04/12/2024 16:19	Yijie Li	2481120, 2481121, 2481122
SM 2540 D-2015	04/10/2024			04/17/2024 06:18	Adam P Silver	2481120
	04/10/2024			04/17/2024 06:23	Adam P Silver	2481121
	04/10/2024			04/17/2024 06:28	Adam P Silver	2481122
SM 4500-F- C-2011	04/10/2024			04/12/2024 04:56	Khloe J Berg	2481123
	04/10/2024			04/12/2024 05:09	Khloe J Berg	2481124
	04/10/2024			04/12/2024 05:27	Khloe J Berg	2481125
SM 5310 B-2014						