

Chemical Analysis Report

SO-DIST-2024-02-09-01

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

Event Description: **Caloosa Creeks**
Request ID: **RQ-2024-02-05-11**
Customer: **SO-DIST**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 01-MAR-2024 18:00



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: ORANGE RIVER AT BOAT RAMP

Collection Date/Time: 02/08/2024 08:15

Field ID: G3SD0128

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2467749	DEP SOP: NU-094-1	Color (true)	31	A	PCU	P441230	
	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P441250	
	EPA 300.0 Rev. 2.1	Chloride	83		mg Cl/L	P441600	
		Sulfate	18		mg SO4/L	P441603	
	SM 2320 B-2011	Total Alkalinity	225		mg CaCO3/L	P441798	
	SM 2540 C-2015	TDS	389		mg/L	P441862	
	SM 2540 D-2015	TSS	2	I	mg/L	P441735	
	SM 4500-F- C-2011	Fluoride	0.18		mg F/L	P441802	
2467754	SM 5310 B-2014 dissolved	Organic Carbon	9.0		mg C/L	P441429	
2467759	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P441377	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.53		mg N/L	P441321	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.066		mg N/L	P441385	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P441419	
	SM 5310 B-2014	Organic Carbon	9.2		mg C/L	P441429	
2467764	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P441231	

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: ROBERTS CANAL AT SR 80

Collection Date/Time: 02/08/2024 09:45

Field ID: G3SD0146

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2467750	DEP SOP: NU-094-1	Color (true)	56		PCU	P441230	
	EPA 180.1 Rev. 2.0	Turbidity	4.8		NTU	P441250	
	EPA 300.0 Rev. 2.1	Chloride	38		mg Cl/L	P441600	
		Sulfate	36		mg SO4/L	P441603	
	SM 2320 B-2011	Total Alkalinity	217		mg CaCO3/L	P441798	
	SM 2540 C-2015	TDS	332		mg/L	P441862	
	SM 2540 D-2015	TSS	4	I	mg/L	P441735	
	SM 4500-F- C-2011	Fluoride	0.30		mg F/L	P441802	
2467755	SM 5310 B-2014 dissolved	Organic Carbon	15		mg C/L	P441429	
2467760	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P441377	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P441321	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P441385	
	EPA 365.1 Rev. 2.0	Total-P	0.031		mg P/L	P441419	
	SM 5310 B-2014	Organic Carbon	16		mg C/L	P441429	
2467765	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P441231	

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: NINE MILE CANAL AT SR 80

Collection Date/Time: 02/08/2024 10:30

Field ID: G3SD0088

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2467751	DEP SOP: NU-094-1	Color (true)	67		PCU	P441230	
	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P441251	
	EPA 300.0 Rev. 2.1	Chloride	55		mg Cl/L	P441601	
		Sulfate	33		mg SO4/L	P441604	
	SM 2320 B-2011	Total Alkalinity	172		mg CaCO3/L	P441798	
	SM 2540 C-2015	TDS	267		mg/L	P441862	
	SM 2540 D-2015	TSS	5	I	mg/L	P441735	
	SM 4500-F- C-2011	Fluoride	0.24		mg F/L	P441802	
2467756	SM 5310 B-2014 dissolved	Organic Carbon	17		mg C/L	P441429	
2467761	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P441377	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P441321	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P441385	
	EPA 365.1 Rev. 2.0	Total-P	0.088		mg P/L	P441419	
	SM 5310 B-2014	Organic Carbon	18		mg C/L	P441429	
2467766	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.046		mg P/L	P441231	

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: BEE BRANCH AT LOBLOLLY BAY RD

Collection Date/Time: 02/08/2024 11:20

Field ID: G3SD0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2467752	DEP SOP: NU-094-1	Color (true)	230		PCU	P441230	
	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P441251	
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P441601	
		Sulfate	5.0		mg SO4/L	P441604	
	SM 2320 B-2011	Total Alkalinity	9.5		mg CaCO3/L	P441798	
	SM 2540 C-2015	TDS	100		mg/L	P441862	
	SM 2540 D-2015	TSS	3	I	mg/L	P441735	
	SM 4500-F- C-2011	Fluoride	0.050	I	mg F/L	P441946	MS
2467757	SM 5310 B-2014 dissolved	Organic Carbon	26		mg C/L	P441429	
2467762	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P441377	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P441321	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P441385	
	EPA 365.1 Rev. 2.0	Total-P	0.088		mg P/L	P441381	
	SM 5310 B-2014	Organic Carbon	26		mg C/L	P441429	
2467767	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.025		mg P/L	P441231	

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: TELEGRAPH CREEK SONDE AT USGS SONDE STATION Collection Date/Time: 02/08/2024 12:15

Field ID: G3SD0129 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2467753	DEP SOP: NU-094-1	Color (true)	210		PCU	P441230	
	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P441251	
	EPA 300.0 Rev. 2.1	Chloride	47	A	mg Cl/L	P441601	
		Sulfate	1.9	A	mg SO4/L	P441604	
	SM 2320 B-2011	Total Alkalinity	66		mg CaCO3/L	P441798	
	SM 2540 C-2015	TDS	178		mg/L	P441862	
	SM 2540 D-2015	TSS	4	I	mg/L	P441735	
	SM 4500-F- C-2011	Fluoride	0.062	I	mg F/L	P441946	MS
2467758	SM 5310 B-2014 dissolved	Organic Carbon	26		mg C/L	P441429	
2467763	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P441377	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P441321	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P441385	
	EPA 365.1 Rev. 2.0	Total-P	0.047		mg P/L	P441381	
	SM 5310 B-2014	Organic Carbon	27		mg C/L	P441429	
2467768	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P441231	

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: P441230

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441250

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441251

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441600

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441601

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441603

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441604

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441377

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441321

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441385

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441381

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441419

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P441231

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

Reference Method: SM 2320 B-2011
Batch ID: P441798

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

Reference Method: SM 2540 C-2015
Batch ID: P441862

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P441735

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P441802

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P441946

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 5310 B-2014
Batch ID: P441429

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

Reference Method: SM 5310 B-2014 dissolved
Batch ID: P441429

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: P441230

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.7		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441250

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441251

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441600

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441601

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441603

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441604

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	107		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441377

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441321

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441385

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441381

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441419

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P441231

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

Reference Method: SM 2320 B-2011
Batch ID: P441798

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.2		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P441862

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

Reference Method: SM 2540 D-2015
Batch ID: P441735

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

Reference Method: SM 4500-F- C-2011
Batch ID: P441802

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P441946

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	94 - 106

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2014
Batch ID: P441429

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

Reference Method: SM 5310 B-2014 dissolved
Batch ID: P441429

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: P441600

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2466382	Chloride	101		P	90 - 110
2466388	Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441601

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467753	Chloride	99.6		P	90 - 110
2468010	Chloride	99.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441603

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2466382	Sulfate	98.5		P	90 - 110
2466388	Sulfate	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467753	Sulfate	105		P	90 - 110
2468010	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441377

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467711	Ammonia-N	95.6	95.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441321

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467884	Kjeldahl Nitrogen	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441385

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467674	NO2NO3-N	98.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441381

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467884	Total-P	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441419

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441419

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467759	Total-P	106	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P441231

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467592	O-Phosphate-P	97.0	99.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P441802

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467670	Fluoride	103	104	P/P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P441946

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467942	Fluoride	105	107	P/F	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P441429

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467759	Organic Carbon	98.5	101	P/P	85 - 115

Reference Method: SM 5310 B-2014 dissolved
Batch ID: P441429

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467759	Organic Carbon	98.5	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P441230

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467749	Color (true)	6.59	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441250

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467669	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467880	Turbidity	13.8	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2466382	Chloride	0.0528	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441601

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467753	Chloride	4.38	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441603

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2466382	Sulfate	0.0608	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P441604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467753	Sulfate	3.62	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441377

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467711	Ammonia-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441321

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467884	Kjeldahl Nitrogen	0.252	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441385

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467674	NO2NO3-N	1.02	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467884	Total-P	0.360	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467759	Total-P	2.40	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P441231

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467592	O-Phosphate-P	2.68	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P441798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467670	Total Alkalinity	1.01	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P441862

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467633	TDS	8.07	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P441802

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467670	Fluoride	0.533	Spike	P	0 - 1.9

Quality Assurance Report
Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P441946

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467942	Fluoride	1.48	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P441429

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467759	Organic Carbon	2.30	Spike	P	0 - 15

Reference Method: SM 5310 B-2014 dissolved
Batch ID: P441429

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467759	Organic Carbon	2.30	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: A124090

Included Lab Sample IDs: 2467749, 2467750, 2467751, 2467752, 2467753

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.7	98.2	P/P	90 - 110
Color (true)	98.2	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A124091

Included Lab Sample IDs: 2467764, 2467765, 2467766, 2467767, 2467768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	99.0	P/P	90 - 110
O-Phosphate-P	99.0	99.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A124097

Included Lab Sample IDs: 2467749, 2467750, 2467751, 2467752, 2467753

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A124138

Included Lab Sample IDs: 2467759, 2467760, 2467761, 2467762, 2467763

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.2	99.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A124140

Included Lab Sample IDs: 2467759, 2467760, 2467761, 2467762, 2467763

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

Reference Method: SM 5310 B-2014

Run ID: A124169

Included Lab Sample IDs: 2467759, 2467760, 2467761, 2467762, 2467763

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.8	127	P/P	85 - 115

Reference Method: SM 5310 B-2014 dissolved

Run ID: A124169

Included Lab Sample IDs: 2467754, 2467755, 2467756, 2467757, 2467758

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.8	127	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A124192

Included Lab Sample IDs: 2467761, 2467762

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	104	P/P	90 - 110
Total-P	101	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A124193

Included Lab Sample IDs: 2467759, 2467760, 2467761, 2467762, 2467763

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A124209

Included Lab Sample IDs: 2467759, 2467760, 2467763

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	100	P/P	90 - 110
Total-P	101	100	P/P	90 - 110
Total-P	99.2	102	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A124232

Included Lab Sample IDs: 2467749, 2467750, 2467751, 2467752, 2467753

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	103	P/P	90 - 110
Chloride	103	99.8	P/P	90 - 110
Sulfate	101	103	P/P	90 - 110
Sulfate	103	99.6	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A124320

Included Lab Sample IDs: 2467749, 2467750, 2467751, 2467752, 2467753

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.0	100	P/P	90 - 110
Total Alkalinity	98.1	96.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A124320

Included Lab Sample IDs: 2467749, 2467750, 2467751

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	105	108	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A124381

Included Lab Sample IDs: 2467752, 2467753

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

Quality Assurance Report

Calibration Verification

* 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)	97.7				6.59	
EPA 180.1 Rev. 2.0	Turbidity	103				0.0	
	Turbidity	103				13.8	
EPA 300.0 Rev. 2.1	Chloride	103	101	98.3		0.0528	
	Chloride	106	99.6	99.0		4.38	
	Sulfate	104	98.5	101		0.0608	
	Sulfate	107	105	102		3.62	
EPA 350.1 Rev. 2.0	Ammonia-N	95.4	95.6	95.6			0.0
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.1	101	102			0.252
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	98.0	99.0			1.02
EPA 365.1 Rev. 2.0	Total-P	103	106	106			0.360
	Total-P	105	106	108			2.40
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	97.0	99.8			2.68
SM 2320 B-2011	Total Alkalinity	98.2				1.01	
SM 2540 C-2015	TDS	103				8.07	
SM 2540 D-2015	TSS	97.6					
SM 4500-F- C-2011	Fluoride	102	103	104			0.533
	Fluoride	99.0	105	107			1.48
SM 5310 B-2014	Organic Carbon	100	98.5	101			2.30
SM 5310 B-2014 dissolved	Organic Carbon	100	98.5	101			2.30

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2467749, 2467750, 2467751, 2467752, 2467753
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2467749, 2467750, 2467751, 2467752, 2467753
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2467749, 2467750, 2467751, 2467752, 2467753
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2467749, 2467750, 2467751, 2467752, 2467753
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2467759, 2467760, 2467761, 2467762, 2467763
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2467759, 2467760, 2467761, 2467762, 2467763
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2467759, 2467760, 2467761, 2467762, 2467763
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2467759, 2467760, 2467761, 2467762, 2467763
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2467764, 2467765, 2467766, 2467767, 2467768
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2467749, 2467750, 2467751, 2467752, 2467753
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2467749, 2467750, 2467751, 2467752, 2467753
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2467749, 2467750, 2467751, 2467752, 2467753
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2467749, 2467750, 2467751, 2467752, 2467753
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2467759, 2467760, 2467761, 2467762, 2467763
SM 5310 B-2014 dissolved	Dissolved Nonpurgeable Organic Carbon in filtered, aqueous matrices	2467754, 2467755, 2467756, 2467757, 2467758

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	02/09/2024			02/09/2024 12:46	Anna M. Plaviak	2467749, 2467750
	02/09/2024			02/09/2024 12:47	Anna M. Plaviak	2467751
	02/09/2024			02/09/2024 12:55	Anna M. Plaviak	2467752, 2467753
EPA 180.1 Rev. 2.0	02/09/2024			02/09/2024 14:06	Khloe J Berg	2467749
	02/09/2024			02/09/2024 14:07	Khloe J Berg	2467750
	02/09/2024			02/09/2024 14:20	Khloe J Berg	2467751
	02/09/2024			02/09/2024 14:24	Khloe J Berg	2467752
	02/09/2024			02/09/2024 14:25	Khloe J Berg	2467753
EPA 300.0 Rev. 2.1	02/09/2024			02/16/2024 02:12	James L Waggeberby	2467749
	02/09/2024			02/16/2024 02:27	James L Waggeberby	2467750
	02/09/2024			02/16/2024 03:58	James L Waggeberby	2467753
	02/09/2024			02/16/2024 04:58	James L Waggeberby	2467751
EPA 350.1 Rev. 2.0	02/09/2024			02/16/2024 05:13	James L Waggeberby	2467752
	02/09/2024			02/13/2024 15:03	Kenneth H Lee	2467759
	02/09/2024			02/13/2024 15:04	Kenneth H Lee	2467760
	02/09/2024			02/13/2024 15:06	Kenneth H Lee	2467761
	02/09/2024			02/13/2024 15:07	Kenneth H Lee	2467762
EPA 351.2 Rev. 2.0	02/09/2024			02/13/2024 15:08	Kenneth H Lee	2467763
	02/09/2024	02/13/2024 13:05	Simonne.V. Calhoun	02/15/2024 11:55	Samantha L Bates	2467759
	02/09/2024	02/13/2024 13:05	Simonne.V. Calhoun	02/15/2024 11:57	Samantha L Bates	2467760
	02/09/2024	02/13/2024 13:05	Simonne.V. Calhoun	02/15/2024 11:58	Samantha L Bates	2467761
	02/09/2024	02/13/2024 13:05	Simonne.V. Calhoun	02/15/2024 12:00	Samantha L Bates	2467762
EPA 353.2 Rev. 2.0	02/09/2024	02/13/2024 13:05	Simonne.V. Calhoun	02/15/2024 12:02	Samantha L Bates	2467763
	02/09/2024			02/13/2024 13:55	Fadila Guebre	2467759
	02/09/2024			02/13/2024 13:56	Fadila Guebre	2467760
	02/09/2024			02/13/2024 13:57	Fadila Guebre	2467761
	02/09/2024			02/13/2024 13:59	Fadila Guebre	2467762
EPA 365.1 Rev. 2.0	02/09/2024			02/13/2024 14:00	Fadila Guebre	2467763
	02/09/2024	02/14/2024 14:03	Adam P Silver	02/15/2024 10:04	Elise M. Gillis	2467762
	02/09/2024	02/14/2024 14:03	Adam P Silver	02/15/2024 11:06	Elise M. Gillis	2467761
	02/09/2024	02/14/2024 14:03	Adam P Silver	02/15/2024 14:53	James L Waggeberby	2467763
	02/09/2024	02/14/2024 14:03	Adam P Silver	02/15/2024 15:27	James L Waggeberby	2467759
EPA 365.1 Rev. 2.0 dissolved	02/09/2024	02/14/2024 14:03	Adam P Silver	02/15/2024 15:37	James L Waggeberby	2467760
	02/09/2024			02/09/2024 13:06	Chandler E Cox	2467764
	02/09/2024			02/09/2024 13:07	Chandler E Cox	2467765
	02/09/2024			02/09/2024 13:08	Chandler E Cox	2467766
	02/09/2024			02/09/2024 13:13	Chandler E Cox	2467767
SM 2320 B-2011	02/09/2024			02/09/2024 13:14	Chandler E Cox	2467768
	02/09/2024			02/21/2024 03:47	Dale L. Simmons	2467749
	02/09/2024			02/21/2024 04:01	Dale L. Simmons	2467750

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	02/09/2024			02/21/2024 04:14	Dale L. Simmons	2467751
	02/09/2024			02/21/2024 04:59	Dale L. Simmons	2467752
	02/09/2024			02/21/2024 05:11	Dale L. Simmons	2467753
SM 2540 C-2015	02/09/2024			02/14/2024 16:46	Yijie Li	2467749, 2467750, 2467751, 2467752, 2467753
SM 2540 D-2015	02/09/2024			02/14/2024 16:46	Yijie Li	2467749, 2467750, 2467751, 2467752, 2467753
SM 4500-F- C-2011	02/09/2024			02/21/2024 03:47	Dale L. Simmons	2467749
	02/09/2024			02/21/2024 04:01	Dale L. Simmons	2467750
	02/09/2024			02/21/2024 04:14	Dale L. Simmons	2467751
	02/09/2024			02/23/2024 21:31	Dale L. Simmons	2467752
	02/09/2024			02/23/2024 21:36	Dale L. Simmons	2467753
SM 5310 B-2014	02/09/2024			02/13/2024 23:46	Elise M. Gillis	2467759
	02/09/2024			02/14/2024 00:46	Elise M. Gillis	2467760
	02/09/2024			02/14/2024 01:16	Elise M. Gillis	2467761
	02/09/2024			02/14/2024 01:47	Elise M. Gillis	2467762
	02/09/2024			02/14/2024 02:17	Elise M. Gillis	2467763
SM 5310 B-2014 dissolved	02/09/2024			02/14/2024 00:32	Elise M. Gillis	2467754
	02/09/2024			02/14/2024 01:01	Elise M. Gillis	2467755
	02/09/2024			02/14/2024 01:31	Elise M. Gillis	2467756
	02/09/2024			02/14/2024 02:02	Elise M. Gillis	2467757
	02/09/2024			02/14/2024 02:32	Elise M. Gillis	2467758