

Chemical Analysis Report

SO-DIST-2024-04-10-03

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

Event Description: **Caloosa Creeks**
Request ID: **RQ-2024-04-08-02**
Customer: **SO-DIST**
Project ID: **BMAP**

Send Reports to:
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FLDEP South District Office
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 01-MAY-2024 13:16



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: 04/09/2024 08:30

Field ID: G3SD0128

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481409	DEP SOP: NU-094-1	Color (true)	28		PCU	P444081	
	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P444077	
	EPA 300.0 Rev. 2.1	Chloride	79		mg Cl/L	P444496	
		Sulfate	14		mg SO4/L	P444499	
	SM 2320 B-2011	Total Alkalinity	174		mg CaCO3/L	P444229	
	SM 2540 C-2015	TDS	323		mg/L	P444537	
	SM 2540 D-2015	TSS	4	I	mg/L	P444434	
	SM 4500-F- C-2011	Fluoride	0.16		mg F/L	P444233	
2481414	SM 5310 B-2014 dissolved	Organic Carbon	8.7		mg C/L	P444238	
2481419	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P444261	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P444276	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P444889	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P444251	
	SM 5310 B-2014	Organic Carbon	9.2		mg C/L	P444238	
2481424	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P444148	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the OC sample.

Sample Location: NINE MILE CANAL AT SR 80

Collection Date/Time: 04/09/2024 10:15

Field ID: G3SD0088

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481411	DEP SOP: NU-094-1	Color (true)	55		PCU	P444082	
	EPA 180.1 Rev. 2.0	Turbidity	5.4		NTU	P444077	
	EPA 300.0 Rev. 2.1	Chloride	53		mg Cl/L	P444496	
		Sulfate	20		mg SO4/L	P444499	
	SM 2320 B-2011	Total Alkalinity	113		mg CaCO3/L	P444229	
	SM 2540 C-2015	TDS	261		mg/L	P444537	
	SM 2540 D-2015	TSS	8	I	mg/L	P444434	
	SM 4500-F- C-2011	Fluoride	0.17		mg F/L	P444233	
2481416	SM 5310 B-2014 dissolved	Organic Carbon	16		mg C/L	P444239	
2481421	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P444261	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P444276	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.088		mg N/L	P444889	
	EPA 365.1 Rev. 2.0	Total-P	0.055		mg P/L	P444278	
	SM 5310 B-2014	Organic Carbon	16		mg C/L	P444239	
2481426	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.011		mg P/L	P444148	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: TELEGRAPH CREEK SONDE AT USGS SONDE STATION Collection Date/Time: 04/09/2024 12:15

Field ID: G3SD0129 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481412	DEP SOP: NU-094-1	Color (true)	150		PCU	P444082	
	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P444077	
	EPA 300.0 Rev. 2.1	Chloride	47		mg Cl/L	P444496	
		Sulfate	4.1		mg SO4/L	P444499	
	SM 2320 B-2011	Total Alkalinity	184		mg CaCO3/L	P444229	
	SM 2540 C-2015	TDS	319		mg/L	P444537	
	SM 2540 D-2015	TSS	3	I	mg/L	P444434	
	SM 4500-F- C-2011	Fluoride	0.12		mg F/L	P444233	
2481417	SM 5310 B-2014 dissolved	Organic Carbon	21		mg C/L	P444239	
2481422	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P444261	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P444276	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P444889	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P444278	
	SM 5310 B-2014	Organic Carbon	21		mg C/L	P444239	
2481427	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.016		mg P/L	P444148	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: BEE BRANCH AT LOBLOLLY BAY RD

Collection Date/Time: 04/09/2024 11:15

Field ID: G3SD0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481413	DEP SOP: NU-094-1	Color (true)	120		PCU	P444082	
	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P444077	
	EPA 300.0 Rev. 2.1	Chloride	33		mg Cl/L	P444496	
		Sulfate	12		mg SO4/L	P444499	
	SM 2320 B-2011	Total Alkalinity	34		mg CaCO3/L	P444229	
	SM 2540 C-2015	TDS	153		mg/L	P444537	
	SM 2540 D-2015	TSS	2	I	mg/L	P444434	
	SM 4500-F- C-2011	Fluoride	0.087	I	mg F/L	P444420	
2481418	SM 5310 B-2014 dissolved	Organic Carbon	17		mg C/L	P444239	
2481423	EPA 350.1 Rev. 2.0	Ammonia-N	0.073		mg N/L	P444261	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P444276	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.036		mg N/L	P444889	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P444278	
	SM 5310 B-2014	Organic Carbon	18		mg C/L	P444239	
2481428	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.076		mg P/L	P444148	

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: P444081

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P444082

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444077

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444496

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444499

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444261

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444276

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444889

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444251

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
Batch ID: P444278

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P444148

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

Reference Method: SM 2320 B-2011
Batch ID: P444229

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 D-2015
Batch ID: P444434

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P444233

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P444420

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P444238

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

Reference Method: SM 5310 B-2014
Batch ID: P444239

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 5310 B-2014 dissolved
Batch ID: P444238

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

Reference Method: SM 5310 B-2014 dissolved
Batch ID: P444239

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: P444081

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

Reference Method: DEP SOP: NU-094-1
Batch ID: P444082

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.3		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444077

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444496

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444499

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444261

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: P444276

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444889

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444251

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444278

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P444148

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

Reference Method: SM 2320 B-2011
Batch ID: P444229

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.0		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 D-2015
Batch ID: P444434

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	95.2		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P444233

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P444420

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

Reference Method: SM 5310 B-2014
Batch ID: P444238

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.4		P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P444239

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.0		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2014 dissolved
Batch ID: P444238

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.4		P	85 - 115

Reference Method: SM 5310 B-2014 dissolved
Batch ID: P444239

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.0		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444496

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481363	Chloride	103		P	90 - 110
2481541	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444499

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481363	Sulfate	104		P	90 - 110
2481541	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444261

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481370	Ammonia-N	97.0	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444276

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481419	Kjeldahl Nitrogen	93.1	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444889

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481419	NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444251

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481371	Total-P	97.8	91.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444278

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481420	Total-P	101	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P444148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481301	O-Phosphate-P	98.9	99.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P444420

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481792	Fluoride	101	101	P/P	94 - 106

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2014
Batch ID: P444238

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481330	Organic Carbon	99.2	100	P/P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P444239

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481420	Organic Carbon	98.1	99.6	P/P	85 - 115

Reference Method: SM 5310 B-2014 dissolved
Batch ID: P444238

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481330	Organic Carbon	99.2	100	P/P	85 - 115

Reference Method: SM 5310 B-2014 dissolved
Batch ID: P444239

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481420	Organic Carbon	98.1	99.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P444081

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481326	Color (true)	5.55	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P444082

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481410	Color (true)	7.32	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444077

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481327	Turbidity	3.42	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444496

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481363	Chloride	0.252	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481363	Sulfate	0.842	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481370	Ammonia-N	1.11	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481419	Kjeldahl Nitrogen	6.78	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444889

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481419	NO2NO3-N	0.496	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481371	Total-P	6.58	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444278

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481420	Total-P	1.21	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P444148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481301	O-Phosphate-P	0.286	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P444229

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481057	Total Alkalinity	2.11	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 4500-F- C-2011
Batch ID: P444233

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481057	Fluoride	0.471	Spike	P	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P444420

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481792	Fluoride	0.515	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P444238

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481330	Organic Carbon	0.785	Spike	P	0 - 15

Quality Assurance Report
Precision

Reference Method: SM 5310 B-2014
Batch ID: P444239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481420	Organic Carbon	1.04	Spike	P	0 - 15

Reference Method: SM 5310 B-2014 dissolved
Batch ID: P444238

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481330	Organic Carbon	0.785	Spike	P	0 - 15

Reference Method: SM 5310 B-2014 dissolved
Batch ID: P444239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481420	Organic Carbon	1.04	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: 2481409, 2481410, 2481411, 2481412, 2481413

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	98.5	P/P	95 - 105
Turbidity	99.0	98.5	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A125267

Included Lab Sample IDs: 2481409, 2481410, 2481411, 2481413

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.0	99.9	P/P	90 - 110
Color (true)	99.0	98.0	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A125268

Included Lab Sample IDs: 2481412

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.9	98.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A125293

Included Lab Sample IDs: 2481424, 2481425, 2481426, 2481427, 2481428

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.0	98.9	P/P	90 - 110
O-Phosphate-P	99.5	99.0	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A125320

Included Lab Sample IDs: 2481409, 2481410, 2481411, 2481412, 2481413

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.0	97.6	P/P	90 - 110
Total Alkalinity	97.7	97.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A125320

Included Lab Sample IDs: 2481409, 2481410, 2481411, 2481412

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.9	98.5	P/P	90 - 110

Reference Method: SM 5310 B-2014

Run ID: A125321

Included Lab Sample IDs: 2481419, 2481420, 2481421, 2481422, 2481423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	118	P/P	85 - 115
Organic Carbon	98.4	101	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2014 dissolved

Run ID: A125321

Included Lab Sample IDs: 2481414, 2481415, 2481416, 2481417, 2481418

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	118	P/P	85 - 115
Organic Carbon	98.4	101	P/P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A125326

Included Lab Sample IDs: 2481419, 2481420, 2481421, 2481422, 2481423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	98.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A125336

Included Lab Sample IDs: 2481419

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A125342

Included Lab Sample IDs: 2481409, 2481410, 2481411, 2481412, 2481413

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Sulfate	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A125350

Included Lab Sample IDs: 2481421, 2481423

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A125353

Included Lab Sample IDs: 2481420, 2481422

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

Reference Method: SM 4500-F- C-2011

Run ID: A125379

Included Lab Sample IDs: 2481413

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A125396

Included Lab Sample IDs: 2481419, 2481420, 2481421, 2481422, 2481423

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125396
Included Lab Sample IDs: 2481419, 2481420, 2481421, 2481422, 2481423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.6	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A125563
Included Lab Sample IDs: 2481419, 2481420, 2481421, 2481422, 2481423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	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)	97.7				5.55	
	Color (true)	98.3				7.32	
EPA 180.1 Rev. 2.0	Turbidity	103				3.42	
EPA 300.0 Rev. 2.1	Chloride	104	103	103		0.252	
	Sulfate	106	104	102		0.842	
EPA 350.1 Rev. 2.0	Ammonia-N	95.4	97.0	98.6			1.11
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	93.1	102			6.78
EPA 353.2 Rev. 2.0	NO2NO3-N	101	100	101			0.496
EPA 365.1 Rev. 2.0	Total-P	101	97.8	91.6			6.58
	Total-P	104	101	103			1.21
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	98.9	99.3			0.286
SM 2320 B-2011	Total Alkalinity	97.0				2.11	
SM 2540 C-2015	TDS	94.8				7.46	
SM 2540 D-2015	TSS	95.2					
SM 4500-F- C-2011	Fluoride	100					0.471
	Fluoride	102	101	101			0.515
SM 5310 B-2014	Organic Carbon	99.4	99.2	100			0.785
	Organic Carbon	99.0	98.1	99.6			1.04
SM 5310 B-2014 dissolved	Organic Carbon	99.4	99.2	100			0.785
	Organic Carbon	99.0	98.1	99.6			1.04

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2481409, 2481410, 2481411, 2481412, 2481413
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2481409, 2481410, 2481411, 2481412, 2481413
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2481409, 2481410, 2481411, 2481412, 2481413
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2481409, 2481410, 2481411, 2481412, 2481413
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2481419, 2481420, 2481421, 2481422, 2481423
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2481419, 2481420, 2481421, 2481422, 2481423
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2481419, 2481420, 2481421, 2481422, 2481423
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2481419, 2481420, 2481421, 2481422, 2481423
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2481424, 2481425, 2481426, 2481427, 2481428
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2481409, 2481410, 2481411, 2481412, 2481413
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2481409, 2481410, 2481411, 2481412, 2481413
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2481409, 2481410, 2481411, 2481412, 2481413
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2481409, 2481410, 2481411, 2481412, 2481413
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2481419, 2481420, 2481421, 2481422, 2481423
SM 5310 B-2014 dissolved	Dissolved Nonpurgeable Organic Carbon in filtered, aqueous matrices	2481414, 2481415, 2481416, 2481417, 2481418

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 15:24	Jessica K Wilks	2481409
	04/10/2024			04/10/2024 15:27	Jessica K Wilks	2481410
	04/10/2024			04/10/2024 15:28	Jessica K Wilks	2481411
	04/10/2024			04/10/2024 15:29	Jessica K Wilks	2481413
	04/10/2024			04/10/2024 15:58	Jessica K Wilks	2481412
EPA 180.1 Rev. 2.0	04/10/2024			04/10/2024 15:10	Jessica K Wilks	2481409
	04/10/2024			04/10/2024 15:11	Jessica K Wilks	2481410
	04/10/2024			04/10/2024 15:14	Jessica K Wilks	2481411
	04/10/2024			04/10/2024 15:16	Jessica K Wilks	2481412
	04/10/2024			04/10/2024 15:17	Jessica K Wilks	2481413
EPA 300.0 Rev. 2.1	04/10/2024			04/18/2024 01:09	James L Waggerby	2481409
	04/10/2024			04/18/2024 01:24	James L Waggerby	2481410
	04/10/2024			04/18/2024 01:39	James L Waggerby	2481411
	04/10/2024			04/18/2024 01:54	James L Waggerby	2481412
	04/10/2024			04/18/2024 02:09	James L Waggerby	2481413
EPA 350.1 Rev. 2.0	04/10/2024			04/15/2024 12:56	Khloe J Berg	2481419
	04/10/2024			04/15/2024 12:58	Khloe J Berg	2481420
	04/10/2024			04/15/2024 12:59	Khloe J Berg	2481421
	04/10/2024			04/15/2024 13:00	Khloe J Berg	2481422
	04/10/2024			04/15/2024 13:02	Khloe J Berg	2481423
EPA 351.2 Rev. 2.0	04/10/2024	04/16/2024 12:38	Simonne.V. Calhoun	04/18/2024 11:44	Robyn Blevins	2481419
	04/10/2024	04/16/2024 12:38	Simonne.V. Calhoun	04/18/2024 11:48	Robyn Blevins	2481420
	04/10/2024	04/16/2024 12:38	Simonne.V. Calhoun	04/18/2024 11:50	Robyn Blevins	2481421
	04/10/2024	04/16/2024 12:38	Simonne.V. Calhoun	04/18/2024 11:52	Robyn Blevins	2481422
	04/10/2024	04/16/2024 12:38	Simonne.V. Calhoun	04/18/2024 11:53	Robyn Blevins	2481423
EPA 353.2 Rev. 2.0	04/10/2024			04/25/2024 13:30	Fadila Guebre	2481419
	04/10/2024			04/25/2024 13:36	Fadila Guebre	2481420
	04/10/2024			04/25/2024 13:37	Fadila Guebre	2481421
	04/10/2024			04/25/2024 13:38	Fadila Guebre	2481422
	04/10/2024			04/25/2024 13:39	Fadila Guebre	2481423
EPA 365.1 Rev. 2.0	04/10/2024	04/15/2024 12:54	Adam P Silver	04/16/2024 12:33	Chandler E Cox	2481419
	04/10/2024	04/16/2024 14:10	Adam P Silver	04/17/2024 09:01	Elise M. Gillis	2481421
	04/10/2024	04/16/2024 14:10	Adam P Silver	04/17/2024 09:03	Elise M. Gillis	2481423
	04/10/2024	04/16/2024 14:10	Adam P Silver	04/17/2024 10:50	Elise M. Gillis	2481420
	04/10/2024	04/16/2024 14:10	Adam P Silver	04/17/2024 10:53	Elise M. Gillis	2481422
EPA 365.1 Rev. 2.0 dissolved	04/10/2024			04/10/2024 15:05	Adam P Silver	2481424
	04/10/2024			04/10/2024 15:06	Adam P Silver	2481425, 2481426
	04/10/2024			04/10/2024 15:11	Adam P Silver	2481427
	04/10/2024			04/10/2024 15:12	Adam P Silver	2481428
SM 2320 B-2011	04/10/2024			04/13/2024 18:06	Dale L. Simmons	2481409

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	04/10/2024			04/13/2024 18:20	Dale L. Simmons	2481410
	04/10/2024			04/13/2024 18:32	Dale L. Simmons	2481411
	04/10/2024			04/13/2024 18:45	Dale L. Simmons	2481412
	04/10/2024			04/13/2024 19:28	Dale L. Simmons	2481413
SM 2540 C-2015	04/10/2024			04/12/2024 16:19	Yijie Li	2481409, 2481410, 2481411, 2481412, 2481413
SM 2540 D-2015	04/10/2024			04/12/2024 16:19	Yijie Li	2481409, 2481410, 2481411, 2481412, 2481413
SM 4500-F- C-2011	04/10/2024			04/13/2024 18:06	Dale L. Simmons	2481409
	04/10/2024			04/13/2024 18:20	Dale L. Simmons	2481410
	04/10/2024			04/13/2024 18:32	Dale L. Simmons	2481411
	04/10/2024			04/13/2024 18:45	Dale L. Simmons	2481412
	04/10/2024			04/16/2024 21:00	Adam P Silver	2481413
SM 5310 B-2014	04/10/2024			04/12/2024 22:19	Khloe J Berg	2481419
	04/10/2024			04/12/2024 23:38	Khloe J Berg	2481420
	04/10/2024			04/13/2024 00:48	Khloe J Berg	2481421
	04/10/2024			04/13/2024 01:15	Khloe J Berg	2481422
	04/10/2024			04/13/2024 01:43	Khloe J Berg	2481423
SM 5310 B-2014 dissolved	04/10/2024			04/12/2024 22:06	Khloe J Berg	2481414
	04/10/2024			04/13/2024 00:20	Khloe J Berg	2481415
	04/10/2024			04/13/2024 00:34	Khloe J Berg	2481416
	04/10/2024			04/13/2024 01:01	Khloe J Berg	2481417
	04/10/2024			04/13/2024 01:29	Khloe J Berg	2481418