

Chemical Analysis Report

NE-DIST-2024-04-09-02

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

Event Description: **Vilano Boat 2024**
Request ID: **RQ-2024-04-08-13**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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8800 Baymeadows Way West
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Date Certified: 26-APR-2024 10:21



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: STAUGUSTINE INLET SE OF VILANO BTRMP Collection Date/Time: 04/08/2024 11:00

Field ID: G5NE0587 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2480891	DEP SOP: NU-094-1	Color (true)	7.5	U	PCU	P444013	
	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P444016	
	EPA 300.0 Rev. 2.1	Chloride	2.1E+04		mg Cl/L	P444562	
		Sulfate	2.9E+03		mg SO4/L	P444565	
	SM 2320 B-2011	Total Alkalinity	116		mg CaCO3/L	P444095	
	SM 2540 C-2015	TDS	3.56E+04		mg/L	P444537	
	SM 2540 D-2015	TSS	7	IA	mg/L	P444437	
	SM 4500-F- C-2011	Fluoride	1.2		mg F/L	P444102	
2480893	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P444060	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24	I	mg N/L	P444144	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P444298	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P444164	
	SM 5310 B-2014	Organic Carbon	2.8	I	mg C/L	P444176	

Ref. Method and Comment:
DEP SOP: NU-094-1: The MDL was elevated because of sample matrix interference.
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: DEEP CREEK 270M ABOVE ICW

Collection Date/Time: 04/08/2024 11:55

Field ID: 27010165

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2480892	DEP SOP: NU-094-1	Color (true)	38		PCU	P444013	
	EPA 180.1 Rev. 2.0	Turbidity	10	A	NTU	P444017	
	EPA 300.0 Rev. 2.1	Chloride	1.1E+04		mg Cl/L	P444325	
		Sulfate	1.6E+03		mg SO4/L	P444328	
	SM 2320 B-2011	Total Alkalinity	100		mg CaCO3/L	P444095	
	SM 2540 C-2015	TDS	2.06E+04		mg/L	P444537	
	SM 2540 D-2015	TSS	22		mg/L	P444437	
	SM 4500-F- C-2011	Fluoride	0.76		mg F/L	P444102	
2480894	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P444060	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		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	0.058		mg P/L	P444164	
	SM 5310 B-2014	Organic Carbon	9.6		mg C/L	P444176	

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: FB

Collection Date/Time: 04/08/2024 11:57

Field ID: FB_04082024				Matrix: W-FIELD-BK			
Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2480895	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P444013	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P444017	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P444325	
		Sulfate	0.20	U	mg SO4/L	P444328	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P444229	
	SM 2540 C-2015	TDS	15	U	mg/L	P444536	
	SM 2540 D-2015	TSS	2	U	mg/L	P444433	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P444233	
2480896	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P444197	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P444205	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P444216	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P444168	
	SM 5310 B-2014	Organic Carbon	0.50	U	mg C/L	P444174	

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.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P444013

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444016

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444017

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444325

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444328

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444562

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444565

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444060

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444197

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444144

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	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: P444205

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444216

Component	Result	Code	Units
NO2NO3-N	0.004	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: P444164

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444168

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

Reference Method: SM 2320 B-2011
Batch ID: P444095

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

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

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 C-2015
Batch ID: P444536

Component	Result	Code	Units
TDS	15	U	mg/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: P444433

Component	Result	Code	Units
TSS	2	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: P444102

Component	Result	Code	Units
Fluoride	0.025	U	mg F/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 5310 B-2014
Batch ID: P444174

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/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: P444013

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: P444016

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444017

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444325

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444328

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444562

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444565

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444060

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	92.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444197

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444144

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.5		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: P444205

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444216

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	100		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: P444164

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444168

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

Reference Method: SM 2320 B-2011
Batch ID: P444095

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.4		P	92 - 105

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P444536

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	94.4		P	85 - 115

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: P444433

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	96.8		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: P444102

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.3		P	94 - 106

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 5310 B-2014
Batch ID: P444174

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

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: P444325

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480871	Chloride	103		P	90 - 110
2480909	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444328

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480871	Sulfate	103		P	90 - 110
2480909	Sulfate	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444562

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481793	Chloride	105		P	90 - 110
2481860	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444565

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481793	Sulfate	105		P	90 - 110
2481860	Sulfate	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444060

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480525	Ammonia-N	102	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444197

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480843	Ammonia-N	95.6	95.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480655	Kjeldahl Nitrogen	90.2	97.5	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 353.2 Rev. 2.0
Batch ID: P444216

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

Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444216

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480836	NO2NO3-N	98.1	98.6	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: P444164

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480893	Total-P	95.6	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444168

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480873	Total-P	100	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P444102

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2478055	Fluoride	101	103	P/P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P444174

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480843	Organic Carbon	98.6	99.2	P/P	85 - 115

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: P444013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480872	Color (true)	1.38	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480666	Turbidity	7.78	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480892	Turbidity	11.7	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444325

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480871	Chloride	0.125	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444328

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480871	Sulfate	0.696	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444562

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481793	Chloride	0.242	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444565

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481793	Sulfate	0.962	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480525	Ammonia-N	0.784	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444197

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480843	Ammonia-N	0.347	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480655	Kjeldahl Nitrogen	7.12	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: P444205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480911	Kjeldahl Nitrogen	1.23	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444216

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480836	NO2NO3-N	0.464	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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480893	Total-P	0.859	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444168

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480873	Total-P	0.699	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P444095

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480654	Total Alkalinity	0.0380	Sample	P	0 - 3.9

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: P444536

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480522	TDS	0.775	Sample	P	0 - 10

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: P444102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2478055	Fluoride	0.967	Spike	P	0 - 1.9

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 5310 B-2014
Batch ID: P444174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480843	Organic Carbon	0.428	Spike	P	0 - 15

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

Quality Assurance Report Precision

* 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: A125240
Included Lab Sample IDs: 2480892, 2480895

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.5	100	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1
Run ID: A125241
Included Lab Sample IDs: 2480891

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.5	94.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A125242
Included Lab Sample IDs: 2480891, 2480892, 2480895

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A125261
Included Lab Sample IDs: 2480893, 2480894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.8	97.3	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A125278
Included Lab Sample IDs: 2480891, 2480892

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.3	99.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A125278
Included Lab Sample IDs: 2480891, 2480892

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.4	100	P/P	90 - 110

Reference Method: SM 5310 B-2014
Run ID: A125303
Included Lab Sample IDs: 2480893, 2480894, 2480896

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	128	98.8	P/P	70 - 130
Organic Carbon	98.4	100	P/P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A125310
Included Lab Sample IDs: 2480896

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A125315

Included Lab Sample IDs: 2480893, 2480894, 2480896

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.5	P/P	90 - 110
Total-P	99.5	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A125318

Included Lab Sample IDs: 2480896

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

Reference Method: SM 2320 B-2011

Run ID: A125320

Included Lab Sample IDs: 2480895

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

Reference Method: SM 4500-F- C-2011

Run ID: A125320

Included Lab Sample IDs: 2480895

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A125325

Included Lab Sample IDs: 2480893, 2480894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.4	95.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A125335

Included Lab Sample IDs: 2480893, 2480894

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A125342

Included Lab Sample IDs: 2480891, 2480892, 2480895

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Chloride	102	104	P/P	90 - 110
Sulfate	102	103	P/P	90 - 110
Sulfate	103	105	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125375
Included Lab Sample IDs: 2480896

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.0	97.4	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
DEP SOP: NU-094-1	Color (true)	98.3			1.38	
EPA 180.1 Rev. 2.0	Turbidity	103			7.78	
	Turbidity	103			11.7	
EPA 300.0 Rev. 2.1	Chloride	103	103	105	0.125	
	Chloride	104	105	105	0.242	
	Sulfate	105	103	105	0.696	
	Sulfate	106	105	105	0.962	
EPA 350.1 Rev. 2.0	Ammonia-N	92.6	102	102		0.784
	Ammonia-N	97.4	95.6	95.2		0.347
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.5	90.2	97.5		7.12
	Kjeldahl Nitrogen	93.1	99.0	98.3		0.675
	Kjeldahl Nitrogen	105				1.23
EPA 353.2 Rev. 2.0	NO2NO3-N	100	98.1	98.6		0.464
	NO2NO3-N	100	91.1	90.6		0.550
EPA 365.1 Rev. 2.0	Total-P	102	95.6	96.4		0.859
	Total-P	102	100	101		0.699
SM 2320 B-2011	Total Alkalinity	99.4			0.0380	
	Total Alkalinity	97.0			2.11	
SM 2540 C-2015	TDS	94.4			0.775	
	TDS	94.8			7.46	
SM 2540 D-2015	TSS	96.8				
	TSS	110				
SM 4500-F- C-2011	Fluoride	97.3	101	103		0.967
	Fluoride	100				0.471
SM 5310 B-2014	Organic Carbon	100	98.6	99.2		0.428
	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)	2480891, 2480892, 2480895
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2480891, 2480892, 2480895
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2480891, 2480892, 2480895
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2480891, 2480892, 2480895
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2480893, 2480894, 2480896
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2480893, 2480894, 2480896
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2480893, 2480894, 2480896
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2480893, 2480894, 2480896
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2480891, 2480892, 2480895
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2480891, 2480892, 2480895
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2480891, 2480892, 2480895
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2480891, 2480892, 2480895
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2480893, 2480894, 2480896

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	04/09/2024			04/09/2024 14:52	Samantha L Bates	2480892
	04/09/2024			04/09/2024 14:53	Samantha L Bates	2480895
	04/09/2024			04/09/2024 15:47	Samantha L Bates	2480891
EPA 180.1 Rev. 2.0	04/09/2024			04/09/2024 15:22	Khloe J Berg	2480891
	04/09/2024			04/09/2024 15:31	Khloe J Berg	2480892
	04/09/2024			04/09/2024 15:32	Khloe J Berg	2480895
EPA 300.0 Rev. 2.1	04/09/2024			04/16/2024 13:06	James L Waggeberby	2480892
	04/09/2024			04/16/2024 13:21	James L Waggeberby	2480895
	04/09/2024			04/19/2024 09:59	James L Waggeberby	2480891
EPA 350.1 Rev. 2.0	04/09/2024			04/10/2024 12:49	Khloe J Berg	2480893
	04/09/2024			04/10/2024 12:50	Khloe J Berg	2480894
	04/09/2024			04/12/2024 14:04	Kenneth H Lee	2480896
EPA 351.2 Rev. 2.0	04/09/2024	04/12/2024 07:57	Simonne.V. Calhoun	04/15/2024 13:02	Robyn Blevins	2480893
	04/09/2024	04/12/2024 07:57	Simonne.V. Calhoun	04/15/2024 13:06	Robyn Blevins	2480894
	04/09/2024	04/15/2024 12:33	Simonne.V. Calhoun	04/17/2024 15:31	Ping Hua	2480896
EPA 353.2 Rev. 2.0	04/09/2024			04/12/2024 14:25	Fadila Guebre	2480896
	04/09/2024			04/15/2024 14:24	Fadila Guebre	2480893
	04/09/2024			04/15/2024 14:25	Fadila Guebre	2480894
EPA 365.1 Rev. 2.0	04/09/2024	04/12/2024 13:45	Josephine W Gitau	04/13/2024 14:01	James L Waggeberby	2480893
	04/09/2024	04/12/2024 13:45	Josephine W Gitau	04/13/2024 14:04	James L Waggeberby	2480894
	04/09/2024	04/12/2024 13:45	Josephine W Gitau	04/13/2024 14:19	James L Waggeberby	2480896
SM 2320 B-2011	04/09/2024			04/11/2024 04:35	Dale L. Simmons	2480891
	04/09/2024			04/11/2024 04:48	Dale L. Simmons	2480892
	04/09/2024			04/13/2024 16:23	Dale L. Simmons	2480895
SM 2540 C-2015	04/09/2024			04/12/2024 16:19	Yijie Li	2480891, 2480892, 2480895
SM 2540 D-2015	04/09/2024			04/12/2024 16:19	Yijie Li	2480891, 2480892, 2480895
SM 4500-F- C-2011	04/09/2024			04/11/2024 00:51	Dale L. Simmons	2480891
	04/09/2024			04/11/2024 00:56	Dale L. Simmons	2480892
	04/09/2024			04/13/2024 16:23	Dale L. Simmons	2480895
SM 5310 B-2014	04/09/2024			04/11/2024 21:35	Khloe J Berg	2480896
	04/09/2024			04/12/2024 04:09	Khloe J Berg	2480893
	04/09/2024			04/12/2024 04:27	Khloe J Berg	2480894