

Chemical Analysis Report

NE-DIST-2024-02-09-01

Florida DEP Laboratory
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Tallahassee, FL 32399-2400
DOH Accreditation E31780

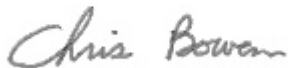
Event Description: **Vilano Boat 2024**
Request ID: **RQ-2024-02-05-34**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 07-MAR-2024 09:02



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: 02/08/2024 09:55

Field ID: G5NE0587 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2468027	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P441242	
	EPA 180.1 Rev. 2.0	Turbidity	13		NTU	P441251	
	EPA 300.0 Rev. 2.1	Chloride	1.9E+04		mg Cl/L	P441601	
		Sulfate	2.6E+03		mg SO4/L	P441604	
	SM 2320 B-2011	Total Alkalinity	110		mg CaCO3/L	P441620	
	SM 2540 C-2015	TDS	3.34E+04		mg/L	P441864	
	SM 2540 D-2015	TSS	23		mg/L	P441738	
	SM 4500-F- C-2011	Fluoride	1.2		mg F/L	P441625	
2468030	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P441375	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P441525	MS, RPD
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P441588	
	EPA 365.1 Rev. 2.0	Total-P	0.058		mg P/L	P441485	
	SM 5310 B-2014	Organic Carbon	3.4	I	mg C/L	P441430	

Sample Location: DEEP CREEK 270M ABOVE ICW

Collection Date/Time: 02/08/2024 10:50

Field ID: 27010165

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2468028	DEP SOP: NU-094-1	Color (true)	44	A	PCU	P441242	
	EPA 180.1 Rev. 2.0	Turbidity	7.4		NTU	P441251	
	EPA 300.0 Rev. 2.1	Chloride	1.2E+04		mg Cl/L	P441601	
		Sulfate	1.7E+03		mg SO4/L	P441604	
	SM 2320 B-2011	Total Alkalinity	100		mg CaCO3/L	P441620	
	SM 2540 C-2015	TDS	1.98E+04	Q	mg/L	P441984	
	SM 2540 D-2015	TSS	14		mg/L	P441738	
	SM 4500-F- C-2011	Fluoride	0.82		mg F/L	P441625	
2468031	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P441375	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.59	J	mg N/L	P441525	MS, RPD
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.010		mg N/L	P441588	
	EPA 365.1 Rev. 2.0	Total-P	0.056		mg P/L	P441485	
	SM 5310 B-2014	Organic Carbon	9.0		mg C/L	P442112	

Ref. Method and Comment:
SM 2540 C-2015: The sample was reanalyzed out of holding time because of analytical difficulties.
EPA 351.2 Rev. 2.0: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: LAKE VEDRA AT SOLANA RD

Collection Date/Time: 02/08/2024 12:10

Field ID: 27010180					Matrix: W-SURF-FRH		
Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2468029	DEP SOP: NU-094-1	Color (true)	60		PCU	P441242	
	EPA 180.1 Rev. 2.0	Turbidity	6.3		NTU	P441251	
	EPA 300.0 Rev. 2.1	Chloride	120		mg Cl/L	P441601	
		Sulfate	86		mg SO4/L	P441604	
	SM 2320 B-2011	Total Alkalinity	137		mg CaCO3/L	P441799	
	SM 2540 C-2015	TDS	444		mg/L	P441863	
	SM 2540 D-2015	TSS	13		mg/L	P441736	
	SM 4500-F- C-2011	Fluoride	0.22		mg F/L	P441946	MS
2468032	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P441503	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P441341	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.057		mg N/L	P441387	
	EPA 365.1 Rev. 2.0	Total-P	0.32		mg P/L	P441535	
	SM 5310 B-2014	Organic Carbon	19		mg C/L	P441450	

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: P441242

Component	Result	Code	Units
Color (true)	2.5	U	PCU

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: P441601

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/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: P441375

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441503

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441341

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

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

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441387

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441588

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441485

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441535

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

Reference Method: SM 2320 B-2011
Batch ID: P441620

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

Reference Method: SM 2320 B-2011
Batch ID: P441799

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

Reference Method: SM 2540 C-2015
Batch ID: P441863

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015
Batch ID: P441864

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015
Batch ID: P441984

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P441736

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P441738

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P441625

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

Reference Method: SM 5310 B-2014
Batch ID: P441430

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

Reference Method: SM 5310 B-2014
Batch ID: P441450

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

Reference Method: SM 5310 B-2014
Batch ID: P442112

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: P441242

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: 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: 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: 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: P441375

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441503

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441341

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.8		P	90 - 110

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

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441387

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441588

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441485

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: P441535

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

Reference Method: SM 2320 B-2011
Batch ID: P441620

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.4		P	92 - 105

Reference Method: SM 2320 B-2011
Batch ID: P441799

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

Reference Method: SM 2540 C-2015
Batch ID: P441863

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

Reference Method: SM 2540 C-2015
Batch ID: P441864

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	94.0		P	85 - 115

Reference Method: SM 2540 C-2015
Batch ID: P441984

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	92.8		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P441736

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P441738

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

Reference Method: SM 4500-F- C-2011
Batch ID: P441625

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	105		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

Reference Method: SM 5310 B-2014
Batch ID: P441430

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.0		P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P441450

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

Reference Method: SM 5310 B-2014
Batch ID: P442112

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	92.2		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

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: 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: P441375

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2468031	Ammonia-N	96.2	97.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441503

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2468011	Ammonia-N	96.8	96.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441341

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467951	Kjeldahl Nitrogen	107	107	P/P	90 - 110

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

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441387

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467951	NO2NO3-N	96.8	98.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441588

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467854	NO2NO3-N	101	95.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441485

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2468030	Total-P	96.4	94.5	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441535

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2468468	Total-P	104	107	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P441625

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2466692	Fluoride	104	105	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: P441430

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467541	Organic Carbon	89.8	90.4	P/P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P441450

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2467951	Organic Carbon	100	101	P/P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P442112

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2468551	Organic Carbon	87.4	88.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P441242

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2468028	Color (true)	8.77	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: 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: 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: P441375

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2468031	Ammonia-N	0.782	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441503

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2468011	Ammonia-N	0.518	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467951	Kjeldahl Nitrogen	0.0723	Spike	P	0 - 20

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

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

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441387

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467951	NO2NO3-N	1.17	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441588

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467854	NO2NO3-N	5.60	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441485

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2468030	Total-P	1.92	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441535

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2468468	Total-P	1.65	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P441620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2466692	Total Alkalinity	1.14	Sample	P	0 - 3.9

Reference Method: SM 2320 B-2011
Batch ID: P441799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2468712	Total Alkalinity	1.18	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P441863

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467938	TDS	3.86	Sample	P	0 - 10

Reference Method: SM 2540 C-2015
Batch ID: P441864

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2468712	TDS	1.03	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 C-2015
Batch ID: P441984

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469447	TDS	7.18	Sample	P	0 - 10

Reference Method: SM 2540 D-2015
Batch ID: P441738

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2468552	TSS	6.45	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P441625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2466692	Fluoride	0.480	Spike	P	0 - 1.9

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: P441430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467541	Organic Carbon	0.486	Spike	P	0 - 15

Reference Method: SM 5310 B-2014
Batch ID: P441450

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2467951	Organic Carbon	1.00	Spike	P	0 - 15

Reference Method: SM 5310 B-2014
Batch ID: P442112

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2468551	Organic Carbon	1.37	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: A124094

Included Lab Sample IDs: 2468027, 2468028, 2468029

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.7	97.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A124097

Included Lab Sample IDs: 2468027, 2468028, 2468029

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: A124138

Included Lab Sample IDs: 2468030, 2468031

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	98.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A124140

Included Lab Sample IDs: 2468032

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

Reference Method: SM 5310 B-2014

Run ID: A124169

Included Lab Sample IDs: 2468030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	127	96.9	P/P	70 - 130

Reference Method: SM 5310 B-2014

Run ID: A124180

Included Lab Sample IDs: 2468032

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.0	101	P/P	85 - 115

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A124190

Included Lab Sample IDs: 2468032

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	96.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A124199

Included Lab Sample IDs: 2468032

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A124227

Included Lab Sample IDs: 2468030, 2468031

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A124232

Included Lab Sample IDs: 2468027, 2468028, 2468029

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

Reference Method: SM 2320 B-2011

Run ID: A124236

Included Lab Sample IDs: 2468027, 2468028

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.0	94.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A124236

Included Lab Sample IDs: 2468027, 2468028

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	106	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A124242

Included Lab Sample IDs: 2468030, 2468031

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A124245

Included Lab Sample IDs: 2468032

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A124261

Included Lab Sample IDs: 2468030, 2468031

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.8	97.8	P/P	90 - 110
Total-P	97.8	98.5	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A124320

Included Lab Sample IDs: 2468029

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

Reference Method: SM 2320 B-2011
Run ID: A124320
Included Lab Sample IDs: 2468029

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	97.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A124381
Included Lab Sample IDs: 2468029

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

Reference Method: SM 5310 B-2014
Run ID: A124459
Included Lab Sample IDs: 2468031

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.1	99.2	P/P	85 - 115

* 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)	97.7			8.77	
EPA 180.1 Rev. 2.0	Turbidity	103			13.8	
EPA 300.0 Rev. 2.1	Chloride	106	99.6	99.0	4.38	
	Sulfate	107	105	102	3.62	
EPA 350.1 Rev. 2.0	Ammonia-N	96.8	96.2	97.2		0.782
	Ammonia-N	101	96.8	96.2		0.518
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.8	107	107		0.0723
	Kjeldahl Nitrogen	103	136	108		20.5
EPA 353.2 Rev. 2.0	NO2NO3-N	100	96.8	98.4		1.17
	NO2NO3-N	99.5	101	95.5		5.60
EPA 365.1 Rev. 2.0	Total-P	102	96.4	94.5		1.92
	Total-P	105	104	107		1.65
SM 2320 B-2011	Total Alkalinity	97.4			1.14	
	Total Alkalinity	98.0			1.18	
SM 2540 C-2015	TDS	94.8			3.86	
	TDS	94.0			1.03	
	TDS	92.8			7.18	
SM 2540 D-2015	TSS	102				
	TSS	103			6.45	
SM 4500-F- C-2011	Fluoride	105	104	105		0.480
	Fluoride	99.0	105	107		1.48
SM 5310 B-2014	Organic Carbon	97.0	89.8	90.4		0.486
	Organic Carbon	101	100	101		1.00
	Organic Carbon	92.2	87.4	88.8		1.37

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2468027, 2468028, 2468029
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2468027, 2468028, 2468029
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2468027, 2468028, 2468029
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2468027, 2468028, 2468029
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2468030, 2468031, 2468032
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2468030, 2468031, 2468032
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2468030, 2468031, 2468032
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2468030, 2468031, 2468032
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2468027, 2468028, 2468029
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2468027, 2468028, 2468029
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2468027, 2468028, 2468029
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2468027, 2468028, 2468029
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2468030, 2468031, 2468032

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 15:21	Anna M. Plaviak	2468027
	02/09/2024			02/09/2024 15:22	Anna M. Plaviak	2468028
	02/09/2024			02/09/2024 15:23	Anna M. Plaviak	2468029
EPA 180.1 Rev. 2.0	02/09/2024			02/09/2024 14:51	Khloe J Berg	2468027
	02/09/2024			02/09/2024 14:52	Khloe J Berg	2468028
	02/09/2024			02/09/2024 14:54	Khloe J Berg	2468029
EPA 300.0 Rev. 2.1	02/09/2024			02/16/2024 09:15	James L Waggeberby	2468027
	02/09/2024			02/16/2024 09:31	James L Waggeberby	2468028
	02/09/2024			02/16/2024 09:46	James L Waggeberby	2468029
EPA 350.1 Rev. 2.0	02/09/2024			02/13/2024 14:03	Kenneth H Lee	2468031
	02/09/2024			02/13/2024 14:15	Kenneth H Lee	2468030
	02/09/2024			02/15/2024 12:43	Ping Hua	2468032
EPA 351.2 Rev. 2.0	02/09/2024	02/14/2024 10:54	Ping Hua	02/15/2024 11:07	Samantha L Bates	2468032
	02/09/2024	02/16/2024 11:20	Samantha L Bates	02/19/2024 11:11	Samantha L Bates	2468030
	02/09/2024	02/16/2024 11:20	Samantha L Bates	02/19/2024 11:12	Samantha L Bates	2468031
EPA 353.2 Rev. 2.0	02/09/2024			02/13/2024 14:40	Fadila Guebre	2468032
	02/09/2024			02/16/2024 13:50	Fadila Guebre	2468030
	02/09/2024			02/16/2024 13:51	Fadila Guebre	2468031
EPA 365.1 Rev. 2.0	02/09/2024	02/15/2024 14:20	Adam P Silver	02/20/2024 10:01	James L Waggeberby	2468030
	02/09/2024	02/15/2024 14:20	Adam P Silver	02/20/2024 10:16	James L Waggeberby	2468031
	02/09/2024	02/16/2024 14:14	Adam P Silver	02/19/2024 11:35	Chandler E Cox	2468032
SM 2320 B-2011	02/09/2024			02/17/2024 07:21	Dale L. Simmons	2468027
	02/09/2024			02/17/2024 07:34	Dale L. Simmons	2468028
	02/09/2024			02/21/2024 09:53	Dale L. Simmons	2468029
SM 2540 C-2015	02/09/2024			02/14/2024 16:46	Yijie Li	2468027, 2468029
	02/09/2024			02/20/2024 15:41	Yijie Li	2468028
SM 2540 D-2015	02/09/2024			02/14/2024 16:46	Yijie Li	2468027, 2468028, 2468029
SM 4500-F- C-2011	02/09/2024			02/17/2024 05:05	Dale L. Simmons	2468027
	02/09/2024			02/17/2024 05:10	Dale L. Simmons	2468028
	02/09/2024			02/23/2024 23:05	Dale L. Simmons	2468029
SM 5310 B-2014	02/09/2024			02/14/2024 04:40	Elise M. Gillis	2468030
	02/09/2024			02/14/2024 20:58	Khloe J Berg	2468032
	02/09/2024			02/28/2024 11:15	Elise M. Gillis	2468031