

Chemical Analysis Report

NE-DIST-2024-04-26-03

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

Event Description: **San Sebastian coordination**
Request ID: **RQ-2024-04-15-57**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Marek Topolski, Ph.D.
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Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 24-MAY-2024 11:40



NON-CONFORMANCE REPORT INCLUDED

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: San Sebastian River @ SR16

Collection Date/Time: 04/24/2024 09:45

Field ID: 27010058

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2485302	DEP SOP: NU-094-1	Color (true)	27	Q	PCU	P444863	
	EPA 180.1 Rev. 2.0	Turbidity	9.3	Q	NTU	P444867	
	EPA 300.0 Rev. 2.1	Chloride	1.6E+04		mg Cl/L	P445271	
		Sulfate	2.3E+03		mg SO4/L	P445538	
	SM 2320 B-2011	Total Alkalinity	130		mg CaCO3/L	P445057	
	SM 2540 C-2015	TDS	2.86E+04		mg/L	P445464	
	SM 2540 D-2015	TSS	14		mg/L	P445494	
	SM 4500-F- C-2011	Fluoride	1.0		mg F/L	P445061	
2485303	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P445162	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P444918	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.015		mg N/L	P445261	
	EPA 365.1 Rev. 2.0	Total-P	0.079		mg P/L	P444946	
	SM 5310 B-2014	Organic Carbon	7.9		mg C/L	P445384	

Ref. Method and Comment:

DEP SOP: NU-094-1: The sample expired upon receipt.

EPA 180.1 Rev. 2.0: The sample expired upon receipt.

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference and batch matrix spike recoveries for one of two spikes samples are unavailable because of high analyte concentration in the QC sample.

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Field Blank

Collection Date/Time: 04/24/2024 09:14

Field ID: Field Blank			Matrix: W-FIELD-BK				
Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2485304	DEP SOP: NU-094-1	Color (true)	2.5	UQ	PCU	P444863	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	UQ	NTU	P444867	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P445271	
		Sulfate	0.20	U	mg SO4/L	P445538	
	SM 2320 B-2011	Total Alkalinity	1.1	I	mg CaCO3/L	P445110	
	SM 2540 C-2015	TDS	15	U	mg/L	P445463	
	SM 2540 D-2015	TSS	2	U	mg/L	P445492	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P445111	
2485305	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P445068	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P444975	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P445530	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P445058	
	SM 5310 B-2014	Organic Carbon	0.50	U	mg C/L	P445151	

Ref. Method and Comment:
DEP SOP: NU-094-1: The sample expired upon receipt.
EPA 180.1 Rev. 2.0: The sample expired upon receipt.
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference and batch matrix spike recoveries for one of two spikes samples are unavailable because of high analyte concentration in the QC sample.
SM 2320 B-2011: The result was confirmed on 05/04/2024.
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Non-Conformance Report

NCR ID: 10416

<u>Event(s)</u>	<u>Job(s)</u>	<u>Sample(s)</u>	<u>Test(s)</u>
NE-DIST-2024-04-26-03	TLH-2024-04-26-77	2485302	
NE-DIST-2024-04-26-03	TLH-2024-04-26-77	2485304	

NCR Type: SHIPPING/RECEIVING NCR Category: Samples arrived late

Observation: Samples arrived late, samples received within the acceptable temperature range.

Resolution: Samples will be qualified as appropriate.
Biology and Chemistry supervisors were notified by email.
Customer contacted over the phone.

Authorized by/Date: Kyle Klug 5/7/2024

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P444863

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444867

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445271

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445538

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445068

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445162

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444918

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444975

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445261

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: P445530

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444946

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P445058

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

Reference Method: SM 2320 B-2011
Batch ID: P445057

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

Reference Method: SM 2320 B-2011
Batch ID: P445110

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

Reference Method: SM 2540 C-2015
Batch ID: P445463

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015
Batch ID: P445464

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P445492

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P445494

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P445061

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P445111

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P445151

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

Reference Method: SM 5310 B-2014
Batch ID: P445384

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: P444863

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444867

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445271

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445538

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445068

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445162

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444918

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444975

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: P445261

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445530

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: P444946

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P445058

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

Reference Method: SM 2320 B-2011
Batch ID: P445057

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

Reference Method: SM 2320 B-2011
Batch ID: P445110

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.9		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P445463

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	93.6		P	85 - 115

Reference Method: SM 2540 C-2015
Batch ID: P445464

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	98.8		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P445492

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

Reference Method: SM 2540 D-2015
Batch ID: P445494

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	109		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P445061

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

Reference Method: SM 4500-F- C-2011
Batch ID: P445111

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

Reference Method: SM 5310 B-2014
Batch ID: P445151

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.1		P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P445384

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445271

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485276	Chloride	107		P	90 - 110
2485595	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445538

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2486863	Sulfate	98.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445068

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485230	Ammonia-N	97.2	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445162

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485303	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444918

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485025	Kjeldahl Nitrogen	98.1	95.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444975

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485204	Kjeldahl Nitrogen	104	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445261

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485303	NO2NO3-N	97.6	98.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485277	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444946

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485025	Total-P	95.1	96.8	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P445058

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485485	Total-P	104	104	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P445061

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485064	Fluoride	101	102	P/P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P445111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485363	Fluoride	103	103	P/P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P445151

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485289	Organic Carbon	98.9	101	P/P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P445384

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485067	Organic Carbon	96.3	95.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P444863

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485288	Color (true)	2.19	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444867

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485288	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445271

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485276	Chloride	0.198	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445068

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485230	Ammonia-N	1.06	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445162

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485303	Ammonia-N	1.02	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444918

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485025	Kjeldahl Nitrogen	2.16	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444975

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485204	Kjeldahl Nitrogen	1.58	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485303	NO2NO3-N	0.475	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485277	NO2NO3-N	0.496	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444946

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485025	Total-P	1.85	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P445058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485485	Total-P	0.534	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P445057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485064	Total Alkalinity	2.06	Sample	P	0 - 3.9

Reference Method: SM 2320 B-2011
Batch ID: P445110

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485363	Total Alkalinity	0.846	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P445463

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2484811	TDS	7.35	Sample	P	0 - 10

Reference Method: SM 2540 C-2015
Batch ID: P445464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485182	TDS	3.89	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P445061

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485064	Fluoride	0.476	Spike	P	0 - 1.9

Quality Assurance Report
Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P445111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485363	Fluoride	0.473	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P445151

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485289	Organic Carbon	2.02	Spike	P	0 - 15

Reference Method: SM 5310 B-2014
Batch ID: P445384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485067	Organic Carbon	0.621	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: A125553
Included Lab Sample IDs: 2485302, 2485304

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A125555
Included Lab Sample IDs: 2485302, 2485304

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A125610
Included Lab Sample IDs: 2485303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	101	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A125619
Included Lab Sample IDs: 2485302

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.6	98.1	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A125619
Included Lab Sample IDs: 2485302

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A125620
Included Lab Sample IDs: 2485305

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.7	100	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A125637
Included Lab Sample IDs: 2485304

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.1	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A125637
Included Lab Sample IDs: 2485304

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	103	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A125638

Included Lab Sample IDs: 2485305

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A125640

Included Lab Sample IDs: 2485302, 2485304

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

Reference Method: SM 5310 B-2014

Run ID: A125643

Included Lab Sample IDs: 2485305

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	98.2	P/P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A125646

Included Lab Sample IDs: 2485303

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A125654

Included Lab Sample IDs: 2485305

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A125674

Included Lab Sample IDs: 2485303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.3	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A125687

Included Lab Sample IDs: 2485303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	102	P/P	90 - 110

Reference Method: SM 5310 B-2014

Run ID: A125736

Included Lab Sample IDs: 2485303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	112	97.0	P/P	70 - 130

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A125768
Included Lab Sample IDs: 2485302, 2485304

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A125796
Included Lab Sample IDs: 2485305

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	94.5	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	MS
DEP SOP: NU-094-1	Color (true)	98.2			2.19	
EPA 180.1 Rev. 2.0	Turbidity	103			0.0	
EPA 300.0 Rev. 2.1	Chloride	110	107	105	0.198	
	Sulfate	101	98.3			
EPA 350.1 Rev. 2.0	Ammonia-N	95.4	97.2	99.0		1.06
	Ammonia-N	100	103	104		1.02
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.7	98.1	95.8		2.16
	Kjeldahl Nitrogen	103	104	106		1.58
EPA 353.2 Rev. 2.0	NO2NO3-N	102	97.6	98.1		0.475
	NO2NO3-N	100	101	100		0.496
EPA 365.1 Rev. 2.0	Total-P	103	95.1	96.8		1.85
	Total-P	101	104	104		0.534
SM 2320 B-2011	Total Alkalinity	102			2.06	
	Total Alkalinity	99.9			0.846	
SM 2540 C-2015	TDS	93.6			7.35	
	TDS	98.8			3.89	
SM 2540 D-2015	TSS	102				
	TSS	109				
SM 4500-F- C-2011	Fluoride	103	101	102		0.476
	Fluoride	103	103	103		0.473
SM 5310 B-2014	Organic Carbon	99.1	98.9	101		2.02
	Organic Carbon	99.2	96.3	95.5		0.621

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2485302, 2485304
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2485302, 2485304
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2485302, 2485304
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2485302, 2485304
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2485303, 2485305
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2485303, 2485305
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2485303, 2485305
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2485303, 2485305
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2485302, 2485304
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2485302, 2485304
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2485302, 2485304
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2485302, 2485304
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2485303, 2485305

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	04/26/2024			04/26/2024 14:03	Samantha L Bates	2485302
	04/26/2024			04/26/2024 14:04	Samantha L Bates	2485304
EPA 180.1 Rev. 2.0	04/26/2024			04/26/2024 14:17	Samantha L Bates	2485302
	04/26/2024			04/26/2024 14:18	Samantha L Bates	2485304
EPA 300.0 Rev. 2.1	04/26/2024			05/02/2024 11:44	Samantha L Bates	2485302
	04/26/2024			05/02/2024 11:59	Samantha L Bates	2485304
	04/26/2024			05/09/2024 16:35	James L Waggerby	2485302
	04/26/2024			05/09/2024 16:50	James L Waggerby	2485304
EPA 350.1 Rev. 2.0	04/26/2024			05/01/2024 14:15	Khloe J Berg	2485305
	04/26/2024			05/02/2024 12:46	Khloe J Berg	2485303
EPA 351.2 Rev. 2.0	04/26/2024	04/30/2024 10:39	Robyn Blevins	05/03/2024 12:37	Robyn Blevins	2485303
	04/26/2024	05/01/2024 13:27	Ping Hua	05/02/2024 12:55	Ping Hua	2485305
EPA 353.2 Rev. 2.0	04/26/2024			05/03/2024 14:54	Fadila Guebre	2485303
	04/26/2024			05/09/2024 14:31	Fadila Guebre	2485305
EPA 365.1 Rev. 2.0	04/26/2024	04/30/2024 12:43	Adam P Silver	05/01/2024 11:51	Chandler E Cox	2485303
	04/26/2024	05/01/2024 15:32	Adam P Silver	05/02/2024 10:02	Simonne.V. Calhoun	2485305
SM 2320 B-2011	04/26/2024			05/01/2024 06:46	Dale L. Simmons	2485302
	04/26/2024			05/01/2024 22:08	Dale L. Simmons	2485304
SM 2540 C-2015	04/26/2024			04/30/2024 15:24	Yijie Li	2485302, 2485304
SM 2540 D-2015	04/26/2024			04/30/2024 15:24	Yijie Li	2485302, 2485304
SM 4500-F- C-2011	04/26/2024			05/01/2024 03:58	Dale L. Simmons	2485302
	04/26/2024			05/01/2024 22:08	Dale L. Simmons	2485304
SM 5310 B-2014	04/26/2024			05/02/2024 09:05	Jessica K Wilks	2485305
	04/26/2024			05/07/2024 07:28	Jessica K Wilks	2485303