Chemical Analysis Report

SO-DIST-2023-01-31-01

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

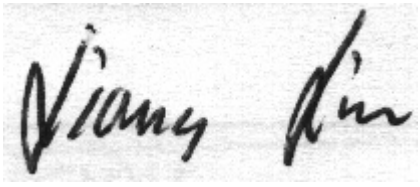
Event Description: **2023 SMP: Sheldon J. Plankton**
Request ID: **RQ-2023-01-30-20**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
Attn: William Mullen

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 16-FEB-2023 16:27



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: Little Bonnet Lake @ Middle **Collection Date/Time: 01/30/2023 10:20**

Field ID: G4SD0169 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2383938	DEP SOP: NU-094-1	Color (true)	19		PCU	P425224	
	EPA 180.1 Rev. 2.0	Turbidity	7.6		NTU	P425230	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P425682	
		Sulfate	22		mg SO4/L	P425686	
	SM 2320 B-2011	Total Alkalinity	25		mg CaCO3/L	P425388	
	SM 2540 C-2015	TDS	102		mg/L	P425736	
	SM 2540 D-2015	TSS	10		mg/L	P425433	
	SM 4500-F- C-2011	Fluoride	0.065	I	mg F/L	P425696	
2383940	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P425723	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.91	J	mg N/L	P425244	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.79		mg N/L	P425306	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P425429	MS
	SM 5310 B-2011	Organic Carbon	7.1		mg C/L	P425353	
2383942	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P425227	

Ref. Method and Comment:
EPA 351.2 Rev. 2.0: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Bonnet Lake @ Middle **Collection Date/Time: 01/30/2023 11:25**

Field ID: G4SD0170 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2383939	DEP SOP: NU-094-1	Color (true)	31		PCU	P425224	
	EPA 180.1 Rev. 2.0	Turbidity	6.0		NTU	P425230	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P425682	
		Sulfate	32		mg SO4/L	P425686	
	SM 2320 B-2011	Total Alkalinity	13		mg CaCO3/L	P425388	
	SM 2540 C-2015	TDS	114	A	mg/L	P425737	
	SM 2540 D-2015	TSS	7	I A	mg/L	P425434	
	SM 4500-F- C-2011	Fluoride	0.064	I	mg F/L	P425696	
2383941	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P425723	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.78		mg N/L	P425244	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.59		mg N/L	P425306	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P425280	
	SM 5310 B-2011	Organic Carbon	7.8		mg C/L	P425353	
2383943	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P425227	

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: P425224

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P425230

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P425682

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P425686

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425723

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425244

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425306

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425280

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425429

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 dissolved
Batch ID: P425227

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

Reference Method: SM 2320 B-2011
Batch ID: P425388

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

Reference Method: SM 2540 C-2015
Batch ID: P425736

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015
Batch ID: P425737

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P425433

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P425434

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P425696

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P425353

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: P425224

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.7		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P425230

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P425682

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P425686

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425723

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425244

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: P425306

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425280

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	109		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425429

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P425227

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

Reference Method: SM 2320 B-2011
Batch ID: P425388

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.2		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P425736

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

Reference Method: SM 2540 C-2015
Batch ID: P425737

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

Reference Method: SM 2540 D-2015
Batch ID: P425433

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	97.3		P	85 - 106

Reference Method: SM 2540 D-2015
Batch ID: P425434

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	91.1		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P425696

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P425353

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.4		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P425682

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2383769	Chloride	96.9		P	90 - 110
2383778	Chloride	96.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P425686

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2383769	Sulfate	94.7		P	90 - 110
2383778	Sulfate	91.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2383888	Ammonia-N	99.8	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425244

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2383940	Kjeldahl Nitrogen	110	107	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2383912	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425280

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2384071	Total-P	103	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425429

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2384115	Total-P	110	111	F/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P425227

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2383919	O-Phosphate-P	96.3	96.7	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P425696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2383791	Fluoride	94.0	95.2	P/P	94 - 104

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P425353

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2383949	Organic Carbon	96.0	95.8	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P425224

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383883	Color (true)	1.69	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P425230

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383883	Turbidity	16.3	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P425682

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383769	Chloride	3.00	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P425686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383769	Sulfate	5.81	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383888	Ammonia-N	0.0	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383940	Kjeldahl Nitrogen	1.92	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383912	NO2NO3-N	0.484	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2384071	Total-P	5.29	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425429

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2384115	Total-P	0.565	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P425227

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383919	O-Phosphate-P	0.415	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P425388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383791	Total Alkalinity	0.0995	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P425736

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383583	TDS	3.10	Sample	P	0 - 10

Reference Method: SM 2540 C-2015
Batch ID: P425737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383939	TDS	4.37	Sample	P	0 - 10

Reference Method: SM 2540 D-2015
Batch ID: P425433

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383583	TSS	5.04	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P425696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383791	Fluoride	0.978	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P425353

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383949	Organic Carbon	0.158	Spike	P	0 - 20

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: A117186
Included Lab Sample IDs: 2383938, 2383939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A117188
Included Lab Sample IDs: 2383942, 2383943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3	98.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A117193
Included Lab Sample IDs: 2383938, 2383939

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A117222
Included Lab Sample IDs: 2383940, 2383941

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	105	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A117251
Included Lab Sample IDs: 2383941

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

Reference Method: SM 5310 B-2011
Run ID: A117252
Included Lab Sample IDs: 2383940, 2383941

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.3	98.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A117258
Included Lab Sample IDs: 2383940, 2383941

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

Reference Method: SM 2320 B-2011
Run ID: A117269
Included Lab Sample IDs: 2383938, 2383939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.2	98.4	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A117317
Included Lab Sample IDs: 2383938, 2383939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.1	97.2	P/P	90 - 110
Sulfate	94.7	95.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A117331
Included Lab Sample IDs: 2383940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	98.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A117395
Included Lab Sample IDs: 2383938, 2383939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	98.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A117404
Included Lab Sample IDs: 2383940, 2383941

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.2	97.2	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)	99.7				1.69	
EPA 180.1 Rev. 2.0	Turbidity	101				16.3	
EPA 300.0 Rev. 2.1	Chloride	99.7	96.9	96.5		3.00	
	Sulfate	98.3	94.7	91.1		5.81	
EPA 350.1 Rev. 2.0	Ammonia-N	98.6	99.8	99.8			0.0
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	110	107			1.92
EPA 353.2 Rev. 2.0	NO2NO3-N	104	104	103			0.484
EPA 365.1 Rev. 2.0	Total-P	109	103	109			5.29
	Total-P	106	110	111			0.565
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5	96.3	96.7			0.415
SM 2320 B-2011	Total Alkalinity	97.2				0.0995	
SM 2540 C-2015	TDS	98.5				3.10	
	TDS	100				4.37	
SM 2540 D-2015	TSS	97.3				5.04	
	TSS	91.1					
SM 4500-F- C-2011	Fluoride	96.1	94.0	95.2			0.978
SM 5310 B-2011	Organic Carbon	97.4	96.0	95.8			0.158

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2383938, 2383939
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2383938, 2383939
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2383938, 2383939
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2383938, 2383939
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2383940, 2383941
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2383940, 2383941
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2383940, 2383941
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2383940, 2383941
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2383942, 2383943
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2383938, 2383939
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2383938, 2383939
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2383938, 2383939
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2383938, 2383939
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2383940, 2383941

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	01/31/2023			01/31/2023 14:24	Alexis Price	2383938, 2383939
EPA 180.1 Rev. 2.0	01/31/2023			01/31/2023 13:44	Khloe J Berg	2383938
	01/31/2023			01/31/2023 13:45	Khloe J Berg	2383939
EPA 300.0 Rev. 2.1	01/31/2023			02/10/2023 20:35	Anna M. Plaviak	2383938
	01/31/2023			02/10/2023 20:50	Anna M. Plaviak	2383939
EPA 350.1 Rev. 2.0	01/31/2023			02/13/2023 12:21	Khloe J Berg	2383940
	01/31/2023			02/13/2023 12:22	Khloe J Berg	2383941
EPA 351.2 Rev. 2.0	01/31/2023	02/01/2023 12:25	Simonne.V. Calhoun	02/03/2023 13:15	Samantha L Bates	2383940
	01/31/2023	02/01/2023 12:25	Simonne.V. Calhoun	02/03/2023 13:20	Samantha L Bates	2383941
EPA 353.2 Rev. 2.0	01/31/2023			02/02/2023 10:41	Beverly Y. Sanders	2383940
	01/31/2023			02/02/2023 10:42	Beverly Y. Sanders	2383941
EPA 365.1 Rev. 2.0	01/31/2023	02/02/2023 14:04	Adam P Silver	02/03/2023 12:14	James L Waggerby	2383941
	01/31/2023	02/06/2023 03:24	Adam P Silver	02/08/2023 13:27	James L Waggerby	2383940
EPA 365.1 Rev. 2.0 dissolved	01/31/2023			01/31/2023 14:19	Elise M. Gillis	2383942
	01/31/2023			01/31/2023 14:20	Elise M. Gillis	2383943
SM 2320 B-2011	01/31/2023			02/04/2023 09:21	Dale L. Simmons	2383938
	01/31/2023			02/04/2023 09:34	Dale L. Simmons	2383939
SM 2540 C-2015	01/31/2023			02/01/2023 14:18	Yijie Li	2383938, 2383939
SM 2540 D-2015	01/31/2023			02/01/2023 14:18	Yijie Li	2383938, 2383939
SM 4500-F- C-2011	01/31/2023			02/10/2023 01:24	Dale L. Simmons	2383938
	01/31/2023			02/10/2023 01:29	Dale L. Simmons	2383939
SM 5310 B-2011	01/31/2023			02/03/2023 01:16	Khloe J Berg	2383940
	01/31/2023			02/03/2023 01:30	Khloe J Berg	2383941