Chemical Analysis Report

SO-DIST-2022-04-14-01

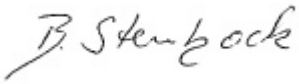
Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **2022 SMP : Glades Sloughs**
Request ID: **RQ-2022-04-11-34**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
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: Dr. rer. nat. Bettina Steinbock, Environmental Administrator Date Certified: 11-MAY-2022 13:22



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: BootheelCreekEastBranch **Collection Date/Time: 04/13/2022 09:05**

Field ID: G4SD0105 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2319204	DEP SOP: NU-094-1	Color (true)**	53	A	PCU	P412387	
	EPA 180.1 Rev. 2.0	Turbidity	5.7		NTU	P412384	
	EPA 300.0 Rev. 2.1	Chloride	23	A	mg Cl/L	P412821	
		Sulfate	0.36	I A	mg SO4/L	P412823	
	SM 2320 B-2011	Total Alkalinity	49		mg CaCO3/L	P412680	
	SM 2540 C-2011	TDS	124		mg/L	P412851	
	SM 2540 D-2011	TSS	3	I	mg/L	P412855	
	SM 4500-F- C-2011	Fluoride	0.29		mg F/L	P412684	
2319207	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P412545	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P412736	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P412502	
	EPA 365.1 Rev. 2.0	Total-P	0.80		mg P/L	P412604	
	SM 5310 B-2011	Organic Carbon	7.1		mg C/L	P412782	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Gator Slough At US27 **Collection Date/Time: 04/13/2022 09:45**

Field ID: G4SD0214 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2319205	DEP SOP: NU-094-1	Color (true)**	470		PCU	P412387	
	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P412384	
	EPA 300.0 Rev. 2.1	Chloride	7.5		mg Cl/L	P412821	
		Sulfate	1.4		mg SO4/L	P412823	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P412680	
	SM 2540 C-2011	TDS	92		mg/L	P412851	
	SM 2540 D-2011	TSS	11		mg/L	P412855	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P412684	
2319208	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P412545	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P412736	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P412502	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P412891	
	SM 5310 B-2011	Organic Carbon	40		mg C/L	P412782	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: JohnHenrySlough AtCR7321 **Collection Date/Time: 04/13/2022 10:10**

Field ID: G4SD0215 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2319206	DEP SOP: NU-094-1	Color (true)**	71		PCU	P412387	
	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P412384	
	EPA 300.0 Rev. 2.1	Chloride	480		mg Cl/L	P412821	
		Sulfate	240		mg SO4/L	P412823	
	SM 2320 B-2011	Total Alkalinity	27		mg CaCO3/L	P412680	
	SM 2540 C-2011	TDS	1.22E+03		mg/L	P412851	
	SM 2540 D-2011	TSS	9	I	mg/L	P412855	
	SM 4500-F- C-2011	Fluoride	0.11		mg F/L	P412684	
2319209	EPA 350.1 Rev. 2.0	Ammonia-N	0.13		mg N/L	P412545	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P413442	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.094		mg N/L	P412502	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P412891	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P412782	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low 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: P412387

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412384

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412821

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412823

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412545

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412736

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413442

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412502

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412604

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412891

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

Reference Method: SM 2320 B-2011
Batch ID: P412680

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

Reference Method: SM 2540 C-2011
Batch ID: P412851

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P412855

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P412684

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P412782

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: P412387

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.8		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412384

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	95.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412821

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412823

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412545

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412736

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413442

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412502

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: P412604

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412891

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

Reference Method: SM 2320 B-2011
Batch ID: P412680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.8		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P412684

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P412782

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412821

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319204	Chloride	96.9		P	90 - 110
2319259	Chloride	96.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412823

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319204	Sulfate	97.6		P	90 - 110
2319259	Sulfate	97.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412545

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319207	Ammonia-N	97.8	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318560	Kjeldahl Nitrogen	101	91.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412502

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319207	NO2NO3-N	96.8	97.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319162	Total-P	102	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412891

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320488	Total-P	105	106	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P412684

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318994	Fluoride	98.2	98.2	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P412782

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319373	Organic Carbon	103		P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P412387

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319204	Color (true)	0.362	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319225	Turbidity	4.53	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412821

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319204	Chloride	0.138	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319207	Ammonia-N	0.563	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412736

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318560	Kjeldahl Nitrogen	9.89	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413442

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319209	Kjeldahl Nitrogen	13.7	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319207	NO2NO3-N	0.491	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319162	Total-P	1.44	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320488	Total-P	0.743	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P412680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318994	Total Alkalinity	0.105	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P412851

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318860	TDS	7.87	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P412855

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318860	TSS	3.39	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P412684

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318994	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P412782

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319373	Organic Carbon	0.0916	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A111479
Included Lab Sample IDs: 2319204, 2319205, 2319206

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.0	P/P	95 - 105
Turbidity	98.5	100	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1
Run ID: A111480
Included Lab Sample IDs: 2319204, 2319205, 2319206

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	85 - 115
Color (true)	101	101	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A111531
Included Lab Sample IDs: 2319207, 2319208, 2319209

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A111551
Included Lab Sample IDs: 2319207, 2319208, 2319209

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.4	98.3	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A111591
Included Lab Sample IDs: 2319204, 2319205, 2319206

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.3	97.7	P/P	90 - 110
Total Alkalinity	96.4	96.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A111591
Included Lab Sample IDs: 2319204, 2319205, 2319206

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

Reference Method: SM 5310 B-2011
Run ID: A111644
Included Lab Sample IDs: 2319207, 2319208, 2319209

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.2	97.6	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A111648
Included Lab Sample IDs: 2319207

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A111664
Included Lab Sample IDs: 2319204, 2319205, 2319206

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.7	99.6	P/P	90 - 110
Sulfate	99.6	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A111674
Included Lab Sample IDs: 2319207, 2319208

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	109	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A111860
Included Lab Sample IDs: 2319208, 2319209

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A112015
Included Lab Sample IDs: 2319209

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.5	101	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)	99.8				0.362	
EPA 180.1 Rev. 2.0	Turbidity	95.7				4.53	
EPA 300.0 Rev. 2.1	Chloride	100	96.9	96.4		0.138	
	Sulfate	98.9	97.6	97.2			
EPA 350.1 Rev. 2.0	Ammonia-N	96.0	97.8	98.6			0.563
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	101	91.6			9.89
	Kjeldahl Nitrogen	98.8					13.7
EPA 353.2 Rev. 2.0	NO2NO3-N	100	96.8	97.3			0.491
EPA 365.1 Rev. 2.0	Total-P	102	102	104			1.44
	Total-P	103	105	106			0.743
SM 2320 B-2011	Total Alkalinity	97.8				0.105	
SM 2540 C-2011	TDS					7.87	
SM 2540 D-2011	TSS					3.39	
SM 4500-F- C-2011	Fluoride	98.5	98.2	98.2			0.0
SM 5310 B-2011	Organic Carbon	95.2	103				0.0916

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2319204, 2319205, 2319206
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2319204, 2319205, 2319206
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2319204, 2319205, 2319206
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2319204, 2319205, 2319206
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2319207, 2319208, 2319209
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2319207, 2319208, 2319209
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2319207, 2319208, 2319209
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2319207, 2319208, 2319209
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2319204, 2319205, 2319206
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2319204, 2319205, 2319206
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2319204, 2319205, 2319206
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2319204, 2319205, 2319206
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2319207, 2319208, 2319209

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	04/14/2022			04/14/2022 16:18	Anna M. Plaviak	2319204
	04/14/2022			04/14/2022 16:19	Anna M. Plaviak	2319206
	04/14/2022			04/14/2022 16:46	Anna M. Plaviak	2319205
EPA 180.1 Rev. 2.0	04/14/2022			04/14/2022 14:02	Khloe J Berg	2319204
	04/14/2022			04/14/2022 14:05	Khloe J Berg	2319205
	04/14/2022			04/14/2022 14:08	Khloe J Berg	2319206
EPA 300.0 Rev. 2.1	04/14/2022			04/22/2022 19:23	Anna M. Plaviak	2319204
	04/14/2022			04/22/2022 20:12	Anna M. Plaviak	2319205
	04/14/2022			04/22/2022 20:24	Anna M. Plaviak	2319206
EPA 350.1 Rev. 2.0	04/14/2022			04/19/2022 12:16	Ping Hua	2319207
	04/14/2022			04/19/2022 12:22	Ping Hua	2319208
	04/14/2022			04/19/2022 12:23	Ping Hua	2319209
EPA 351.2 Rev. 2.0	04/14/2022	04/22/2022 08:58	Samantha L Bates	04/25/2022 16:01	Samantha L Bates	2319207
	04/14/2022	04/22/2022 08:58	Samantha L Bates	04/25/2022 16:02	Samantha L Bates	2319208
	04/14/2022	05/06/2022 09:53	Samantha L Bates	05/09/2022 16:09	Samantha L Bates	2319209
EPA 353.2 Rev. 2.0	04/14/2022			04/18/2022 17:14	Nathaniel J Jones	2319207
	04/14/2022			04/18/2022 17:24	Nathaniel J Jones	2319208
	04/14/2022			04/18/2022 17:26	Nathaniel J Jones	2319209
EPA 365.1 Rev. 2.0	04/14/2022	04/21/2022 17:55	Simonne.V. Calhoun	04/22/2022 15:22	Sarah A Nixon	2319207
	04/14/2022	04/27/2022 15:50	Simonne.V. Calhoun	04/29/2022 11:28	Sarah A Nixon	2319208
	04/14/2022	04/27/2022 15:50	Simonne.V. Calhoun	04/29/2022 11:30	Sarah A Nixon	2319209
SM 2320 B-2011	04/14/2022			04/20/2022 14:38	Dale L. Simmons	2319204
	04/14/2022			04/20/2022 14:45	Dale L. Simmons	2319205
	04/14/2022			04/20/2022 16:13	Dale L. Simmons	2319206
SM 2540 C-2011	04/14/2022			04/18/2022 15:45	Yijie Li	2319204, 2319205, 2319206
SM 2540 D-2011	04/14/2022			04/18/2022 15:45	Yijie Li	2319204, 2319205, 2319206
SM 4500-F- C-2011	04/14/2022			04/20/2022 14:38	Dale L. Simmons	2319204
	04/14/2022			04/20/2022 14:45	Dale L. Simmons	2319205
	04/14/2022			04/20/2022 16:13	Dale L. Simmons	2319206
SM 5310 B-2011	04/14/2022			04/20/2022 21:35	Judith K. Clark	2319207
	04/14/2022			04/20/2022 21:49	Judith K. Clark	2319208
	04/14/2022			04/20/2022 22:03	Judith K. Clark	2319209