Chemical Analysis Report

CEN-DIST-2022-02-08-01

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

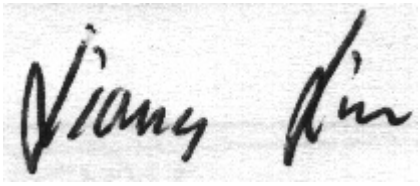
Event Description: **Run 22**
Request ID: **RQ-2022-01-17-25**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Matthew Bearden

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: 02-MAR-2022 14:26



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: Double Run Spring Run DS of Double Run Rd. **Collection Date/Time: 02/07/2022 10:15**

Field ID: G1CE0122 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2304253	DEP SOP: NU-094-1	Color (true)**	18	A	PCU	P409596	
	EPA 180.1 Rev. 2.0	Turbidity	0.20	I	NTU	P409582	
	EPA 300.0 Rev. 2.1	Chloride	11	A	mg Cl/L	P409775	
		Sulfate	17	A	mg SO4/L	P409782	
	SM 2320 B-2011	Total Alkalinity	56		mg CaCO3/L	P409649	
	SM 2540 C-2011	TDS	104	A	mg/L	P409978	
	SM 2540 D-2011	TSS	2	I A	mg/L	P409970	
	SM 4500 F-C-2011	Fluoride	0.050	I	mg F/L	P409651	
2304254	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P409955	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22		mg N/L	P409670	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.7		mg N/L	P409705	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P409770	
	SM 5310 B-2011	Organic Carbon	3.0		mg C/L	P410066	
2304255	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.016		mg P/L	P409566	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Big Creek @ Lake Nellie Rd. **Collection Date/Time: 02/07/2022 12:00**

Field ID: G1CE0117 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2304250	DEP SOP: NU-094-1	Color (true)**	150		PCU	P409596	
	EPA 180.1 Rev. 2.0	Turbidity	0.60	I	NTU	P409582	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P409775	
		Sulfate	0.29	I	mg SO4/L	P409782	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P409649	
	SM 2540 C-2011	TDS	81		mg/L	P409977	
	SM 2540 D-2011	TSS	2	U	mg/L	P409969	
	SM 4500 F-C-2011	Fluoride	0.050	I	mg F/L	P409651	
2304251	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P409955	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P409672	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P409705	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P409770	
	SM 5310 B-2011	Organic Carbon	26		mg C/L	P410066	
2304252	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P409565	

Ref. Method and Comment:
SM 2540 D-2011: 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: P409596

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P409582

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409775

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409782

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409955

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409670

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409672

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409705

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409770

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: P409565

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409566

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

Reference Method: SM 2320 B-2011
Batch ID: P409649

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

Reference Method: SM 2540 C-2011
Batch ID: P409977

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P409978

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P409969

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P409970

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P409651

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P410066

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: P409596

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P409582

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409775

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409782

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409955

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409670

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409672

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409705

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: P409770

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409565

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409566

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.4		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P409649

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.3		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P409651

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P410066

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.5		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409775

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2304253	Chloride	106		P	90 - 110
2304379	Chloride	107		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409782

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2304253	Sulfate	101		P	90 - 110
2304379	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409955

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2304223	Ammonia-N	96.8	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2304254	Kjeldahl Nitrogen	93.5	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409672

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303946	Kjeldahl Nitrogen	105	109	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409705

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2304222	NO2NO3-N	98.6	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409770

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2304284	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409565

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2304224	O-Phosphate-P	97.2	96.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409566

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2304255	O-Phosphate-P	98.1	99.8	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P409651

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303948	Fluoride	95.2	97.0	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P410066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2304418	Organic Carbon	96.0	94.8	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P409596

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304253	Color (true)	3.42	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P409582

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304417	Turbidity	2.13	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409775

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304253	Chloride	0.448	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409782

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304253	Sulfate	0.537	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409955

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304223	Ammonia-N	2.10	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304254	Kjeldahl Nitrogen	6.35	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303946	Kjeldahl Nitrogen	2.25	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409705

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304222	NO2NO3-N	1.30	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304284	Total-P	0.676	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409565

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304224	O-Phosphate-P	0.350	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409566

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304255	O-Phosphate-P	1.48	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P409649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303948	Total Alkalinity	0.0205	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P409977

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303730	TDS	1.77	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P409978

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304253	TDS	6.70	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P409651

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303948	Fluoride	1.53	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P410066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304418	Organic Carbon	0.604	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: EPA 365.1 Rev. 2.0 dissolved
Run ID: A110286
Included Lab Sample IDs: 2304252, 2304255

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A110291
Included Lab Sample IDs: 2304250, 2304253

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

Reference Method: DEP SOP: NU-094-1
Run ID: A110296
Included Lab Sample IDs: 2304250, 2304253

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.0	100	P/P	85 - 115

Reference Method: SM 2320 B-2011
Run ID: A110321
Included Lab Sample IDs: 2304250, 2304253

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.8	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A110321
Included Lab Sample IDs: 2304250, 2304253

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.0	96.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A110340
Included Lab Sample IDs: 2304251, 2304254

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	92.5	P/P	90 - 110
NO2NO3-N	92.5	102	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A110370
Included Lab Sample IDs: 2304250, 2304253

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	105	108	P/P	90 - 110
Sulfate	104	105	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A110395
Included Lab Sample IDs: 2304254

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.8	98.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A110402
Included Lab Sample IDs: 2304251

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.6	95.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A110454
Included Lab Sample IDs: 2304251, 2304254

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A110489
Included Lab Sample IDs: 2304251, 2304254

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

Reference Method: SM 5310 B-2011
Run ID: A110496
Included Lab Sample IDs: 2304251, 2304254

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	96.0	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)	100				3.42	
EPA 180.1 Rev. 2.0	Turbidity	96.5				2.13	
EPA 300.0 Rev. 2.1	Chloride	106	106	107		0.448	
	Sulfate	106	101	102		0.537	
EPA 350.1 Rev. 2.0	Ammonia-N	103	96.8	99.4			2.10
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.0	93.5	101			6.35
	Kjeldahl Nitrogen	108	105	109			2.25
EPA 353.2 Rev. 2.0	NO2NO3-N	100	98.6	100			1.30
EPA 365.1 Rev. 2.0	Total-P	104	104	104			0.676
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.8	97.2	96.8			0.350
	O-Phosphate-P	99.4	98.1	99.8			1.48
SM 2320 B-2011	Total Alkalinity	98.3				0.0205	
SM 2540 C-2011	TDS					1.77	
	TDS					6.70	
SM 4500 F-C-2011	Fluoride	97.2	95.2	97.0			1.53
SM 5310 B-2011	Organic Carbon	94.5	96.0	94.8			0.604

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2304250, 2304253
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2304250, 2304253
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2304250, 2304253
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2304250, 2304253
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2304251, 2304254
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2304251, 2304254
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2304251, 2304254
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2304251, 2304254
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2304252, 2304255
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2304250, 2304253
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2304250, 2304253
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2304250, 2304253
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2304250, 2304253
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2304251, 2304254

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	02/08/2022			02/08/2022 16:22	Anna M. Plaviak	2304250
	02/08/2022			02/08/2022 16:23	Anna M. Plaviak	2304253
EPA 180.1 Rev. 2.0	02/08/2022			02/08/2022 15:24	Khloe J Berg	2304250
	02/08/2022			02/08/2022 15:31	Khloe J Berg	2304253
EPA 300.0 Rev. 2.1	02/08/2022			02/12/2022 01:20	James L Waggerby	2304253
	02/08/2022			02/12/2022 02:20	James L Waggerby	2304250
EPA 350.1 Rev. 2.0	02/08/2022			02/16/2022 15:29	Ping Hua	2304251
	02/08/2022			02/16/2022 15:30	Ping Hua	2304254
EPA 351.2 Rev. 2.0	02/08/2022	02/11/2022 10:40	Samantha L Bates	02/14/2022 17:06	Alexandra J Mattheus	2304251
	02/08/2022	02/11/2022 10:44	Alexandra J Mattheus	02/14/2022 11:54	Alexandra J Mattheus	2304254
EPA 353.2 Rev. 2.0	02/08/2022			02/10/2022 15:47	Nathaniel J Jones	2304251
	02/08/2022			02/10/2022 16:04	Nathaniel J Jones	2304254
EPA 365.1 Rev. 2.0	02/08/2022	02/15/2022 14:20	Simonne.V. Calhoun	02/18/2022 13:01	Shengyu Ding	2304251
	02/08/2022	02/15/2022 14:20	Simonne.V. Calhoun	02/18/2022 13:02	Shengyu Ding	2304254
EPA 365.1 Rev. 2.0 dissolved	02/08/2022			02/08/2022 14:10	James L Waggerby	2304252
	02/08/2022			02/08/2022 14:17	James L Waggerby	2304255
SM 2320 B-2011	02/08/2022			02/09/2022 18:53	Dale L. Simmons	2304250
	02/08/2022			02/09/2022 19:04	Dale L. Simmons	2304253
SM 2540 C-2011	02/08/2022			02/09/2022 14:36	Yijie Li	2304250, 2304253
SM 2540 D-2011	02/08/2022			02/09/2022 14:36	Yijie Li	2304250, 2304253
SM 4500 F-C-2011	02/08/2022			02/09/2022 18:53	Dale L. Simmons	2304250
	02/08/2022			02/09/2022 19:04	Dale L. Simmons	2304253
SM 5310 B-2011	02/08/2022			02/18/2022 06:53	Khloe J Berg	2304251
	02/08/2022			02/18/2022 07:09	Khloe J Berg	2304254