

Chemical Analysis Report

CEN-DIST-2023-04-25-02

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

Event Description: **Run 18**
Request ID: **RQ-2023-04-17-24**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 16-MAY-2023 10:30



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: SECRET LAKE AT CENTER

Collection Date/Time: 04/24/2023 10:45

Field ID: G2CE0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2402616	DEP SOP: NU-094-1	Color (true)	17		PCU	P428953	
	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P428972	
	EPA 300.0 Rev. 2.1	Chloride	16	A	mg Cl/L	P429144	
		Sulfate	13	A	mg SO4/L	P429147	
	SM 2320 B-2011	Total Alkalinity	54		mg CaCO3/L	P429192	
	SM 2540 C-2015	TDS	110		mg/L	P429500	
	SM 2540 D-2015	TSS	4	I	mg/L	P429317	
	SM 4500-F- C-2011	Fluoride	0.041	I	mg F/L	P429282	
2402620	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P429140	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P429298	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P429247	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P429003	
	SM 5310 B-2011	Organic Carbon	8.5		mg C/L	P429190	

Ref. Method and Comment:

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

Sample Location: LAKE KATHRYN AT CENTER

Collection Date/Time: 04/24/2023 11:25

Field ID: G2CE0217

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2402617	DEP SOP: NU-094-1	Color (true)	27		PCU	P428953	
	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P428972	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P429144	
		Sulfate	6.5		mg SO4/L	P429147	
	SM 2320 B-2011	Total Alkalinity	42		mg CaCO3/L	P429192	
	SM 2540 C-2015	TDS	97		mg/L	P429500	
	SM 2540 D-2015	TSS	4	I	mg/L	P429317	
	SM 4500-F- C-2011	Fluoride	0.050	I	mg F/L	P429282	
2402621	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P429140	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P429298	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P429247	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P429003	
	SM 5310 B-2011	Organic Carbon	7.9		mg C/L	P429190	

Ref. Method and Comment:

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

Sample Location: LAKE GRIFFIN AT CENTER

Collection Date/Time: 04/24/2023 11:55

Field ID: G2CE0207

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2402618	DEP SOP: NU-094-1	Color (true)	19		PCU	P428953	
	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P428972	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P429144	
		Sulfate	6.3		mg SO4/L	P429147	
	SM 2320 B-2011	Total Alkalinity	46		mg CaCO3/L	P429192	
	SM 2540 C-2015	TDS	116		mg/L	P429500	
	SM 2540 D-2015	TSS	2	I	mg/L	P429317	
	SM 4500-F- C-2011	Fluoride	0.046	I	mg F/L	P429282	
2402622	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P429140	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P429298	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P429327	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P429003	
	SM 5310 B-2011	Organic Carbon	8.4		mg C/L	P429190	

Ref. Method and Comment:

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

**Sample Location: LAKE MARION AT 105M SOUTHEAST OF
CENTER OF LAKE**

Collection Date/Time: 04/24/2023 12:35

Field ID: G2CE0278

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2402619	DEP SOP: NU-094-1	Color (true)	32	A	PCU	P428954	
	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P428972	
	EPA 300.0 Rev. 2.1	Chloride	36		mg Cl/L	P429144	
		Sulfate	6.0		mg SO4/L	P429147	
	SM 2320 B-2011	Total Alkalinity	39		mg CaCO3/L	P429192	
	SM 2540 C-2015	TDS	193		mg/L	P429500	
	SM 2540 D-2015	TSS	6	I	mg/L	P429317	
	SM 4500-F- C-2011	Fluoride	0.11		mg F/L	P429283	
2402623	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P429140	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P429298	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P429327	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P429153	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P429190	

Ref. Method and Comment:

SM 2540 C-2015: The sample was reanalyzed on 05/10/2023. The result was 116 AQ mg/L.

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: P428953

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P428954

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428972

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429144

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429147

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429140

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429298

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429247

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429327

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429003

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429153

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

Reference Method: SM 2320 B-2011
Batch ID: P429192

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2015
Batch ID: P429500

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P429317

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P429282

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P429283

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P429190

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: P428953

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.8		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P428954

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.3		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428972

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	99.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429144

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429147

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429140

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429298

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: P429247

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429327

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429003

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429153

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

Reference Method: SM 2320 B-2011
Batch ID: P429192

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.8		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P429500

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

Reference Method: SM 2540 D-2015
Batch ID: P429317

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	95.3		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P429282

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.8		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P429283

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.8		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P429190

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402616	Chloride	101		P	90 - 110
2402650	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429147

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402616	Sulfate	101		P	90 - 110
2402650	Sulfate	97.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429140

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402621	Ammonia-N	96.4	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402620	Kjeldahl Nitrogen	106	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429247

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402598	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429327

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402622	NO2NO3-N	105	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402622	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429153

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402012	Total-P	100	102	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P429282

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402166	Fluoride	101	101	P/P	94 - 104

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P429283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402648	Fluoride	100	102	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P429190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402623	Organic Carbon	94.2	94.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P428953

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402529	Color (true)	1.96	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P428954

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402619	Color (true)	1.27	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428972

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402507	Turbidity	6.01	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402616	Chloride	0.583	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429147

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402616	Sulfate	0.336	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429140

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402621	Ammonia-N	0.567	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402620	Kjeldahl Nitrogen	0.270	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402598	NO2NO3-N	0.291	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429327

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402622	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429003

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402622	Total-P	0.873	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429153

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402012	Total-P	1.97	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P429192

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402648	Total Alkalinity	1.96	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P429500

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401995	TDS	5.85	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P429282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402166	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P429283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402648	Fluoride	1.01	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P429190

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402623	Organic Carbon	0.483	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 300.0 Rev. 2.1

Run ID: A118755

Included Lab Sample IDs: 2402616, 2402617, 2402618, 2402619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.0	97.8	P/P	90 - 110
Sulfate	98.5	98.9	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A118763

Included Lab Sample IDs: 2402616, 2402617, 2402618, 2402619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.1	P/P	90 - 110
Color (true)	99.1	97.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A118771

Included Lab Sample IDs: 2402616, 2402617, 2402618, 2402619

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118813

Included Lab Sample IDs: 2402620, 2402621, 2402622

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118854

Included Lab Sample IDs: 2402620, 2402621, 2402622, 2402623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.8	98.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A118869

Included Lab Sample IDs: 2402616, 2402617, 2402618, 2402619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.5	94.8	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A118872

Included Lab Sample IDs: 2402620, 2402621, 2402622, 2402623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	98.1	P/P	90 - 110
Organic Carbon	99.0	98.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A118899

Included Lab Sample IDs: 2402620, 2402621

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118910

Included Lab Sample IDs: 2402623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	98.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A118916

Included Lab Sample IDs: 2402616, 2402617, 2402618, 2402619

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A118933

Included Lab Sample IDs: 2402622, 2402623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	105	104	P/P	90 - 110
NO2NO3-N	105	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118948

Included Lab Sample IDs: 2402620, 2402621, 2402622, 2402623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.9	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	MS
DEP SOP: NU-094-1	Color (true)	96.8			1.96	
	Color (true)	97.3			1.27	
EPA 180.1 Rev. 2.0	Turbidity	99.2			6.01	
EPA 300.0 Rev. 2.1	Chloride	101	101	100	0.583	
	Sulfate	102	101	97.8	0.336	
EPA 350.1 Rev. 2.0	Ammonia-N	97.0	96.4	97.0		0.567
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	106	106		0.270
EPA 353.2 Rev. 2.0	NO2NO3-N	105	104	103		0.291
	NO2NO3-N	103	105	105		0.0
EPA 365.1 Rev. 2.0	Total-P	101	102	102		0.873
	Total-P	101	100	102		1.97
SM 2320 B-2011	Total Alkalinity	95.8			1.96	
SM 2540 C-2015	TDS	95.4			5.85	
SM 2540 D-2015	TSS	95.3				
SM 4500-F- C-2011	Fluoride	98.8	101	101		0.0
	Fluoride	97.8	100	102		1.01
SM 5310 B-2011	Organic Carbon	95.6	94.2	94.9		0.483

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2402616, 2402617, 2402618, 2402619
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2402616, 2402617, 2402618, 2402619
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2402616, 2402617, 2402618, 2402619
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2402616, 2402617, 2402618, 2402619
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2402620, 2402621, 2402622, 2402623
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2402620, 2402621, 2402622, 2402623
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2402620, 2402621, 2402622, 2402623
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2402620, 2402621, 2402622, 2402623
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2402616, 2402617, 2402618, 2402619
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2402616, 2402617, 2402618, 2402619
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2402616, 2402617, 2402618, 2402619
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2402616, 2402617, 2402618, 2402619
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2402620, 2402621, 2402622, 2402623

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	04/25/2023			04/25/2023 13:56	Chandler E Cox	2402616
	04/25/2023			04/25/2023 13:57	Chandler E Cox	2402617, 2402618
	04/25/2023			04/25/2023 14:00	Chandler E Cox	2402619
EPA 180.1 Rev. 2.0	04/25/2023			04/25/2023 13:43	Khloe J Berg	2402616
	04/25/2023			04/25/2023 13:44	Khloe J Berg	2402617
	04/25/2023			04/25/2023 13:45	Khloe J Berg	2402618
EPA 300.0 Rev. 2.1	04/25/2023			04/25/2023 13:46	Khloe J Berg	2402619
	04/25/2023			04/27/2023 21:34	James L Waggeberby	2402616
	04/25/2023			04/27/2023 23:35	James L Waggeberby	2402617
EPA 350.1 Rev. 2.0	04/25/2023			04/27/2023 23:50	James L Waggeberby	2402618
	04/25/2023			04/28/2023 00:05	James L Waggeberby	2402619
	04/25/2023			04/28/2023 13:35	Ping Hua	2402621
EPA 351.2 Rev. 2.0	04/25/2023			04/28/2023 13:41	Ping Hua	2402620
	04/25/2023			04/28/2023 13:43	Ping Hua	2402622
	04/25/2023			04/28/2023 13:44	Ping Hua	2402623
EPA 353.2 Rev. 2.0	04/25/2023	05/03/2023 12:13	Dana G. Hughes	05/04/2023 09:57	Samantha L Bates	2402620
	04/25/2023	05/03/2023 12:13	Dana G. Hughes	05/04/2023 10:02	Samantha L Bates	2402621
	04/25/2023	05/03/2023 12:13	Dana G. Hughes	05/04/2023 10:03	Samantha L Bates	2402622
EPA 365.1 Rev. 2.0	04/25/2023	05/03/2023 12:13	Dana G. Hughes	05/04/2023 10:05	Samantha L Bates	2402623
	04/25/2023			05/02/2023 11:49	Beverly Y. Sanders	2402620
	04/25/2023			05/02/2023 11:50	Beverly Y. Sanders	2402621
SM 2320 B-2011	04/25/2023			05/03/2023 09:46	Beverly Y. Sanders	2402623
	04/25/2023			05/03/2023 11:04	Beverly Y. Sanders	2402622
	04/25/2023			04/27/2023 09:46	Simonne.V. Calhoun	2402620
SM 2540 C-2015	04/25/2023	04/26/2023 14:50	Adam P Silver	04/27/2023 09:47	Simonne.V. Calhoun	2402621
	04/25/2023	04/26/2023 14:50	Adam P Silver	04/27/2023 09:48	Simonne.V. Calhoun	2402622
	04/25/2023	04/26/2023 14:50	Adam P Silver	04/27/2023 09:48	Simonne.V. Calhoun	2402622
SM 2540 D-2015	04/25/2023	04/28/2023 15:57	Adam P Silver	05/02/2023 14:59	Simonne.V. Calhoun	2402623
	04/25/2023			04/28/2023 07:12	Dale L. Simmons	2402616
	04/25/2023			04/28/2023 07:23	Dale L. Simmons	2402617
SM 4500-F- C-2011	04/25/2023			04/28/2023 07:34	Dale L. Simmons	2402618
	04/25/2023			04/28/2023 07:46	Dale L. Simmons	2402619
	04/25/2023			04/26/2023 15:12	Yijie Li	2402616, 2402617, 2402618, 2402619
SM 5310 B-2011	04/25/2023			04/26/2023 15:12	Yijie Li	2402616, 2402617, 2402618, 2402619
	04/25/2023			05/02/2023 17:46	Dale L. Simmons	2402616
	04/25/2023			05/02/2023 17:51	Dale L. Simmons	2402617
	04/25/2023			05/02/2023 17:56	Dale L. Simmons	2402618
	04/25/2023			05/02/2023 18:51	Dale L. Simmons	2402619
	04/25/2023			04/28/2023 15:57	Elise M. Gillis	2402623
	04/25/2023			04/28/2023 21:09	Elise M. Gillis	2402620
	04/25/2023			04/28/2023 21:24	Elise M. Gillis	2402621

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	04/25/2023			04/28/2023 21:38	Elise M. Gillis	2402622