

Chemical Analysis Report

CEN-DIST-2023-02-24-01

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

Event Description: **Run 18**
Request ID: **RQ-2023-02-20-19**
Customer: **CEN-DIST**
Project ID: **SMP**

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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 22-MAR-2023 11:25



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: Lake Kathryn @ Center

Collection Date/Time: 02/23/2023 11:25

Field ID: G2CE0217

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2390083	DEP SOP: NU-094-1	Color (true)	37		PCU	P426370	
	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P426374	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P426869	
		Sulfate	7.0		mg SO4/L	P426873	
	SM 2320 B-2011	Total Alkalinity	42		mg CaCO3/L	P426755	
	SM 2540 C-2015	TDS	73		mg/L	P426961	
	SM 2540 D-2015	TSS	3	I	mg/L	P426805	
	SM 4500-F- C-2011	Fluoride	0.053	I	mg F/L	P426757	
2390087	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P426600	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P427107	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P426657	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P426515	
	SM 5310 B-2011	Organic Carbon	7.5		mg C/L	P426851	

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 Florida @ Center of Lake

Collection Date/Time: 02/23/2023 14:20

Field ID: G2CE0150

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2390080	DEP SOP: NU-094-1	Color (true)	69	A	PCU	P426370	
	EPA 180.1 Rev. 2.0	Turbidity	9.9		NTU	P426374	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P426869	
		Sulfate	5.0		mg SO4/L	P426873	
	SM 2320 B-2011	Total Alkalinity	52		mg CaCO3/L	P426755	
	SM 2540 C-2015	TDS	114		mg/L	P426961	
	SM 2540 D-2015	TSS	9	I	mg/L	P426805	
	SM 4500-F- C-2011	Fluoride	0.070	I	mg F/L	P426757	
2390081	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P426600	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P427254	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P426657	
	EPA 365.1 Rev. 2.0	Total-P	0.034		mg P/L	P426515	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P426851	
2390082	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P426366	

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: FB

Collection Date/Time: 02/23/2023 14:40

Field ID: FB_02232023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2390091	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P426371	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P426374	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P426869	
		Sulfate	0.20	U	mg SO4/L	P426873	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P426755	
	SM 2540 C-2015	TDS	15	U	mg/L	P426961	
	SM 2540 D-2015	TSS	2	U	mg/L	P426805	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P426757	
2390092	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P426728	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P427107	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P426657	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P426515	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P426851	

Ref. Method and Comment:

DEP SOP: NU-094-1: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

Sample Location: Lake Marion @ 105M Southeast of center of lake

Collection Date/Time: 02/23/2023 13:24

Field ID: G2CE0278

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2390084	DEP SOP: NU-094-1	Color (true)	36		PCU	P426370	
	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P426374	
	EPA 300.0 Rev. 2.1	Chloride	32		mg Cl/L	P426869	
		Sulfate	5.6		mg SO4/L	P426873	
	SM 2320 B-2011	Total Alkalinity	41		mg CaCO3/L	P426755	
	SM 2540 C-2015	TDS	111		mg/L	P426961	
	SM 2540 D-2015	TSS	2	I	mg/L	P426805	
	SM 4500-F- C-2011	Fluoride	0.10		mg F/L	P426757	
2390088	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P426600	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.89	J	mg N/L	P427107	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P426657	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P426515	
	SM 5310 B-2011	Organic Carbon	8.3		mg C/L	P426851	

Ref. Method and Comment:

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

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

Sample Location: Lake Griffin @ Center

Collection Date/Time: 02/23/2023 12:03

Field ID: G2CE0207

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2390085	DEP SOP: NU-094-1	Color (true)	25		PCU	P426370	
	EPA 180.1 Rev. 2.0	Turbidity	0.90	I	NTU	P426374	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P426869	
		Sulfate	5.9		mg SO4/L	P426873	
	SM 2320 B-2011	Total Alkalinity	49		mg CaCO3/L	P426755	
	SM 2540 C-2015	TDS	87		mg/L	P426961	
	SM 2540 D-2015	TSS	2	U	mg/L	P426805	
	SM 4500-F- C-2011	Fluoride	0.051	I	mg F/L	P426757	
2390089	EPA 350.1 Rev. 2.0	Ammonia-N	0.088		mg N/L	P426600	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P427107	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.052		mg N/L	P426657	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P426515	
	SM 5310 B-2011	Organic Carbon	8.0		mg C/L	P426851	

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: Secret Lake @ Center

Collection Date/Time: 02/23/2023 10:28

Field ID: G2CE0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2390086	DEP SOP: NU-094-1	Color (true)	17		PCU	P426370	
	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P426374	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P426869	
		Sulfate	13		mg SO4/L	P426873	
	SM 2320 B-2011	Total Alkalinity	56		mg CaCO3/L	P426755	
	SM 2540 C-2015	TDS	101		mg/L	P426961	
	SM 2540 D-2015	TSS	2	I	mg/L	P426805	
	SM 4500-F- C-2011	Fluoride	0.044	I	mg F/L	P426757	
2390090	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P426602	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P426844	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P426657	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P426515	
	SM 5310 B-2011	Organic Carbon	6.2		mg C/L	P426851	

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: P426370

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P426371

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426374

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426869

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426873

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426600

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426602

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426728

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426844

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427107

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427254

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426657

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426515

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426366

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

Reference Method: SM 2320 B-2011
Batch ID: P426755

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

Reference Method: SM 2540 C-2015
Batch ID: P426961

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P426805

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P426757

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P426851

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: P426370

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.2		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P426371

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.4		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426374

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426869

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426873

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426600

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426602

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426728

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426844

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.1		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427107

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: P427254

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426657

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426515

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426366

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.4		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P426755

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.0		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P426961

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	91.4		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P426805

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	102		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P426757

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	96 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P426851

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426869

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389942	Chloride	98.6		P	90 - 110
2389971	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389942	Sulfate	103		P	90 - 110
2389971	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426600

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389985	Ammonia-N	98.8	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426602

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2390090	Ammonia-N	99.6	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426728

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2390558	Ammonia-N	97.4	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426844

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2390090	Kjeldahl Nitrogen	100	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2390088	Kjeldahl Nitrogen	86.8	89.4	F/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427254

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2390050	Kjeldahl Nitrogen	96.3	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426657

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2390002	NO2NO3-N	101	101	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426515

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2390112	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426366

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389967	O-Phosphate-P	95.4	95.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P426757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389982	Fluoride	100	99.0	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P426851

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2390240	Organic Carbon	95.5	97.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P426370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2390080	Color (true)	0.854	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426374

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2390052	Turbidity	7.54	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426869

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389942	Chloride	0.267	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389942	Sulfate	0.966	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389985	Ammonia-N	1.32	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2390090	Ammonia-N	0.713	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426728

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2390558	Ammonia-N	1.33	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2390090	Kjeldahl Nitrogen	2.37	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2390088	Kjeldahl Nitrogen	1.87	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427254

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2390050	Kjeldahl Nitrogen	4.80	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426657

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2390002	NO2NO3-N	0.473	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2390112	Total-P	0.539	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389967	O-Phosphate-P	0.420	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P426755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389982	Total Alkalinity	2.71	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P426961

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389918	TDS	2.65	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P426757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389982	Fluoride	1.02	Spike	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P426851

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2390240	Organic Carbon	1.92	Spike	P	0 - 20

* 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: A117657

Included Lab Sample IDs: 2390082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.3	98.0	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A117658

Included Lab Sample IDs: 2390080, 2390083, 2390084, 2390085, 2390086, 2390091

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A117659

Included Lab Sample IDs: 2390080, 2390083, 2390084, 2390085, 2390086, 2390091

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	101	100	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117760

Included Lab Sample IDs: 2390081, 2390087, 2390088, 2390089, 2390090

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	98.1	P/P	90 - 110
Ammonia-N	99.3	99.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A117781

Included Lab Sample IDs: 2390081, 2390087, 2390088, 2390089, 2390090, 2390092

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117821

Included Lab Sample IDs: 2390092

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A117829

Included Lab Sample IDs: 2390081, 2390087, 2390088, 2390089, 2390090, 2390092

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.8	P/P	90 - 110
Total-P	99.5	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A117833

Included Lab Sample IDs: 2390080, 2390083, 2390084, 2390085, 2390086, 2390091

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.6	98.9	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A117836

Included Lab Sample IDs: 2390080, 2390083, 2390084, 2390085, 2390086, 2390091

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.0	96.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A117836

Included Lab Sample IDs: 2390080, 2390083, 2390084, 2390085, 2390086, 2390091

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

Reference Method: SM 5310 B-2011

Run ID: A117865

Included Lab Sample IDs: 2390081, 2390087, 2390088, 2390089, 2390090, 2390092

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	97.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A117939

Included Lab Sample IDs: 2390090

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.0	91.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118044

Included Lab Sample IDs: 2390087, 2390088, 2390089, 2390092

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	96.2	P/P	90 - 110
Kjeldahl Nitrogen	96.2	98.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118092

Included Lab Sample IDs: 2390081

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.7	103	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)	99.2			0.854	
	Color (true)	99.4				
EPA 180.1 Rev. 2.0	Turbidity	101			7.54	
EPA 300.0 Rev. 2.1	Chloride	100	98.6	102	0.267	
	Sulfate	104	103	103	0.966	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	98.8	100		1.32
	Ammonia-N	100	99.6	100		0.713
	Ammonia-N	98.8	97.4	98.8		1.33
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.1	100	103		2.37
	Kjeldahl Nitrogen	97.0	86.8	89.4		1.87
	Kjeldahl Nitrogen	102	96.3	103		4.80
EPA 353.2 Rev. 2.0	NO2NO3-N	102	101	101		0.473
EPA 365.1 Rev. 2.0	Total-P	101	102	102		0.539
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.4	95.4	95.0		0.420
SM 2320 B-2011	Total Alkalinity	98.0			2.71	
SM 2540 C-2015	TDS	91.4			2.65	
SM 2540 D-2015	TSS	102				
SM 4500-F- C-2011	Fluoride	100	100	99.0		1.02
SM 5310 B-2011	Organic Carbon	96.0	95.5	97.4		1.92

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2390080, 2390083, 2390084, 2390085, 2390086, 2390091
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2390080, 2390083, 2390084, 2390085, 2390086, 2390091
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2390080, 2390083, 2390084, 2390085, 2390086, 2390091
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2390080, 2390083, 2390084, 2390085, 2390086, 2390091
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2390081, 2390087, 2390088, 2390089, 2390090, 2390092
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2390081, 2390087, 2390088, 2390089, 2390090, 2390092
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2390081, 2390087, 2390088, 2390089, 2390090, 2390092
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2390081, 2390087, 2390088, 2390089, 2390090, 2390092
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2390082
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2390080, 2390083, 2390084, 2390085, 2390086, 2390091
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2390080, 2390083, 2390084, 2390085, 2390086, 2390091
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2390080, 2390083, 2390084, 2390085, 2390086, 2390091
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2390080, 2390083, 2390084, 2390085, 2390086, 2390091
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2390081, 2390087, 2390088, 2390089, 2390090, 2390092

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	02/24/2023			02/24/2023 15:33	Chandler E Cox	2390080
	02/24/2023			02/24/2023 15:36	Chandler E Cox	2390083, 2390084
	02/24/2023			02/24/2023 15:37	Chandler E Cox	2390085, 2390086
	02/24/2023			02/24/2023 15:41	Chandler E Cox	2390091
EPA 180.1 Rev. 2.0	02/24/2023			02/24/2023 14:48	Khloe J Berg	2390080
	02/24/2023			02/24/2023 14:49	Khloe J Berg	2390083
	02/24/2023			02/24/2023 14:50	Khloe J Berg	2390084
	02/24/2023			02/24/2023 14:53	Khloe J Berg	2390085
EPA 300.0 Rev. 2.1	02/24/2023			02/24/2023 14:55	Khloe J Berg	2390086
	02/24/2023			02/24/2023 14:56	Khloe J Berg	2390091
	02/24/2023			03/08/2023 00:01	Judith K. Clark	2390080
	02/24/2023			03/08/2023 00:16	Judith K. Clark	2390083
EPA 350.1 Rev. 2.0	02/24/2023			03/08/2023 00:31	Judith K. Clark	2390084
	02/24/2023			03/08/2023 00:46	Judith K. Clark	2390085
	02/24/2023			03/08/2023 01:01	Judith K. Clark	2390086
	02/24/2023			03/08/2023 01:16	Judith K. Clark	2390091
EPA 351.2 Rev. 2.0	02/24/2023			03/02/2023 11:00	Khloe J Berg	2390081
	02/24/2023			03/02/2023 11:01	Khloe J Berg	2390087
	02/24/2023			03/02/2023 11:02	Khloe J Berg	2390088
	02/24/2023			03/02/2023 11:04	Khloe J Berg	2390089
EPA 353.2 Rev. 2.0	02/24/2023			03/02/2023 11:42	Khloe J Berg	2390090
	02/24/2023			03/06/2023 10:37	Khloe J Berg	2390092
	02/24/2023	03/08/2023 14:00	Simonne.V. Calhoun	03/10/2023 17:09	Samantha L Bates	2390090
	02/24/2023	03/14/2023 10:34	Simonne.V. Calhoun	03/16/2023 14:26	Judith K. Clark	2390087
EPA 365.1 Rev. 2.0	02/24/2023	03/14/2023 10:34	Simonne.V. Calhoun	03/16/2023 14:28	Judith K. Clark	2390088
	02/24/2023	03/14/2023 10:34	Simonne.V. Calhoun	03/16/2023 14:33	Judith K. Clark	2390089
	02/24/2023	03/14/2023 10:34	Simonne.V. Calhoun	03/16/2023 14:38	Judith K. Clark	2390092
	02/24/2023	03/20/2023 12:15	Simonne.V. Calhoun	03/21/2023 10:09	Samantha L Bates	2390081
EPA 365.1 Rev. 2.0	02/24/2023			03/02/2023 10:15	Beverly Y. Sanders	2390081
	02/24/2023			03/02/2023 10:16	Beverly Y. Sanders	2390087
	02/24/2023			03/02/2023 10:17	Beverly Y. Sanders	2390088
	02/24/2023			03/02/2023 10:18	Beverly Y. Sanders	2390089
EPA 365.1 Rev. 2.0	02/24/2023			03/02/2023 10:19	Beverly Y. Sanders	2390090
	02/24/2023			03/02/2023 10:20	Beverly Y. Sanders	2390092
	02/24/2023	03/01/2023 14:02	Adam P Silver	03/06/2023 14:48	James L Waggeberby	2390092
	02/24/2023	03/01/2023 14:02	Adam P Silver	03/06/2023 14:50	James L Waggeberby	2390081
EPA 365.1 Rev. 2.0	02/24/2023	03/01/2023 14:02	Adam P Silver	03/06/2023 14:51	James L Waggeberby	2390087
	02/24/2023	03/01/2023 14:02	Adam P Silver	03/06/2023 14:52	James L Waggeberby	2390088
	02/24/2023	03/01/2023 14:02	Adam P Silver	03/06/2023 14:53	James L Waggeberby	2390089
	02/24/2023	03/01/2023 14:02	Adam P Silver	03/06/2023 15:01	James L Waggeberby	2390090

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0 dissolved SM 2320 B-2011	02/24/2023			02/24/2023 15:03	Elise M. Gillis	2390082
	02/24/2023			03/07/2023 04:37	Chandler E Cox	2390080
	02/24/2023			03/07/2023 04:50	Chandler E Cox	2390083
	02/24/2023			03/07/2023 05:02	Chandler E Cox	2390084
	02/24/2023			03/07/2023 05:15	Chandler E Cox	2390085
	02/24/2023			03/07/2023 05:27	Chandler E Cox	2390086
	02/24/2023			03/07/2023 05:36	Chandler E Cox	2390091
SM 2540 C-2015	02/24/2023			03/01/2023 16:46	Yijie Li	2390080, 2390083, 2390084, 2390085, 2390086, 2390091
SM 2540 D-2015	02/24/2023			03/01/2023 16:46	Yijie Li	2390080, 2390083, 2390084, 2390085, 2390086, 2390091
SM 4500-F- C-2011	02/24/2023			03/07/2023 04:37	Chandler E Cox	2390080
	02/24/2023			03/07/2023 04:50	Chandler E Cox	2390083
	02/24/2023			03/07/2023 05:02	Chandler E Cox	2390084
	02/24/2023			03/07/2023 05:15	Chandler E Cox	2390085
	02/24/2023			03/07/2023 05:27	Chandler E Cox	2390086
	02/24/2023			03/07/2023 05:36	Chandler E Cox	2390091
SM 5310 B-2011	02/24/2023			03/07/2023 20:49	Elise M. Gillis	2390081
	02/24/2023			03/07/2023 21:07	Elise M. Gillis	2390087
	02/24/2023			03/07/2023 21:25	Elise M. Gillis	2390088
	02/24/2023			03/07/2023 21:40	Elise M. Gillis	2390089
	02/24/2023			03/07/2023 21:55	Elise M. Gillis	2390090
	02/24/2023			03/07/2023 22:12	Elise M. Gillis	2390092