

Chemical Analysis Report

CEN-DIST-2023-11-29-01

Florida DEP Laboratory
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Tallahassee, FL 32399-2400
DOH Accreditation E31780

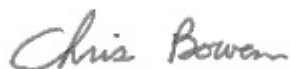
Event Description: **Run 18**
Request ID: **RQ-2023-11-27-09**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 15-DEC-2023 13:19



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: 11/28/2023 09:28

Field ID: G2CE0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2453121	DEP SOP: NU-094-1	Color (true)	17		PCU	P438282	
	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P438291	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P438417	
		Sulfate	7.0		mg SO4/L	P438418	
	SM 2320 B-2011	Total Alkalinity	52		mg CaCO3/L	P438459	
	SM 2540 C-2015	TDS	103		mg/L	P438789	
	SM 2540 D-2015	TSS	3	I	mg/L	P438694	
	SM 4500-F- C-2011	Fluoride	0.048	I	mg F/L	P438462	
2453125	EPA 350.1 Rev. 2.0	Ammonia-N	0.15		mg N/L	P438563	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.98		mg N/L	P438311	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.034		mg N/L	P438674	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P438406	
	SM 5310 B-2011	Organic Carbon	6.3		mg C/L	P438378	

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 AT CENTER OF LAKE

Collection Date/Time: 11/28/2023 11:54

Field ID: G2CE0150

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2453118	DEP SOP: NU-094-1	Color (true)	68	A	PCU	P438282	
	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P438291	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P438417	
		Sulfate	3.8		mg SO4/L	P438418	
	SM 2320 B-2011	Total Alkalinity	41		mg CaCO3/L	P438459	
	SM 2540 C-2015	TDS	99		mg/L	P438789	
	SM 2540 D-2015	TSS	3	I	mg/L	P438694	
	SM 4500-F- C-2011	Fluoride	0.069	I	mg F/L	P438462	
2453119	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P438563	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.91		mg N/L	P438311	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P438674	
	EPA 365.1 Rev. 2.0	Total-P	0.052		mg P/L	P438406	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P438378	
2453120	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P438286	

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: 11/28/2023 11:23

Field ID: G2CE0278

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2453122	DEP SOP: NU-094-1	Color (true)	22		PCU	P438282	
	EPA 180.1 Rev. 2.0	Turbidity	5.6		NTU	P438291	
	EPA 300.0 Rev. 2.1	Chloride	33		mg Cl/L	P438417	
		Sulfate	6.0		mg SO4/L	P438418	
	SM 2320 B-2011	Total Alkalinity	28		mg CaCO3/L	P438459	
	SM 2540 C-2015	TDS	107		mg/L	P438789	
	SM 2540 D-2015	TSS	9	I	mg/L	P438694	
	SM 4500-F- C-2011	Fluoride	0.12		mg F/L	P438462	
2453126	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P438563	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P438313	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P438674	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P438406	
	SM 5310 B-2011	Organic Carbon	8.3		mg C/L	P438378	

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: 11/28/2023 10:34

Field ID: G2CE0207

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2453123	DEP SOP: NU-094-1	Color (true)	25		PCU	P438282	
	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P438291	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P438417	
		Sulfate	6.4		mg SO4/L	P438418	
	SM 2320 B-2011	Total Alkalinity	46		mg CaCO3/L	P438459	
	SM 2540 C-2015	TDS	99		mg/L	P438789	
	SM 2540 D-2015	TSS	2	I	mg/L	P438694	
	SM 4500-F- C-2011	Fluoride	0.055	I	mg F/L	P438462	
2453127	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P438563	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P438313	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P438674	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P438406	
	SM 5310 B-2011	Organic Carbon	8.0		mg C/L	P438378	

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: 11/28/2023 10:04

Field ID: G2CE0217

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2453124	DEP SOP: NU-094-1	Color (true)	32		PCU	P438282	
	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P438291	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P438417	
		Sulfate	6.0		mg SO4/L	P438418	
	SM 2320 B-2011	Total Alkalinity	40		mg CaCO3/L	P438459	
	SM 2540 C-2015	TDS	85		mg/L	P438789	
	SM 2540 D-2015	TSS	5	I	mg/L	P438694	
	SM 4500-F- C-2011	Fluoride	0.061	I	mg F/L	P438462	
2453128	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P438566	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P438313	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P438674	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P438406	
	SM 5310 B-2011	Organic Carbon	7.8		mg C/L	P438378	

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: P438282

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438291

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438417

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438418

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438563

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438566

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438311

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438313

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438674

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: P438406

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P438286

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

Reference Method: SM 2320 B-2011
Batch ID: P438459

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

Reference Method: SM 2540 C-2015
Batch ID: P438789

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P438694

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P438462

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P438378

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: P438282

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438291

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438417

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438418

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438563

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438566

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438311

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438313

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438674

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438406

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P438286

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

Reference Method: SM 2320 B-2011
Batch ID: P438459

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.2		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P438789

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	99.6		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P438694

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

Reference Method: SM 4500-F- C-2011
Batch ID: P438462

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P438378

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453048	Chloride	103		P	90 - 110
2453122	Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438418

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453048	Sulfate	102		P	90 - 110
2453122	Sulfate	99.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438563

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453053	Ammonia-N	96.8	98.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438566

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453128	Ammonia-N	98.2	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438311

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453052	Kjeldahl Nitrogen	97.0	96.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438313

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453126	Kjeldahl Nitrogen	97.6	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438674

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453119	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438406

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453127	Total-P	109	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P438286

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453166	O-Phosphate-P	98.3	97.9	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P438462

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453619	Fluoride	102	102	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P438378

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453050	Organic Carbon	94.8	94.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P438282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453118	Color (true)	6.05	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453075	Turbidity	1.19	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453048	Chloride	0.630	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438418

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453048	Sulfate	0.515	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438563

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453053	Ammonia-N	1.16	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438566

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453128	Ammonia-N	1.34	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438311

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453052	Kjeldahl Nitrogen	0.224	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438313

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453126	Kjeldahl Nitrogen	2.60	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P438674

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453119	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P438406

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453127	Total-P	0.401	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P438286

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453166	O-Phosphate-P	0.389	Spike	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P438459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453619	Total Alkalinity	0.587	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015

Batch ID: P438789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453076	TDS	7.79	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P438462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453619	Fluoride	0.495	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011

Batch ID: P438378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453050	Organic Carbon	0.0513	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A122937

Included Lab Sample IDs: 2453118, 2453121, 2453122, 2453123, 2453124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A122938

Included Lab Sample IDs: 2453120

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	99.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A122940

Included Lab Sample IDs: 2453118, 2453121, 2453122, 2453123, 2453124

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A122949

Included Lab Sample IDs: 2453118, 2453121, 2453122, 2453123, 2453124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Chloride	98.9	101	P/P	90 - 110
Sulfate	101	99.8	P/P	90 - 110
Sulfate	98.2	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A122971

Included Lab Sample IDs: 2453119, 2453125, 2453126, 2453127, 2453128

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.9	95.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122986

Included Lab Sample IDs: 2453119, 2453125, 2453126, 2453127, 2453128

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	102	P/P	90 - 110
Kjeldahl Nitrogen	103	98.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A123013

Included Lab Sample IDs: 2453118, 2453121, 2453122, 2453123, 2453124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.4	97.4	P/P	90 - 110
Total Alkalinity	97.4	94.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A123013

Included Lab Sample IDs: 2453118, 2453121, 2453122, 2453123, 2453124

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A123038

Included Lab Sample IDs: 2453119, 2453125, 2453126, 2453127, 2453128

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123056

Included Lab Sample IDs: 2453119, 2453125, 2453126, 2453127

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123057

Included Lab Sample IDs: 2453128

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	96.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A123088

Included Lab Sample IDs: 2453119, 2453125, 2453126, 2453127, 2453128

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	100	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)	101				6.05	
EPA 180.1 Rev. 2.0	Turbidity	104				1.19	
EPA 300.0 Rev. 2.1	Chloride	101	103	99.3		0.630	
	Sulfate	102	102	99.8		0.515	
EPA 350.1 Rev. 2.0	Ammonia-N	98.0	96.8	98.0			1.16
	Ammonia-N	98.2	98.2	99.6			1.34
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	97.0	96.7			0.224
	Kjeldahl Nitrogen	103	97.6	102			2.60
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	101	101			0.0
EPA 365.1 Rev. 2.0	Total-P	109	109	109			0.401
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	98.3	97.9			0.389
SM 2320 B-2011	Total Alkalinity	96.2				0.587	
SM 2540 C-2015	TDS	99.6				7.79	
SM 2540 D-2015	TSS	96.0					
SM 4500-F- C-2011	Fluoride	101	102	102			0.495
SM 5310 B-2011	Organic Carbon	95.8	94.8	94.9			0.0513

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2453118, 2453121, 2453122, 2453123, 2453124
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2453118, 2453121, 2453122, 2453123, 2453124
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2453118, 2453121, 2453122, 2453123, 2453124
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2453118, 2453121, 2453122, 2453123, 2453124
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2453119, 2453125, 2453126, 2453127, 2453128
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2453119, 2453125, 2453126, 2453127, 2453128
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2453119, 2453125, 2453126, 2453127, 2453128
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2453119, 2453125, 2453126, 2453127, 2453128
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2453120
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2453118, 2453121, 2453122, 2453123, 2453124
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2453118, 2453121, 2453122, 2453123, 2453124
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2453118, 2453121, 2453122, 2453123, 2453124
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2453118, 2453121, 2453122, 2453123, 2453124
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2453119, 2453125, 2453126, 2453127, 2453128

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	11/29/2023			11/29/2023 14:00	Chandler E Cox	2453118, 2453121
	11/29/2023			11/29/2023 14:01	Chandler E Cox	2453122
	11/29/2023			11/29/2023 14:02	Chandler E Cox	2453123
	11/29/2023			11/29/2023 14:03	Chandler E Cox	2453124
EPA 180.1 Rev. 2.0	11/29/2023			11/29/2023 13:30	Anna M. Plaviak	2453118
	11/29/2023			11/29/2023 13:36	Anna M. Plaviak	2453121
	11/29/2023			11/29/2023 13:37	Anna M. Plaviak	2453122
	11/29/2023			11/29/2023 13:38	Anna M. Plaviak	2453123
EPA 300.0 Rev. 2.1	11/29/2023			11/29/2023 13:39	Anna M. Plaviak	2453124
	11/29/2023			11/30/2023 15:47	James L Waggeberby	2453122
	11/29/2023			11/30/2023 18:48	James L Waggeberby	2453118
	11/29/2023			11/30/2023 19:03	James L Waggeberby	2453121
EPA 350.1 Rev. 2.0	11/29/2023			11/30/2023 19:18	James L Waggeberby	2453123
	11/29/2023			11/30/2023 19:33	James L Waggeberby	2453124
	11/29/2023			12/06/2023 10:47	Ping Hua	2453128
	11/29/2023			12/06/2023 12:36	Khloe J Berg	2453125
EPA 351.2 Rev. 2.0	11/29/2023			12/06/2023 12:37	Khloe J Berg	2453126
	11/29/2023			12/06/2023 12:38	Khloe J Berg	2453127
	11/29/2023			12/06/2023 13:16	Khloe J Berg	2453119
	11/29/2023	11/30/2023 10:58	Simonne.V. Calhoun	12/01/2023 11:10	Ping Hua	2453119
EPA 353.2 Rev. 2.0	11/29/2023	11/30/2023 10:58	Simonne.V. Calhoun	12/01/2023 11:12	Ping Hua	2453125
	11/29/2023	11/30/2023 10:58	Simonne.V. Calhoun	12/01/2023 11:45	Ping Hua	2453126
	11/29/2023	11/30/2023 10:58	Simonne.V. Calhoun	12/01/2023 11:50	Ping Hua	2453127
	11/29/2023	11/30/2023 10:58	Simonne.V. Calhoun	12/01/2023 11:52	Ping Hua	2453128
EPA 365.1 Rev. 2.0	11/29/2023			12/07/2023 13:05	Fadila Guebre	2453119
	11/29/2023			12/07/2023 13:06	Fadila Guebre	2453125
	11/29/2023			12/07/2023 13:07	Fadila Guebre	2453126
	11/29/2023			12/07/2023 13:08	Fadila Guebre	2453127
EPA 365.1 Rev. 2.0 dissolved	11/29/2023			12/07/2023 13:10	Fadila Guebre	2453128
	11/29/2023	12/04/2023 08:33	Adam P Silver	12/05/2023 16:05	James L Waggeberby	2453127
	11/29/2023	12/04/2023 08:33	Adam P Silver	12/05/2023 16:06	James L Waggeberby	2453119
	11/29/2023	12/04/2023 08:33	Adam P Silver	12/05/2023 16:07	James L Waggeberby	2453125
SM 2320 B-2011	11/29/2023	12/04/2023 08:33	Adam P Silver	12/05/2023 16:08	James L Waggeberby	2453126
	11/29/2023	12/04/2023 08:33	Adam P Silver	12/05/2023 16:09	James L Waggeberby	2453128
	11/29/2023			11/29/2023 14:21	Elise M. Gillis	2453120
	11/29/2023			12/02/2023 01:18	Dale L. Simmons	2453118
	11/29/2023			12/02/2023 02:04	Dale L. Simmons	2453121
	11/29/2023			12/02/2023 02:16	Dale L. Simmons	2453122
	11/29/2023			12/02/2023 02:29	Dale L. Simmons	2453123
	11/29/2023			12/02/2023 02:40	Dale L. Simmons	2453124

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-2015	11/29/2023			12/01/2023 15:02	Yijie Li	2453118, 2453121, 2453122, 2453123, 2453124
SM 2540 D-2015	11/29/2023			12/01/2023 15:02	Yijie Li	2453118, 2453121, 2453122, 2453123, 2453124
SM 4500-F- C-2011	11/29/2023			12/02/2023 01:18	Dale L. Simmons	2453118
	11/29/2023			12/02/2023 02:04	Dale L. Simmons	2453121
	11/29/2023			12/02/2023 02:16	Dale L. Simmons	2453122
	11/29/2023			12/02/2023 02:29	Dale L. Simmons	2453123
	11/29/2023			12/02/2023 02:40	Dale L. Simmons	2453124
SM 5310 B-2011	11/29/2023			11/30/2023 20:29	Kenneth H Lee	2453119
	11/29/2023			11/30/2023 20:42	Kenneth H Lee	2453125
	11/29/2023			11/30/2023 21:00	Kenneth H Lee	2453126
	11/29/2023			11/30/2023 21:16	Kenneth H Lee	2453127
	11/29/2023			11/30/2023 21:29	Kenneth H Lee	2453128