

Chemical Analysis Report

CEN-DIST-2023-07-21-04

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

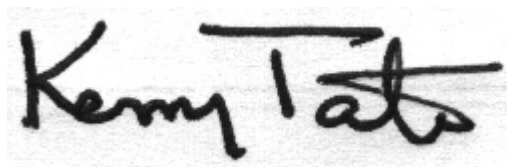
Event Description: **Run 14**
Request ID: **RQ-2023-07-17-35**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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3319 Maguire Blvd., Suite 232
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 11-AUG-2023 07:35

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line extending from the end of the name.

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: Blue Springs (Lake County) at Weir

Collection Date/Time: 07/20/2023 10:32

Field ID: G1CE0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425981	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P432874	
	EPA 180.1 Rev. 2.0	Turbidity	0.15	I	NTU	P432876	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P433128	
		Sulfate	9.5		mg SO4/L	P433130	
	SM 2320 B-2011	Total Alkalinity	99		mg CaCO3/L	P432943	
	SM 2540 C-2015	TDS	154		mg/L	P433338	
	SM 2540 D-2015	TSS	2	U	mg/L	P433188	
	SM 4500-F- C-2011	Fluoride	0.082	I	mg F/L	P432945	
2425985	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P433284	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P432930	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.5		mg N/L	P432992	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P433456	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P432968	

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: Holiday Springs above Pump House

Collection Date/Time: 07/20/2023 13:24

Field ID: G1CE0029

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425982	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P432874	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P432876	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P433128	
		Sulfate	13		mg SO4/L	P433130	
	SM 2320 B-2011	Total Alkalinity	104		mg CaCO3/L	P432943	
	SM 2540 C-2015	TDS	169		mg/L	P433338	
	SM 2540 D-2015	TSS	2	U	mg/L	P433188	
	SM 4500-F- C-2011	Fluoride	0.092	I	mg F/L	P432945	
2425986	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P433176	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P432930	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.4		mg N/L	P432992	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P433535	
	SM 5310 B-2011	Organic Carbon	0.50	I	mg C/L	P432968	

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: Double Run Spring Run DS of Double Run Rd Collection Date/Time: 07/20/2023 14:00

Field ID: G1CE0122

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425983	DEP SOP: NU-094-1	Color (true)	36		PCU	P432874	
	EPA 180.1 Rev. 2.0	Turbidity	0.35	I	NTU	P432876	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P433128	
		Sulfate	16		mg SO4/L	P433130	
	SM 2320 B-2011	Total Alkalinity	50		mg CaCO3/L	P432943	
	SM 2540 C-2015	TDS	125		mg/L	P433338	
	SM 2540 D-2015	TSS	3	I	mg/L	P433188	
	SM 4500-F- C-2011	Fluoride	0.052	I	mg F/L	P432945	
2425987	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P433284	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.25		mg N/L	P432930	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.3		mg N/L	P432992	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P433456	
	SM 5310 B-2011	Organic Carbon	4.8		mg C/L	P432968	

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: Bugg Spring at Vent

Collection Date/Time: 07/20/2023 11:26

Field ID: G1CE0109

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425984	DEP SOP: NU-094-1	Color (true)	2.8	I	PCU	P432874	
	EPA 180.1 Rev. 2.0	Turbidity	0.25	I	NTU	P432877	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P433128	
		Sulfate	9.2		mg SO4/L	P433130	
	SM 2320 B-2011	Total Alkalinity	133	A	mg CaCO3/L	P432943	
	SM 2540 C-2015	TDS	192		mg/L	P433338	
	SM 2540 D-2015	TSS	2	I	mg/L	P433188	
	SM 4500-F- C-2011	Fluoride	0.053	I	mg F/L	P432945	
2425988	EPA 350.1 Rev. 2.0	Ammonia-N	0.039		mg N/L	P433176	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.17	I	mg N/L	P432930	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P432992	
	EPA 365.1 Rev. 2.0	Total-P	0.076		mg P/L	P432961	
	SM 5310 B-2011	Organic Carbon	1.4		mg C/L	P432968	

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: P432874

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432876

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432877

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433128

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433130

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433176

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433284

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432930

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432992

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: P432961

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433456

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433535

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

Reference Method: SM 2320 B-2011
Batch ID: P432943

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

Reference Method: SM 2540 C-2015
Batch ID: P433338

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P433188

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P432945

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P432968

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: P432874

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.3		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	99.7		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432877

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433128

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433130

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433176

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433284

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432930

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432992

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432961

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433456

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433535

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

Reference Method: SM 2320 B-2011
Batch ID: P432943

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	93.6		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P433338

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

Reference Method: SM 2540 D-2015
Batch ID: P433188

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	94.9		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P432945

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P432968

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433128

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425969	Chloride	96.8		P	90 - 110
2426128	Chloride	99.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433130

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425969	Sulfate	93.3		P	90 - 110
2426128	Sulfate	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433176

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425963	Ammonia-N	98.4	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433284

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426423	Ammonia-N	95.2	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432930

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426004	Kjeldahl Nitrogen	102	93.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432992

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425963	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432961

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426004	Total-P	102	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433456

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425987	Total-P	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433535

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429019	Total-P	105	105	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P432945

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425984	Fluoride	99.1	98.6	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P432968

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425760	Organic Carbon	99.2		P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P432874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425969	Color (true)	1.22	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425766	Turbidity	2.09	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426034	Turbidity	3.91	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433128

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425969	Chloride	0.335	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425969	Sulfate	0.0274	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433176

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425963	Ammonia-N	1.74	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433284

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426423	Ammonia-N	3.33	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426004	Kjeldahl Nitrogen	5.34	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432992

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425963	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432961

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426004	Total-P	2.75	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433456

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425987	Total-P	0.999	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433535

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429019	Total-P	0.489	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P432943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425984	Total Alkalinity	0.713	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P433338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425813	TDS	8.45	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P432945

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425984	Fluoride	0.498	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P432968

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425760	Organic Carbon	1.63	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: DEP SOP: NU-094-1

Run ID: A120563

Included Lab Sample IDs: 2425981, 2425982, 2425983, 2425984

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.3	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A120564

Included Lab Sample IDs: 2425981, 2425982, 2425983, 2425984

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

Reference Method: SM 2320 B-2011

Run ID: A120602

Included Lab Sample IDs: 2425981, 2425982, 2425983, 2425984

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	92.9	96.2	P/P	90 - 110
Total Alkalinity	96.2	92.6	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A120602

Included Lab Sample IDs: 2425981, 2425982, 2425983, 2425984

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	101	P/P	90 - 110
Fluoride	102	100	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A120614

Included Lab Sample IDs: 2425985, 2425986, 2425987, 2425988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.2	99.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120621

Included Lab Sample IDs: 2425985, 2425986, 2425987, 2425988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120647

Included Lab Sample IDs: 2425988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120652

Included Lab Sample IDs: 2425985, 2425986, 2425987, 2425988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	106	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A120686

Included Lab Sample IDs: 2425981, 2425982, 2425983, 2425984

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.4	99.1	P/P	90 - 110
Sulfate	99.0	98.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120706

Included Lab Sample IDs: 2425986, 2425988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.3	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120767

Included Lab Sample IDs: 2425985, 2425987

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.6	96.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120872

Included Lab Sample IDs: 2425985, 2425987

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120927

Included Lab Sample IDs: 2425986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	99.5	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)	98.3			1.22	
EPA 180.1 Rev. 2.0	Turbidity	99.7			2.09	
	Turbidity	101			3.91	
EPA 300.0 Rev. 2.1	Chloride	98.4	96.8	99.6	0.335	
	Sulfate	97.2	93.3	99.7	0.0274	
EPA 350.1 Rev. 2.0	Ammonia-N	96.4	98.4	100		1.74
	Ammonia-N	95.2	95.2	99.0		3.33
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.5	102	93.4		5.34
EPA 353.2 Rev. 2.0	NO2NO3-N	100	100	100		0.0
EPA 365.1 Rev. 2.0	Total-P	98.8	102	98.6		2.75
	Total-P	105	104	105		0.999
	Total-P	102	105	105		0.489
SM 2320 B-2011	Total Alkalinity	93.6			0.713	
SM 2540 C-2015	TDS	98.8			8.45	
SM 2540 D-2015	TSS	94.9				
SM 4500-F- C-2011	Fluoride	97.5	99.1	98.6		0.498
SM 5310 B-2011	Organic Carbon	96.2	99.2			1.63

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2425981, 2425982, 2425983, 2425984
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2425981, 2425982, 2425983, 2425984
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2425981, 2425982, 2425983, 2425984
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2425981, 2425982, 2425983, 2425984
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2425985, 2425986, 2425987, 2425988
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2425985, 2425986, 2425987, 2425988
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2425985, 2425986, 2425987, 2425988
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2425985, 2425986, 2425987, 2425988
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2425981, 2425982, 2425983, 2425984
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2425981, 2425982, 2425983, 2425984
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2425981, 2425982, 2425983, 2425984
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2425981, 2425982, 2425983, 2425984
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2425985, 2425986, 2425987, 2425988

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	07/21/2023			07/21/2023 14:42	Anna M. Plaviak	2425981
	07/21/2023			07/21/2023 14:43	Anna M. Plaviak	2425982
	07/21/2023			07/21/2023 14:44	Anna M. Plaviak	2425983
	07/21/2023			07/21/2023 14:45	Anna M. Plaviak	2425984
EPA 180.1 Rev. 2.0	07/21/2023			07/21/2023 13:54	Alexis Price	2425981
	07/21/2023			07/21/2023 13:55	Alexis Price	2425982
	07/21/2023			07/21/2023 13:57	Alexis Price	2425983
	07/21/2023			07/21/2023 13:59	Alexis Price	2425984
EPA 300.0 Rev. 2.1	07/21/2023			07/26/2023 17:20	James L Waggeberby	2425981
	07/21/2023			07/26/2023 17:35	James L Waggeberby	2425982
	07/21/2023			07/26/2023 17:50	James L Waggeberby	2425983
	07/21/2023			07/26/2023 18:05	James L Waggeberby	2425984
EPA 350.1 Rev. 2.0	07/21/2023			07/28/2023 12:04	Ping Hua	2425986
	07/21/2023			07/28/2023 12:07	Ping Hua	2425988
	07/21/2023			08/01/2023 12:55	Ping Hua	2425985
	07/21/2023			08/01/2023 12:56	Ping Hua	2425987
EPA 351.2 Rev. 2.0	07/21/2023	07/25/2023 12:24	Simonne.V. Calhoun	07/26/2023 13:44	Ping Hua	2425985
	07/21/2023	07/25/2023 12:24	Simonne.V. Calhoun	07/26/2023 13:46	Ping Hua	2425986
	07/21/2023	07/25/2023 12:24	Simonne.V. Calhoun	07/26/2023 13:48	Ping Hua	2425987
	07/21/2023	07/25/2023 12:24	Simonne.V. Calhoun	07/26/2023 13:49	Ping Hua	2425988
EPA 353.2 Rev. 2.0	07/21/2023			07/25/2023 13:49	Anna M. Plaviak	2425988
	07/21/2023			07/25/2023 14:00	Anna M. Plaviak	2425985
	07/21/2023			07/25/2023 14:01	Anna M. Plaviak	2425986
	07/21/2023			07/25/2023 14:02	Anna M. Plaviak	2425987
EPA 365.1 Rev. 2.0	07/21/2023	07/25/2023 14:03	Alexis Price	07/26/2023 11:35	Simonne.V. Calhoun	2425988
	07/21/2023	08/04/2023 15:30	Alexis Price	08/07/2023 10:47	Simonne.V. Calhoun	2425987
	07/21/2023	08/04/2023 15:30	Alexis Price	08/07/2023 10:48	Simonne.V. Calhoun	2425985
	07/21/2023	08/08/2023 15:00	Adam P Silver	08/09/2023 15:13	Chandler E Cox	2425986
SM 2320 B-2011	07/21/2023			07/25/2023 01:12	Dale L. Simmons	2425984
	07/21/2023			07/25/2023 04:11	Dale L. Simmons	2425981
	07/21/2023			07/25/2023 04:25	Dale L. Simmons	2425982
	07/21/2023			07/25/2023 04:38	Dale L. Simmons	2425983
SM 2540 C-2015	07/21/2023			07/25/2023 15:46	Yijie Li	2425981, 2425982, 2425983, 2425984
SM 2540 D-2015	07/21/2023			07/25/2023 15:46	Yijie Li	2425981, 2425982, 2425983, 2425984
SM 4500-F- C-2011	07/21/2023			07/25/2023 01:01	Dale L. Simmons	2425984
	07/21/2023			07/25/2023 04:11	Dale L. Simmons	2425981
	07/21/2023			07/25/2023 04:25	Dale L. Simmons	2425982
	07/21/2023			07/25/2023 04:38	Dale L. Simmons	2425983
SM 5310 B-2011	07/21/2023			07/25/2023 07:34	Khloe J Berg	2425985
	07/21/2023			07/25/2023 07:51	Khloe J Berg	2425986

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	07/21/2023			07/25/2023 08:05	Khloe J Berg	2425987
	07/21/2023			07/25/2023 08:18	Khloe J Berg	2425988