

Chemical Analysis Report

SW-DIST-2023-04-25-02

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

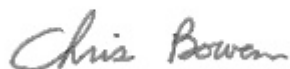
Event Description: **Run 14**
Request ID: **RQ-2023-04-10-34**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 15-MAY-2023 11:12



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: MILLER MAC RD DITCH AT US 41 N OF DI
MERE PACKING**

Collection Date/Time: 04/24/2023 11:00

Field ID: G1SW0138

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2402695	DEP SOP: NU-094-1	Color (true)	68		PCU	P428954	
	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P428973	
	EPA 300.0 Rev. 2.1	Chloride	43		mg Cl/L	P429144	
	SM 2320 B-2011	Total Alkalinity	66		mg CaCO3/L	P429192	
	SM 2540 C-2015	TDS	296		mg/L	P429500	
	SM 2540 D-2015	TSS	3	I	mg/L	P429317	
	SM 4500-F- C-2011	Fluoride	0.11		mg F/L	P429283	
2402697	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P429251	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P429300	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.050		mg N/L	P429328	
	EPA 365.1 Rev. 2.0	Total-P	0.063		mg P/L	P429156	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P429191	

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: WOLF BRANCH AT 12TH STREET NE

Collection Date/Time: 04/24/2023 12:30

Field ID: G1SW0129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2402696	DEP SOP: NU-094-1	Color (true)	35		PCU	P428956	
	EPA 180.1 Rev. 2.0	Turbidity	24		NTU	P428973	
	EPA 300.0 Rev. 2.1	Chloride	77		mg Cl/L	P429144	
	SM 2320 B-2011	Total Alkalinity	199		mg CaCO3/L	P429192	
	SM 2540 C-2015	TDS	563		mg/L	P429501	
	SM 2540 D-2015	TSS	33		mg/L	P429318	
	SM 4500-F- C-2011	Fluoride	0.53		mg F/L	P429283	
2402698	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P429251	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.2		mg N/L	P429300	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P429328	
	EPA 365.1 Rev. 2.0	Total-P	0.31		mg P/L	P429156	
	SM 5310 B-2011	Organic Carbon	20		mg C/L	P429191	

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: HERITAGE PARK CREEK

Collection Date/Time: 04/24/2023 13:20

Field ID: G2SW0138

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2402699	DEP SOP: NU-094-1	Color (true)	17		PCU	P428955	
	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P428973	
	EPA 300.0 Rev. 2.1	Chloride	64		mg Cl/L	P429144	
	SM 2320 B-2011	Total Alkalinity	96		mg CaCO3/L	P429192	
	SM 2540 C-2015	TDS	2.20E+04		mg/L	P429500	
	SM 2540 D-2015	TSS	6	I	mg/L	P429319	
	SM 4500-F- C-2011	Fluoride	0.98		mg F/L	P429443	
2402700	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P429254	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.52		mg N/L	P429299	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P429548	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P429033	
	SM 5310 B-2011	Organic Carbon	6.8		mg C/L	P429307	

Ref. Method and Comment:

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

SM 4500-F- C-2011: LFB is unavailable because of analytical difficulties.

Quality Assurance Report Method Blank Results

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

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P428955

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P428956

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428973

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 350.1 Rev. 2.0
Batch ID: P429251

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429254

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429299

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429300

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429328

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429548

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429033

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429156

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 CaCO3/L

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

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015
Batch ID: P429501

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 2540 D-2015
Batch ID: P429318

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P429319

Component	Result	Code	Units
TSS	3	U	mg/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 4500-F- C-2011
Batch ID: P429443

Component	Result	Code	Units
Fluoride	0.025	U	mg C/L

Reference Method: SM 5310 B-2011
Batch ID: P429191

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-2011
Batch ID: P429307

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: P428954

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

Reference Method: DEP SOP: NU-094-1
Batch ID: P428955

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.2		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P428956

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	95.9		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428973

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 350.1 Rev. 2.0
Batch ID: P429251

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429254

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: P429299

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: P429300

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429328

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429548

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429033

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: P429156

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.6		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 C-2015
Batch ID: P429501

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	92.5		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 2540 D-2015
Batch ID: P429318

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.8		P	85 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P429319

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.8		P	85 - 106

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: P429191

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.2		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P429307

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	105		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 350.1 Rev. 2.0
Batch ID: P429251

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402950	Ammonia-N	97.4	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429254

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402635	Ammonia-N	98.8	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429299

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2403135	Kjeldahl Nitrogen	106	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429300

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402966	Kjeldahl Nitrogen	94.3	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429328

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402697	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429548

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402637	NO2NO3-N	106	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429033

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402700	Total-P	99.2	97.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429156

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402649	Total-P	98.8	101	P/P	90 - 110

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 4500-F- C-2011
Batch ID: P429443

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400123	Fluoride	101	101	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P429191

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402950	Organic Carbon	93.9	95.5	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P429307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2401935	Organic Carbon	95.9	96.0	P/P	85 - 115

Quality Assurance Report Precision

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: DEP SOP: NU-094-1
Batch ID: P428955

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402634	Color (true)	11.5	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P428956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402650	Color (true)	9.13	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402688	Turbidity	0.0	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 350.1 Rev. 2.0
Batch ID: P429251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402950	Ammonia-N	1.62	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429254

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402635	Ammonia-N	1.84	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429299

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2403135	Kjeldahl Nitrogen	6.51	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402966	Kjeldahl Nitrogen	10.2	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429328

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402697	NO2NO3-N	0.791	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402637	NO2NO3-N	0.475	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402700	Total-P	1.12	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429156

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402649	Total-P	1.71	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 2540 C-2015
Batch ID: P429501

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402222	TDS	3.89	Sample	P	0 - 10

Quality Assurance Report Precision

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 4500-F- C-2011
Batch ID: P429443

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400123	Fluoride	0.483	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P429191

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402950	Organic Carbon	1.42	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P429307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401935	Organic Carbon	0.0809	Spike	P	0 - 20

* 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: 2402695, 2402696, 2402699

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

Reference Method: DEP SOP: NU-094-1

Run ID: A118763

Included Lab Sample IDs: 2402695, 2402696, 2402699

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	100	P/P	90 - 110
Color (true)	96.4	102	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: 2402695, 2402696, 2402699

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: A118852

Included Lab Sample IDs: 2402700

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

Reference Method: SM 2320 B-2011

Run ID: A118869

Included Lab Sample IDs: 2402695, 2402696, 2402699

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.8	96.3	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A118872

Included Lab Sample IDs: 2402697, 2402698

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.1	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118880

Included Lab Sample IDs: 2402697, 2402698

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118900

Included Lab Sample IDs: 2402697, 2402698, 2402700

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118900

Included Lab Sample IDs: 2402697, 2402698, 2402700

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.8	99.3	P/P	90 - 110
Ammonia-N	99.3	99.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A118916

Included Lab Sample IDs: 2402695, 2402696

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

Reference Method: SM 5310 B-2011

Run ID: A118925

Included Lab Sample IDs: 2402700

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A118933

Included Lab Sample IDs: 2402697, 2402698

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118948

Included Lab Sample IDs: 2402697, 2402698, 2402700

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	104	P/P	90 - 110
Kjeldahl Nitrogen	104	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A118968

Included Lab Sample IDs: 2402699

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A119011

Included Lab Sample IDs: 2402700

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	104	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)	97.3			1.27	
	Color (true)	97.2			11.5	
	Color (true)	95.9			9.13	
EPA 180.1 Rev. 2.0	Turbidity	99.2			0.0	
EPA 300.0 Rev. 2.1	Chloride	101	101	100	0.583	
EPA 350.1 Rev. 2.0	Ammonia-N	94.8	97.4	99.2		1.62
	Ammonia-N	97.0	98.8	101		1.84
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	106	99.0		6.51
	Kjeldahl Nitrogen	97.4	94.3	104		10.2
EPA 353.2 Rev. 2.0	NO2NO3-N	104	101	102		0.791
	NO2NO3-N	105	106	105		0.475
EPA 365.1 Rev. 2.0	Total-P	101	99.2	97.9		1.12
	Total-P	99.6	98.8	101		1.71
SM 2320 B-2011	Total Alkalinity	95.8			1.96	
SM 2540 C-2015	TDS	95.4			5.85	
	TDS	92.5			3.89	
SM 2540 D-2015	TSS	95.3				
	TSS	93.8				
	TSS	93.8				
SM 4500-F- C-2011	Fluoride	97.8	100	102		1.01
	Fluoride		101	101		0.483
SM 5310 B-2011	Organic Carbon	97.2	93.9	95.5		1.42
	Organic Carbon	105	95.9	96.0		0.0809

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2402695, 2402696, 2402699
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2402695, 2402696, 2402699
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2402695, 2402696, 2402699
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2402697, 2402698, 2402700
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2402697, 2402698, 2402700
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2402697, 2402698, 2402700
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2402697, 2402698, 2402700
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2402695, 2402696, 2402699
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2402695, 2402696, 2402699
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2402695, 2402696, 2402699
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2402695, 2402696, 2402699
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2402697, 2402698, 2402700

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 14:03	Chandler E Cox	2402695
	04/25/2023			04/25/2023 14:12	Chandler E Cox	2402696
	04/25/2023			04/25/2023 14:16	Chandler E Cox	2402699
EPA 180.1 Rev. 2.0	04/25/2023			04/25/2023 14:03	Khloe J Berg	2402695
	04/25/2023			04/25/2023 14:04	Khloe J Berg	2402696
	04/25/2023			04/25/2023 14:06	Khloe J Berg	2402699
EPA 300.0 Rev. 2.1	04/25/2023			04/28/2023 02:20	James L Waggeberby	2402695
	04/25/2023			04/28/2023 02:35	James L Waggeberby	2402696
	04/25/2023			04/28/2023 02:50	James L Waggeberby	2402699
EPA 350.1 Rev. 2.0	04/25/2023			05/02/2023 10:59	Ping Hua	2402697
	04/25/2023			05/02/2023 11:00	Ping Hua	2402698
	04/25/2023			05/02/2023 12:22	Ping Hua	2402700
EPA 351.2 Rev. 2.0	04/25/2023	05/03/2023 12:13	Dana G. Hughes	05/04/2023 10:23	Samantha L Bates	2402700
	04/25/2023	05/03/2023 12:13	Dana G. Hughes	05/04/2023 10:47	Samantha L Bates	2402697
	04/25/2023	05/03/2023 12:13	Dana G. Hughes	05/04/2023 10:49	Samantha L Bates	2402698
EPA 353.2 Rev. 2.0	04/25/2023			05/03/2023 09:59	Beverly Y. Sanders	2402697
	04/25/2023			05/03/2023 10:05	Beverly Y. Sanders	2402698
	04/25/2023			05/04/2023 15:08	Anna M. Plaviak	2402700
EPA 365.1 Rev. 2.0	04/25/2023	04/27/2023 13:00	Alexis Price	04/28/2023 10:06	Chandler E Cox	2402700
	04/25/2023	04/28/2023 15:57	Adam P Silver	05/01/2023 12:29	James L Waggeberby	2402697
	04/25/2023	04/28/2023 15:57	Adam P Silver	05/01/2023 12:30	James L Waggeberby	2402698
SM 2320 B-2011	04/25/2023			04/28/2023 09:04	Dale L. Simmons	2402695
	04/25/2023			04/28/2023 09:15	Dale L. Simmons	2402696
	04/25/2023			04/28/2023 10:19	Dale L. Simmons	2402699
SM 2540 C-2015	04/25/2023			04/26/2023 15:12	Yijie Li	2402695, 2402696, 2402699
SM 2540 D-2015	04/25/2023			04/26/2023 15:12	Yijie Li	2402695, 2402696, 2402699
SM 4500-F- C-2011	04/25/2023			05/02/2023 19:18	Dale L. Simmons	2402695
	04/25/2023			05/02/2023 19:23	Dale L. Simmons	2402696
	04/25/2023			05/05/2023 03:05	Adam P Silver	2402699
SM 5310 B-2011	04/25/2023			04/29/2023 00:39	Elise M. Gillis	2402697
	04/25/2023			04/29/2023 00:53	Elise M. Gillis	2402698
	04/25/2023			05/03/2023 03:58	Elise M. Gillis	2402700