

Chemical Analysis Report

NW-DIST-2023-10-06-01

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

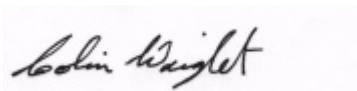
Event Description: **11-Mile Creek Recovery Run**
Request ID: **RQ-2023-09-25-13**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government Street
Suite 208
Pensacola, FL 32502-5794
Attn: Myranda Butler

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 30-OCT-2023 12:15

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

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: ELEVEN MILE CREEK 1700 YARDS ABOVE MOUTH

Collection Date/Time: 10/05/2023 12:10

Field ID: G5NW0008

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2443472	DEP SOP: NU-094-1	Color (true)	9.2		PCU	P436144	
	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P436138	
	EPA 300.0 Rev. 2.1	Chloride	2.0E+03		mg Cl/L	P436323	
		Sulfate	280		mg SO4/L	P436326	
	SM 2320 B-2011	Total Alkalinity	21		mg CaCO3/L	P436358	
	SM 2540 C-2015	TDS	3.20E+03		mg/L	P436766	RPD
	SM 2540 D-2015	TSS	4	IA	mg/L	P436585	
	SM 4500-F- C-2011	Fluoride	0.12		mg F/L	P436575	
2443475	EPA 350.1 Rev. 2.0	Ammonia-N	0.077		mg N/L	P436423	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35	I	mg N/L	P436273	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.42		mg N/L	P436448	
	EPA 365.1 Rev. 2.0	Total-P	0.012	J	mg P/L	P436222	MS
	SM 5310 B-2011	Organic Carbon	2.5		mg C/L	P436473	

Ref. Method and Comment:

SM 2540 C-2015: The reported result is consistent with the conductivity measured in the laboratory, 6460 umhos/cm.

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

EPA 365.1 Rev. 2.0: Total-P: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: ELEVENMILE CREEK 500 YARDS FROM MOUTH

Collection Date/Time: 10/05/2023 12:40

Field ID: G5NW0007

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2443473	DEP SOP: NU-094-1	Color (true)	46		PCU	P436144	
	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P436138	
	EPA 300.0 Rev. 2.1	Chloride	2.5E+03		mg Cl/L	P436323	
		Sulfate	680		mg SO4/L	P436326	
	SM 2320 B-2011	Total Alkalinity	63		mg CaCO3/L	P436358	
	SM 2540 C-2015	TDS	4.30E+03		mg/L	P436766	RPD
	SM 2540 D-2015	TSS	3	U	mg/L	P436585	
	SM 4500-F- C-2011	Fluoride	0.25		mg F/L	P436575	
2443476	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P436423	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P436273	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P436561	
	EPA 365.1 Rev. 2.0	Total-P	0.041		mg P/L	P436222	MS
	SM 5310 B-2011	Organic Carbon	6.7		mg C/L	P436473	

Ref. Method and Comment:

SM 2540 C-2015: The reported result is consistent with the conductivity measured in the laboratory, 8260 umhos/cm.

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

Sample Location: TEA LAKE (CENTER)

Collection Date/Time: 10/05/2023 13:10

Field ID: G5NW0035

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2443474	DEP SOP: NU-094-1	Color (true)	19		PCU	P436144	
	EPA 180.1 Rev. 2.0	Turbidity	6.2		NTU	P436138	
	EPA 300.0 Rev. 2.1	Chloride	1.1E+04		mg Cl/L	P436323	
		Sulfate	1.6E+03		mg SO4/L	P436326	
	SM 2320 B-2011	Total Alkalinity	70		mg CaCO3/L	P436358	
	SM 2540 C-2015	TDS	1.77E+04		mg/L	P436766	RPD
	SM 2540 D-2015	TSS	5	I	mg/L	P436585	
	SM 4500-F- C-2011	Fluoride	0.63		mg F/L	P436360	
2443477	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P436423	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	U	mg N/L	P436429	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P436561	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P436222	MS
	SM 5310 B-2011	Organic Carbon	5.9		mg C/L	P436408	

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: P436144

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436138

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436323

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436326

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436423

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436273

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436429

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436448

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436561

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: P436222

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

Reference Method: SM 2320 B-2011
Batch ID: P436358

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

Reference Method: SM 2540 C-2015
Batch ID: P436766

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P436585

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P436360

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P436575

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P436408

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

Reference Method: SM 5310 B-2011
Batch ID: P436473

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: P436144

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.5		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436138

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436323

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436326

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436423

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436273

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436429

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436448

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436561

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436222

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

Reference Method: SM 2320 B-2011
Batch ID: P436358

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.3		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P436766

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	106		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P436585

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	104		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P436360

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P436575

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P436408

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

Reference Method: SM 5310 B-2011
Batch ID: P436473

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436323

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2443359	Chloride	104		P	90 - 110
2443434	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436326

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2443359	Sulfate	103		P	90 - 110
2443434	Sulfate	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436423

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2443476	Ammonia-N	97.0	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436273

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442648	Kjeldahl Nitrogen	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436429

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2443660	Kjeldahl Nitrogen	97.3	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436448

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442648	NO2NO3-N	96.7	97.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436561

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2443476	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2443475	Total-P	110	113	P/F	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P436360

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2443462	Fluoride	99.9	101	P/P	94 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P436575

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2444069	Fluoride	102	101	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P436408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2443785	Organic Carbon	94.9	96.5	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P436473

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2442297	Organic Carbon	93.4	90.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P436144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2443433	Color (true)	1.73	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2443375	Turbidity	1.79	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2443359	Chloride	0.911	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P436326

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2443359	Sulfate	1.11	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436423

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2443476	Ammonia-N	0.584	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436273

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442648	Kjeldahl Nitrogen	0.347	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436429

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2443660	Kjeldahl Nitrogen	8.97	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436448

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442648	NO2NO3-N	0.516	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2443476	NO2NO3-N	0.300	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2443475	Total-P	3.06	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P436358

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2443462	Total Alkalinity	1.08	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P436766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2443373	TDS	11.4	Sample	F	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P436360

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2443462	Fluoride	0.480	Spike	P	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P436575

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2444069	Fluoride	0.513	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P436408

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2443785	Organic Carbon	1.35	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P436473

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2442297	Organic Carbon	2.19	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A122011

Included Lab Sample IDs: 2443472, 2443473, 2443474

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

Reference Method: DEP SOP: NU-094-1

Run ID: A122013

Included Lab Sample IDs: 2443472, 2443473, 2443474

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.6	99.7	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A122066

Included Lab Sample IDs: 2443472, 2443473, 2443474

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

Reference Method: SM 2320 B-2011

Run ID: A122079

Included Lab Sample IDs: 2443472, 2443473, 2443474

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.7	91.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A122079

Included Lab Sample IDs: 2443474

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

Reference Method: SM 5310 B-2011

Run ID: A122112

Included Lab Sample IDs: 2443477

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.2	92.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A122117

Included Lab Sample IDs: 2443475, 2443476, 2443477

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.6	99.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122118

Included Lab Sample IDs: 2443475, 2443476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	98.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122126

Included Lab Sample IDs: 2443475

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A122134

Included Lab Sample IDs: 2443475, 2443476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.0	96.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122149

Included Lab Sample IDs: 2443475, 2443476, 2443477

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.5	99.0	P/P	90 - 110
Total-P	99.0	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122171

Included Lab Sample IDs: 2443477

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.8	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122177

Included Lab Sample IDs: 2443476, 2443477

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A122184

Included Lab Sample IDs: 2443472, 2443473

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

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
DEP SOP: NU-094-1	Color (true)	99.5			1.73	
EPA 180.1 Rev. 2.0	Turbidity	105			1.79	
EPA 300.0 Rev. 2.1	Chloride	104	104	105	0.911	
	Sulfate	104	103	105	1.11	
EPA 350.1 Rev. 2.0	Ammonia-N	101	97.0	97.8		0.584
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	102	102		0.347
	Kjeldahl Nitrogen	98.0	97.3	107		8.97
EPA 353.2 Rev. 2.0	NO2NO3-N	102	96.7	97.2		0.516
	NO2NO3-N	99.5	100	100		0.300
EPA 365.1 Rev. 2.0	Total-P	110	110	113		3.06
SM 2320 B-2011	Total Alkalinity	96.3			1.08	
SM 2540 C-2015	TDS	106			11.4	
SM 2540 D-2015	TSS	104				
SM 4500-F- C-2011	Fluoride	100	99.9	101		0.480
	Fluoride	98.5	102	101		0.513
SM 5310 B-2011	Organic Carbon	96.2	94.9	96.5		1.35
	Organic Carbon	94.9	93.4	90.8		2.19

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2443472, 2443473, 2443474
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2443472, 2443473, 2443474
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2443472, 2443473, 2443474
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2443472, 2443473, 2443474
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2443475, 2443476, 2443477
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2443475, 2443476, 2443477
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2443475, 2443476, 2443477
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2443475, 2443476, 2443477
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2443472, 2443473, 2443474
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2443472, 2443473, 2443474
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2443472, 2443473, 2443474
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2443472, 2443473, 2443474
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2443475, 2443476, 2443477

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	10/06/2023			10/06/2023 15:36	Alexis Price	2443472
	10/06/2023			10/06/2023 15:37	Alexis Price	2443473
	10/06/2023			10/06/2023 15:38	Alexis Price	2443474
EPA 180.1 Rev. 2.0	10/06/2023			10/06/2023 14:55	Khloe J Berg	2443472
	10/06/2023			10/06/2023 14:56	Khloe J Berg	2443473
	10/06/2023			10/06/2023 14:57	Khloe J Berg	2443474
EPA 300.0 Rev. 2.1	10/06/2023			10/10/2023 15:11	James L Waggeberby	2443472
	10/06/2023			10/10/2023 15:26	James L Waggeberby	2443473
	10/06/2023			10/10/2023 15:41	James L Waggeberby	2443474
EPA 350.1 Rev. 2.0	10/06/2023			10/12/2023 13:19	Khloe J Berg	2443475
	10/06/2023			10/12/2023 13:20	Khloe J Berg	2443476
	10/06/2023			10/12/2023 13:21	Khloe J Berg	2443477
EPA 351.2 Rev. 2.0	10/06/2023	10/11/2023 12:38	Ping Hua	10/12/2023 12:38	Ping Hua	2443475
	10/06/2023	10/11/2023 12:38	Ping Hua	10/12/2023 12:39	Ping Hua	2443476
	10/06/2023	10/12/2023 13:00	Simonne.V. Calhoun	10/16/2023 13:56	Samantha L Bates	2443477
EPA 353.2 Rev. 2.0	10/06/2023			10/12/2023 14:40	Fadila Guebre	2443475
	10/06/2023			10/16/2023 13:41	Fadila Guebre	2443476
	10/06/2023			10/16/2023 13:47	Fadila Guebre	2443477
EPA 365.1 Rev. 2.0	10/06/2023	10/10/2023 15:15	Adam P Silver	10/13/2023 12:50	James L Waggeberby	2443475
	10/06/2023	10/10/2023 15:15	Adam P Silver	10/13/2023 12:58	James L Waggeberby	2443476
	10/06/2023	10/10/2023 15:15	Adam P Silver	10/13/2023 12:59	James L Waggeberby	2443477
SM 2320 B-2011	10/06/2023			10/10/2023 05:33	Dale L. Simmons	2443472
	10/06/2023			10/10/2023 05:42	Dale L. Simmons	2443473
	10/06/2023			10/10/2023 05:53	Dale L. Simmons	2443474
SM 2540 C-2015	10/06/2023			10/11/2023 15:58	Yijie Li	2443472, 2443473, 2443474
SM 2540 D-2015	10/06/2023			10/11/2023 15:58	Yijie Li	2443472, 2443473, 2443474
SM 4500-F- C-2011	10/06/2023			10/10/2023 02:58	Dale L. Simmons	2443474
	10/06/2023			10/16/2023 17:21	Adam P Silver	2443472
	10/06/2023			10/16/2023 17:38	Adam P Silver	2443473
SM 5310 B-2011	10/06/2023			10/12/2023 01:10	Elise M. Gillis	2443477
	10/06/2023			10/13/2023 05:04	Elise M. Gillis	2443475
	10/06/2023			10/13/2023 05:36	Elise M. Gillis	2443476