

Chemical Analysis Report

SO-DIST-2023-12-22-02

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

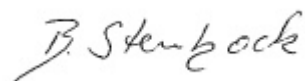
Event Description: **2023 SMP: Whid's End**
Request ID: **RQ-2023-11-20-19**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
Attn: Nicole Reistad

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

Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 16-JAN-2024 12:43



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: MYAKKA RIVER WEST

Collection Date/Time: 12/21/2023 12:45

Field ID: G3SD0219

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2458748	DEP SOP: NU-094-1	Color (true)	61		PCU	P439435	
	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P439434	
	EPA 300.0 Rev. 2.1	Chloride	7.1E+03		mg Cl/L	P439664	
		Sulfate	1.1E+03		mg SO4/L	P439666	
	SM 2320 B-2011	Total Alkalinity	113		mg CaCO3/L	P439486	
	SM 2540 C-2015	TDS	1.25E+04		mg/L	P439637	
	SM 2540 D-2015	TSS	4	I	mg/L	P439640	
	SM 4500-F- C-2011	Fluoride	0.68		mg F/L	P439491	
2458752	EPA 350.1 Rev. 2.0	Ammonia-N	0.054		mg N/L	P439587	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P439452	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.045		mg N/L	P439729	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P439720	
	SM 5310 B-2014	Organic Carbon	13		mg C/L	P439616	

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: TIPPECANOE BAY NORTH

Collection Date/Time: 12/21/2023 12:20

Field ID: G3SD0218

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2458749	DEP SOP: NU-094-1	Color (true)	30		PCU	P439435	
	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P439434	
	EPA 300.0 Rev. 2.1	Chloride	1.3E+04		mg Cl/L	P439664	
		Sulfate	1.8E+03		mg SO4/L	P439666	
	SM 2320 B-2011	Total Alkalinity	117		mg CaCO3/L	P439486	
	SM 2540 C-2015	TDS	2.29E+04		mg/L	P439637	
	SM 2540 D-2015	TSS	4	I	mg/L	P439640	
	SM 4500-F- C-2011	Fluoride	0.96		mg F/L	P439491	
2458753	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P439649	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P439452	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P439729	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P439720	
	SM 5310 B-2014	Organic Carbon	8.9		mg C/L	P439616	

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: WHIDDEN CREEK AT SOUTH POINT

Collection Date/Time: 12/21/2023 09:35

Field ID: G2SD0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2458750	DEP SOP: NU-094-1	Color (true)	94		PCU	P439435	
	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P439434	
	EPA 300.0 Rev. 2.1	Chloride	1.8E+04		mg Cl/L	P439664	
		Sulfate	2.5E+03		mg SO4/L	P439666	
	SM 2320 B-2011	Total Alkalinity	145	A	mg CaCO3/L	P439486	
	SM 2540 C-2015	TDS	3.10E+04		mg/L	P439637	
	SM 2540 D-2015	TSS	5	I	mg/L	P439640	
	SM 4500-F- C-2011	Fluoride	1.1		mg F/L	P439491	
2458754	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P439649	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P439452	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P439729	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P439720	
	SM 5310 B-2014	Organic Carbon	19		mg C/L	P439616	

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: CORALCREEKEAST

Collection Date/Time: 12/21/2023 11:00

Field ID: G2SD0046

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2458751	DEP SOP: NU-094-1	Color (true)	97		PCU	P439435	
	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P439434	
	EPA 300.0 Rev. 2.1	Chloride	1.2E+04		mg Cl/L	P439664	
		Sulfate	1.7E+03		mg SO4/L	P439666	
	SM 2320 B-2011	Total Alkalinity	156		mg CaCO3/L	P439486	
	SM 2540 C-2015	TDS	2.24E+04		mg/L	P439637	
	SM 2540 D-2015	TSS	5	I	mg/L	P439640	
2458755	SM 4500-F- C-2011	Fluoride	0.78		mg F/L	P439491	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.054		mg N/L	P439649	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P439559	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P439729	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P439720	
	SM 5310 B-2014	Organic Carbon	17		mg C/L	P439616	

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: P439435

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439434

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439664

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439666

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439587

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439649

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439452

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439559

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439729

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: P439720

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

Reference Method: SM 2320 B-2011
Batch ID: P439486

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

Reference Method: SM 2540 C-2015
Batch ID: P439637

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P439640

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P439491

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P439616

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: P439435

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.8		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439434

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439664

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439666

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	106		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439587

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439649

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439452

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439559

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439729

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439720

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

Reference Method: SM 2320 B-2011
Batch ID: P439486

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.6		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P439637

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

Reference Method: SM 2540 D-2015
Batch ID: P439640

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	96.8		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P439491

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

Reference Method: SM 5310 B-2014
Batch ID: P439616

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439664

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458940	Chloride	104		P	90 - 110
2459035	Chloride	97.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439666

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458940	Sulfate	101		P	90 - 110
2459035	Sulfate	98.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439587

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457959	Ammonia-N	99.6	98.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458753	Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439452

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458377	Kjeldahl Nitrogen	99.8	96.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439559

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458899	Kjeldahl Nitrogen	106	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439729

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458753	NO2NO3-N	97.0	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2459713	Total-P	101	97.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P439491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458750	Fluoride	99.8	99.8	P/P	94 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2014
Batch ID: P439616

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457946	Organic Carbon	89.8	90.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P439435

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458588	Color (true)	0.195	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458585	Turbidity	4.33	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439664

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458940	Chloride	1.21	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458940	Sulfate	2.00	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439587

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457959	Ammonia-N	0.913	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458753	Ammonia-N	1.30	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439452

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458377	Kjeldahl Nitrogen	2.65	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458899	Kjeldahl Nitrogen	2.62	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439729

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458753	NO2NO3-N	1.00	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2459713	Total-P	2.94	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P439486

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458750	Total Alkalinity	1.77	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P439637

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458521	TDS	3.67	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P439491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458750	Fluoride	0.0	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P439616

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457946	Organic Carbon	0.815	Spike	P	0 - 15

* 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: A123408

Included Lab Sample IDs: 2458748, 2458749, 2458750, 2458751

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.5	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A123409

Included Lab Sample IDs: 2458748, 2458749, 2458750, 2458751

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.9	98.3	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A123438

Included Lab Sample IDs: 2458748, 2458749, 2458750, 2458751

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.4	103	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A123438

Included Lab Sample IDs: 2458748, 2458749, 2458750, 2458751

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	103	104	P/P	90 - 110
Fluoride	104	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A123459

Included Lab Sample IDs: 2458752, 2458753, 2458754

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	95.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123497

Included Lab Sample IDs: 2458752

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.9	100	P/P	90 - 110

Reference Method: SM 5310 B-2014

Run ID: A123504

Included Lab Sample IDs: 2458752, 2458753, 2458754, 2458755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	122	98.0	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123521

Included Lab Sample IDs: 2458753, 2458754, 2458755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.9	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A123523

Included Lab Sample IDs: 2458755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.8	102	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A123530

Included Lab Sample IDs: 2458748, 2458749, 2458750, 2458751

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	101	P/P	90 - 110
Sulfate	103	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A123551

Included Lab Sample IDs: 2458752, 2458753, 2458754, 2458755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A123582

Included Lab Sample IDs: 2458752, 2458753

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A123589

Included Lab Sample IDs: 2458754, 2458755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	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)	98.8			0.195	
EPA 180.1 Rev. 2.0	Turbidity	104			4.33	
EPA 300.0 Rev. 2.1	Chloride	105	104	97.2	1.21	
	Sulfate	106	101	98.3	2.00	
EPA 350.1 Rev. 2.0	Ammonia-N	99.2	99.6	98.2		0.913
	Ammonia-N	103	101	103		1.30
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.2	99.8	96.5		2.65
	Kjeldahl Nitrogen	102	106	103		2.62
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	97.0	98.0		1.00
EPA 365.1 Rev. 2.0	Total-P	97.8	101	97.4		2.94
SM 2320 B-2011	Total Alkalinity	98.6			1.77	
SM 2540 C-2015	TDS	106			3.67	
SM 2540 D-2015	TSS	96.8				
SM 4500-F- C-2011	Fluoride	102	99.8	99.8		0.0
SM 5310 B-2014	Organic Carbon	93.8	89.8	90.7		0.815

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2458748, 2458749, 2458750, 2458751
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2458748, 2458749, 2458750, 2458751
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2458748, 2458749, 2458750, 2458751
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2458748, 2458749, 2458750, 2458751
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2458752, 2458753, 2458754, 2458755
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2458752, 2458753, 2458754, 2458755
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2458752, 2458753, 2458754, 2458755
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2458752, 2458753, 2458754, 2458755
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2458748, 2458749, 2458750, 2458751
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2458748, 2458749, 2458750, 2458751
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2458748, 2458749, 2458750, 2458751
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2458748, 2458749, 2458750, 2458751
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2458752, 2458753, 2458754, 2458755

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	12/22/2023			12/22/2023 16:59	Anna M. Plaviak	2458748, 2458749
	12/22/2023			12/22/2023 17:00	Anna M. Plaviak	2458750, 2458751
EPA 180.1 Rev. 2.0	12/22/2023			12/22/2023 14:05	Samantha L Bates	2458748
	12/22/2023			12/22/2023 14:06	Samantha L Bates	2458749
	12/22/2023			12/22/2023 14:08	Samantha L Bates	2458750
	12/22/2023			12/22/2023 14:11	Samantha L Bates	2458751
EPA 300.0 Rev. 2.1	12/22/2023			01/05/2024 16:21	James L Waggeberby	2458748
	12/22/2023			01/05/2024 16:36	James L Waggeberby	2458749
	12/22/2023			01/05/2024 16:51	James L Waggeberby	2458750
	12/22/2023			01/05/2024 17:06	James L Waggeberby	2458751
EPA 350.1 Rev. 2.0	12/22/2023			01/04/2024 14:21	Ping Hua	2458752
	12/22/2023			01/05/2024 13:38	Ping Hua	2458753
	12/22/2023			01/05/2024 13:42	Ping Hua	2458754
	12/22/2023			01/05/2024 13:43	Ping Hua	2458755
EPA 351.2 Rev. 2.0	12/22/2023	01/04/2024 09:42	Samantha L Bates	01/05/2024 13:22	Samantha L Bates	2458755
	12/22/2023	12/27/2023 11:05	Simonne.V. Calhoun	12/28/2023 16:23	Samantha L Bates	2458752
	12/22/2023	12/27/2023 11:05	Simonne.V. Calhoun	12/28/2023 16:25	Samantha L Bates	2458753
	12/22/2023	12/27/2023 11:05	Simonne.V. Calhoun	12/28/2023 16:27	Samantha L Bates	2458754
EPA 353.2 Rev. 2.0	12/22/2023			01/08/2024 16:02	Fadila Guebre	2458753
	12/22/2023			01/08/2024 16:07	Fadila Guebre	2458752
	12/22/2023			01/08/2024 16:09	Fadila Guebre	2458754
	12/22/2023			01/08/2024 16:10	Fadila Guebre	2458755
EPA 365.1 Rev. 2.0	12/22/2023	01/10/2024 12:40	Simonne.V. Calhoun	01/11/2024 10:03	James L Waggeberby	2458752
	12/22/2023	01/10/2024 12:40	Simonne.V. Calhoun	01/11/2024 10:04	James L Waggeberby	2458753
	12/22/2023	01/10/2024 12:40	Simonne.V. Calhoun	01/11/2024 14:39	James L Waggeberby	2458754
	12/22/2023	01/10/2024 12:40	Simonne.V. Calhoun	01/11/2024 14:40	James L Waggeberby	2458755
SM 2320 B-2011	12/22/2023			12/28/2023 00:52	Dale L. Simmons	2458750
	12/22/2023			12/28/2023 01:05	Dale L. Simmons	2458748
	12/22/2023			12/28/2023 01:18	Dale L. Simmons	2458749
	12/22/2023			12/28/2023 01:32	Dale L. Simmons	2458751
SM 2540 C-2015	12/22/2023			12/22/2023 15:26	Yijie Li	2458748, 2458749, 2458750, 2458751
SM 2540 D-2015	12/22/2023			12/22/2023 15:26	Yijie Li	2458748, 2458749, 2458750, 2458751
SM 4500-F- C-2011	12/22/2023			12/27/2023 23:07	Dale L. Simmons	2458750
	12/22/2023			12/28/2023 00:07	Dale L. Simmons	2458748
	12/22/2023			12/28/2023 00:12	Dale L. Simmons	2458749
	12/22/2023			12/28/2023 00:17	Dale L. Simmons	2458751
SM 5310 B-2014	12/22/2023			01/05/2024 07:34	Kenneth H Lee	2458752
	12/22/2023			01/05/2024 07:48	Kenneth H Lee	2458753
	12/22/2023			01/05/2024 08:10	Kenneth H Lee	2458754
	12/22/2023			01/05/2024 08:33	Kenneth H Lee	2458755