

Chemical Analysis Report

SO-DIST-2024-02-23-01

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

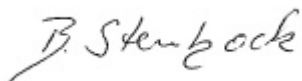
Event Description: **2024 SMP: Charlotte's WBIDs RESAMPLE**
Request ID: **RQ-2024-02-19-51**
Customer: **SO-DIST**
Project ID: **SMP**

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: 22-MAR-2024 11:46



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: NIAGARA WTRWY CONWAY BLVD

Collection Date/Time: 02/22/2024 12:00

Field ID: G3SD0249				Matrix: W-SURF-FRH			
Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2471285	DEP SOP: NU-094-1	Color (true)	24		PCU	P441887	
	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P441894	
	EPA 300.0 Rev. 2.1	Chloride	60		mg Cl/L	P442240	
		Sulfate	33		mg SO4/L	P442243	
	SM 2320 B-2011	Total Alkalinity	203		mg CaCO3/L	P442291	RPD
	SM 2540 C-2015	TDS	343		mg/L	P442317	
	SM 2540 D-2015	TSS	3	I	mg/L	P442116	
	SM 4500-F- C-2011	Fluoride	0.34		mg F/L	P442292	RPD
2471288	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P442073	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P442021	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.036		mg N/L	P441986	
	EPA 365.1 Rev. 2.0	Total-P	0.041		mg P/L	P442031	
	SM 5310 B-2014	Organic Carbon	9.2		mg C/L	P442046	

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: ZEPHYR WTRWY ST PAUL DR

Collection Date/Time: 02/22/2024 13:10

Field ID: G3SD0058					Matrix: W-SURF-SLT		
Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2471286	DEP SOP: NU-094-1	Color (true)	43		PCU	P441887	
	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P441894	
	EPA 300.0 Rev. 2.1	Chloride	2.7E+03		mg Cl/L	P442399	
		Sulfate	400		mg SO4/L	P442243	
	SM 2320 B-2011	Total Alkalinity	163		mg CaCO3/L	P442291	RPD
	SM 2540 C-2015	TDS	4.64E+03		mg/L	P442317	
	SM 2540 D-2015	TSS	7	I	mg/L	P442116	
	SM 4500-F- C-2011	Fluoride	0.29		mg F/L	P442292	RPD
2471289	EPA 350.1 Rev. 2.0	Ammonia-N	0.081		mg N/L	P441966	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P442020	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.035		mg N/L	P443105	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P442920	
	SM 5310 B-2014	Organic Carbon	13		mg C/L	P442047	

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: COMO WATERWAY OHARA DR

Collection Date/Time: 02/22/2024 12:35

Field ID: G3SD0251

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2471287	DEP SOP: NU-094-1	Color (true)	45	A	PCU	P441888	
	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P441894	
	EPA 300.0 Rev. 2.1	Chloride	6.0E+03		mg Cl/L	P442240	
		Sulfate	890		mg SO4/L	P442243	
	SM 2320 B-2011	Total Alkalinity	165		mg CaCO3/L	P442191	
	SM 2540 C-2015	TDS	1.01E+04		mg/L	P442317	
	SM 2540 D-2015	TSS	4	I J	mg/L	P442116	
	SM 4500-F- C-2011	Fluoride	0.61		mg F/L	P442195	
2471290	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P441966	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79		mg N/L	P442020	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P443105	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P442920	
	SM 5310 B-2014	Organic Carbon	11		mg C/L	P442149	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. Sample was not analyzed using the protocol for saline matrices. Result may be biased high.
SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P441887

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P441888

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441894

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442240

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442243

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442399

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441966

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P442073

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P442020

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P442021

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441986

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P443105

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P442031

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P442920

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

Reference Method: SM 2320 B-2011
Batch ID: P442191

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2320 B-2011
Batch ID: P442291

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-2015
Batch ID: P442317

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P442116

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P442195

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P442292

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P442046

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

Reference Method: SM 5310 B-2014
Batch ID: P442047

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

Reference Method: SM 5310 B-2014
Batch ID: P442149

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: P441887

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

Reference Method: DEP SOP: NU-094-1
Batch ID: P441888

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441894

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442240

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442243

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442399

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441966

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P442073

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P442020

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P442021

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441986

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P443105

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P442031

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P442920

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

Reference Method: SM 2320 B-2011
Batch ID: P442191

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.0		P	92 - 105

Reference Method: SM 2320 B-2011
Batch ID: P442291

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.9		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P442317

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	101		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P442116

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	108		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P442195

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

Reference Method: SM 4500-F- C-2011
Batch ID: P442292

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

Reference Method: SM 5310 B-2014
Batch ID: P442046

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.5		P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P442047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	100		P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P442149

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442240

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2471341	Chloride	103		P	90 - 110
2471438	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442243

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2471341	Sulfate	103		P	90 - 110
2471438	Sulfate	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442399

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2472365	Chloride	99.7		P	90 - 110
2472422	Chloride	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441966

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2471208	Ammonia-N	96.8	96.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P442073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2471096	Ammonia-N	95.6	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P442020

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2471206	Kjeldahl Nitrogen	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P442021

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2471288	Kjeldahl Nitrogen	98.0	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441986

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2471243	NO2NO3-N	95.0	95.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P443105

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2475996	NO2NO3-N	90.6	92.1	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P442031

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2470681	Total-P	97.5	95.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P442920

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2475118	Total-P	101	103	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P442292

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2471438	Fluoride	94.9	98.2	P/P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P442046

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2471011	Organic Carbon	101	103	P/P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P442047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2471289	Organic Carbon	91.0	92.9	P/P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P442149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2471208	Organic Carbon	90.4	91.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P441887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471203	Color (true)	7.41	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P441888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471287	Color (true)	6.95	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441894

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471203	Turbidity	2.99	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442240

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471341	Chloride	0.136	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442243

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471341	Sulfate	0.257	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2472365	Chloride	0.290	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441966

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471208	Ammonia-N	0.385	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P442073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471096	Ammonia-N	1.21	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P442020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471206	Kjeldahl Nitrogen	0.992	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P442021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471288	Kjeldahl Nitrogen	3.45	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441986

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471243	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P443105

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2475996	NO2NO3-N	1.53	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P442031

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2470681	Total-P	1.86	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P442920

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2475118	Total-P	2.38	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P442191

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2470973	Total Alkalinity	2.55	Sample	P	0 - 3.9

Reference Method: SM 2320 B-2011
Batch ID: P442291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471438	Total Alkalinity	4.41	Sample	F	0 - 3.9

Quality Assurance Report Precision

Reference Method: SM 2540 C-2015
Batch ID: P442317

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2470930	TDS	3.49	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P442195

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2470973	Fluoride	0.940	Spike	P	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P442292

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471438	Fluoride	1.92	Spike	F	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P442046

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471011	Organic Carbon	1.23	Spike	P	0 - 15

Reference Method: SM 5310 B-2014
Batch ID: P442047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471289	Organic Carbon	1.59	Spike	P	0 - 15

Reference Method: SM 5310 B-2014
Batch ID: P442149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471208	Organic Carbon	0.783	Spike	P	0 - 15

* 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: A124359

Included Lab Sample IDs: 2471285, 2471286, 2471287

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	95.4	100	P/P	90 - 110
Color (true)	98.9	95.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A124363

Included Lab Sample IDs: 2471285, 2471286, 2471287

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105
Turbidity	99.5	99.0	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A124389

Included Lab Sample IDs: 2471289, 2471290

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.1	98.3	P/P	90 - 110
Ammonia-N	98.3	98.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A124406

Included Lab Sample IDs: 2471288

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	102	P/P	90 - 110

Reference Method: SM 5310 B-2014

Run ID: A124437

Included Lab Sample IDs: 2471288, 2471289

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	107	99.0	P/P	70 - 130
Organic Carbon	99.0	101	P/P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A124439

Included Lab Sample IDs: 2471285, 2471287

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A124442

Included Lab Sample IDs: 2471288

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A124467

Included Lab Sample IDs: 2471288, 2471289, 2471290

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	106	P/P	90 - 110
Kjeldahl Nitrogen	106	99.6	P/P	90 - 110

Reference Method: SM 5310 B-2014

Run ID: A124472

Included Lab Sample IDs: 2471290

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	108	98.6	P/P	70 - 130

Reference Method: SM 2320 B-2011

Run ID: A124490

Included Lab Sample IDs: 2471287

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.8	97.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A124490

Included Lab Sample IDs: 2471287

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

Reference Method: SM 2320 B-2011

Run ID: A124531

Included Lab Sample IDs: 2471285, 2471286

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	96.0	P/P	90 - 110
Total Alkalinity	96.0	98.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A124531

Included Lab Sample IDs: 2471285, 2471286

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	100	P/P	90 - 110
Fluoride	100	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A124563

Included Lab Sample IDs: 2471288

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.0	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A124581
Included Lab Sample IDs: 2471286

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.4	98.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A124840
Included Lab Sample IDs: 2471289, 2471290

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A124885
Included Lab Sample IDs: 2471289, 2471290

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	100	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
DEP SOP: NU-094-1	Color (true)	101			7.41	
	Color (true)	102			6.95	
EPA 180.1 Rev. 2.0	Turbidity	104			2.99	
EPA 300.0 Rev. 2.1	Chloride	104	103	104	0.136	
	Chloride	101	99.7	101	0.290	
	Sulfate	104	103	105	0.257	
EPA 350.1 Rev. 2.0	Ammonia-N	94.0	96.8	96.4		0.385
	Ammonia-N	95.4	95.6	97.8		1.21
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.8	100	101		0.992
	Kjeldahl Nitrogen	98.8	98.0	103		3.45
EPA 353.2 Rev. 2.0	NO2NO3-N	100	95.0	95.0		0.0
	NO2NO3-N	97.5	90.6	92.1		1.53
EPA 365.1 Rev. 2.0	Total-P	96.0	97.5	95.7		1.86
	Total-P	102	101	103		2.38
SM 2320 B-2011	Total Alkalinity	99.0			2.55	
	Total Alkalinity	98.9			4.41	
SM 2540 C-2015	TDS	101			3.49	
SM 2540 D-2015	TSS	108				
SM 4500-F- C-2011	Fluoride	102				0.940
	Fluoride	100	94.9	98.2		1.92
SM 5310 B-2014	Organic Carbon	93.5	101	103		1.23
	Organic Carbon	100	91.0	92.9		1.59
	Organic Carbon	95.8	90.4	91.2		0.783

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2471285, 2471286, 2471287
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2471285, 2471286, 2471287
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2471285, 2471286, 2471287
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2471285, 2471286, 2471287
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2471288, 2471289, 2471290
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2471288, 2471289, 2471290
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2471288, 2471289, 2471290
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2471288, 2471289, 2471290
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2471285, 2471286, 2471287
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2471285, 2471286, 2471287
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2471285, 2471286, 2471287
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2471285, 2471286, 2471287
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2471288, 2471289, 2471290

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	02/23/2024			02/23/2024 12:56	Jessica K Wilks	2471285
	02/23/2024			02/23/2024 12:57	Jessica K Wilks	2471286
	02/23/2024			02/23/2024 13:02	Jessica K Wilks	2471287
EPA 180.1 Rev. 2.0	02/23/2024			02/23/2024 12:21	Chandler E Cox	2471285
	02/23/2024			02/23/2024 12:22	Chandler E Cox	2471286
	02/23/2024			02/23/2024 12:25	Chandler E Cox	2471287
EPA 300.0 Rev. 2.1	02/23/2024			03/01/2024 05:15	James L Waggeberby	2471285
	02/23/2024			03/01/2024 05:30	James L Waggeberby	2471286
	02/23/2024			03/01/2024 05:45	James L Waggeberby	2471287
EPA 350.1 Rev. 2.0	02/23/2024			03/05/2024 11:43	James L Waggeberby	2471286
	02/23/2024			02/26/2024 14:07	Kenneth H Lee	2471290
	02/23/2024			02/26/2024 14:31	Kenneth H Lee	2471289
EPA 351.2 Rev. 2.0	02/23/2024			02/28/2024 12:14	Khloe J Berg	2471288
	02/23/2024	02/28/2024 07:55	Samantha L Bates	02/29/2024 11:07	Robyn Blevins	2471289
	02/23/2024	02/28/2024 07:55	Samantha L Bates	02/29/2024 11:08	Robyn Blevins	2471290
EPA 353.2 Rev. 2.0	02/23/2024	02/28/2024 07:55	Samantha L Bates	02/29/2024 11:25	Robyn Blevins	2471288
	02/23/2024			02/26/2024 14:30	Fadila Guebre	2471288
	02/23/2024			03/21/2024 10:53	Anna M. Plaviak	2471289
EPA 365.1 Rev. 2.0	02/23/2024			03/21/2024 10:55	Anna M. Plaviak	2471290
	02/23/2024	02/28/2024 16:12	Josephine W Gitau	03/06/2024 12:50	Simonne.V. Calhoun	2471288
	02/23/2024	03/18/2024 14:11	Adam P Silver	03/19/2024 15:46	Simonne.V. Calhoun	2471289
SM 2320 B-2011	02/23/2024	03/18/2024 14:11	Adam P Silver	03/19/2024 15:47	Simonne.V. Calhoun	2471290
	02/23/2024			03/01/2024 03:46	Dale L. Simmons	2471287
	02/23/2024			03/01/2024 19:35	Dale L. Simmons	2471285
SM 2540 C-2015	02/23/2024			03/01/2024 22:53	Dale L. Simmons	2471286
	02/23/2024			02/26/2024 15:21	Yijie Li	2471285, 2471286, 2471287
	02/23/2024			02/26/2024 15:21	Yijie Li	2471285, 2471286, 2471287
SM 2540 D-2015	02/23/2024			03/01/2024 00:32	Dale L. Simmons	2471287
	02/23/2024			03/01/2024 19:35	Dale L. Simmons	2471285
	02/23/2024			03/01/2024 22:53	Dale L. Simmons	2471286
SM 4500-F- C-2011	02/23/2024			02/26/2024 17:22	Khloe J Berg	2471288
	02/23/2024			02/26/2024 18:40	Khloe J Berg	2471289
	02/23/2024			02/29/2024 12:01	Kenneth H Lee	2471290
SM 5310 B-2014						