Chemical Analysis Report

SW-DIST-2022-10-19-01

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

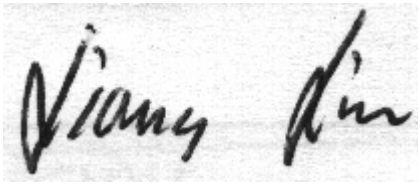
Event Description: **Run 13**
Request ID: **RQ-2022-10-03-07**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Ben Paswater

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

Certified by: Liang Lin, Environmental Administrator

Date Certified: 04-NOV-2022 15:59



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: Lake Whistler @ Center **Collection Date/Time: 10/18/2022 10:40**

Field ID: G3SW0100 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2363258	DEP SOP: NU-094-1	Color (true)	16	A	PCU	P421149	
	EPA 180.1 Rev. 2.0	Turbidity	5.7		NTU	P421116	
	EPA 300.0 Rev. 2.1	Chloride	31	A	mg Cl/L	P421610	
		Sulfate	33	A	mg SO4/L	P421613	
	SM 2320 B-2011	Total Alkalinity	23		mg CaCO3/L	P421306	
	SM 2540 C-2015	TDS	127		mg/L	P421526	
	SM 2540 D-2015	TSS	6	I	mg/L	P421523	
	SM 4500-F- C-2011	Fluoride	0.21		mg F/L	P421311	
2363261	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P421407	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.92		mg N/L	P421348	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P421178	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P421089	
	SM 5310 B-2011	Organic Carbon	6.3		mg C/L	P421234	
2363264	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P421109	

Sample Location: Lake Van @ Center **Collection Date/Time: 10/18/2022 11:20**

Field ID: G4SW0106 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2363259	DEP SOP: NU-094-1	Color (true)	64		PCU	P421149	
	EPA 180.1 Rev. 2.0	Turbidity	4.2		NTU	P421116	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P421610	
		Sulfate	13		mg SO4/L	P421613	
	SM 2320 B-2011	Total Alkalinity	32		mg CaCO3/L	P421306	
	SM 2540 C-2015	TDS	100		mg/L	P421526	
	SM 2540 D-2015	TSS	5	I	mg/L	P421523	
	SM 4500-F- C-2011	Fluoride	0.25		mg F/L	P421311	
2363262	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P421407	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P421348	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P421178	
	EPA 365.1 Rev. 2.0	Total-P	0.071		mg P/L	P421236	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P421234	
2363265	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P421109	

Sample Location: Lake Ida @ Center **Collection Date/Time: 10/18/2022 12:10**

Field ID: G3SW0043 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2363260	DEP SOP: NU-094-1	Color (true)	30		PCU	P421149	
	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P421116	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P421610	
		Sulfate	16		mg SO4/L	P421613	
	SM 2320 B-2011	Total Alkalinity	82	A	mg CaCO3/L	P421306	
	SM 2540 C-2015	TDS	155		mg/L	P421526	
	SM 2540 D-2015	TSS	2	I	mg/L	P421523	
	SM 4500-F- C-2011	Fluoride	0.15		mg F/L	P421311	
2363263	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P421407	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P421417	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P421178	
	EPA 365.1 Rev. 2.0	Total-P	0.038		mg P/L	P421236	
	SM 5310 B-2011	Organic Carbon	8.1		mg C/L	P421234	
2363266	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P421109	

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P421149

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P421116

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P421610

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P421613

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421407

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421348

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421417

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421178

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421089

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421236

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P421109

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: SM 2320 B-2011
Batch ID: P421306

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

Reference Method: SM 2540 C-2015
Batch ID: P421526

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P421523

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P421311

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P421234

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: P421149

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.6		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P421116

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P421610

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P421613

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421407

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421348

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421417

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421178

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	93.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421089

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	107		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421236

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	107		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P421109

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

Reference Method: SM 2320 B-2011
Batch ID: P421306

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.3		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P421526

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	95.8		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P421523

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	91.9		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P421311

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P421234

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P421610

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2363258	Chloride	97.8		P	90 - 110
2363259	Chloride	92.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P421613

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2363258	Sulfate	97.3		P	90 - 110
2363259	Sulfate	94.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421407

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2363188	Ammonia-N	98.4	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2363074	Kjeldahl Nitrogen	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2363188	Kjeldahl Nitrogen	101	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2363261	NO2NO3-N	95.5	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2363197	Total-P	107	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421236

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2363263	Total-P	107	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P421109

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2363216	O-Phosphate-P	99.9	97.3	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P421311

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2363260	Fluoride	97.8	97.8	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P421234

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2363238	Organic Carbon	97.0	98.3	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P421149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363258	Color (true)	3.30	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P421116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363186	Turbidity	0.860	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P421610

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363258	Chloride	0.232	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P421613

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363258	Sulfate	0.126	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421407

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363188	Ammonia-N	2.67	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363074	Kjeldahl Nitrogen	0.395	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P421417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363188	Kjeldahl Nitrogen	3.92	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363261	NO2NO3-N	0.522	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363197	Total-P	1.84	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421236

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363263	Total-P	0.641	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P421109

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363216	O-Phosphate-P	1.97	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P421306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363260	Total Alkalinity	0.317	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P421526

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363186	TDS	2.25	Sample	P	0 - 10

Reference Method: SM 2540 D-2015
Batch ID: P421523

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363186	TSS	7.69	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P421311

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363260	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P421234

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363238	Organic Carbon	0.722	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 365.1 Rev. 2.0 dissolved
Run ID: A115397
Included Lab Sample IDs: 2363264, 2363265, 2363266

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A115399
Included Lab Sample IDs: 2363258, 2363259, 2363260

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

Reference Method: DEP SOP: NU-094-1
Run ID: A115417
Included Lab Sample IDs: 2363258, 2363259, 2363260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	95.7	98.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A115424
Included Lab Sample IDs: 2363261, 2363262, 2363263

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	93.0	93.5	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A115451
Included Lab Sample IDs: 2363261, 2363262, 2363263

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.1	94.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A115463
Included Lab Sample IDs: 2363262

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: A115464
Included Lab Sample IDs: 2363263

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.0	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A115475
Included Lab Sample IDs: 2363258, 2363259, 2363260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.7	99.9	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 4500-F- C-2011
Run ID: A115475
Included Lab Sample IDs: 2363258, 2363259, 2363260

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A115477
Included Lab Sample IDs: 2363261

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A115509
Included Lab Sample IDs: 2363261, 2363262, 2363263

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.9	98.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A115539
Included Lab Sample IDs: 2363261, 2363262

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	103	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A115558
Included Lab Sample IDs: 2363258, 2363259, 2363260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	98.4	P/P	90 - 110
Sulfate	101	99.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A115567
Included Lab Sample IDs: 2363263

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.3	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	SMP	MS
DEP SOP: NU-094-1	Color (true)	97.6				3.30	
EPA 180.1 Rev. 2.0	Turbidity	101				0.860	
EPA 300.0 Rev. 2.1	Chloride	101	97.8	92.7		0.232	
	Sulfate	103	97.3	94.1		0.126	
EPA 350.1 Rev. 2.0	Ammonia-N	105	98.4	102			2.67
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	102	101			0.395
	Kjeldahl Nitrogen	101	101	106			3.92
EPA 353.2 Rev. 2.0	NO2NO3-N	93.0	95.5	96.0			0.522
EPA 365.1 Rev. 2.0	Total-P	107	107	109			1.84
	Total-P	107	107	108			0.641
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103	99.9	97.3			1.97
SM 2320 B-2011	Total Alkalinity	99.3				0.317	
SM 2540 C-2015	TDS	95.8				2.25	
SM 2540 D-2015	TSS	91.9				7.69	
SM 4500-F- C-2011	Fluoride	98.2	97.8	97.8			0.0
SM 5310 B-2011	Organic Carbon	97.2	97.0	98.3			0.722

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2363258, 2363259, 2363260
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2363258, 2363259, 2363260
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2363258, 2363259, 2363260
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2363258, 2363259, 2363260
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2363261, 2363262, 2363263
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2363261, 2363262, 2363263
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2363261, 2363262, 2363263
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2363261, 2363262, 2363263
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2363264, 2363265, 2363266
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2363258, 2363259, 2363260
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2363258, 2363259, 2363260
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2363258, 2363259, 2363260
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2363258, 2363259, 2363260
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2363261, 2363262, 2363263

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	10/19/2022			10/19/2022 15:21	Blanca Fach	2363258
	10/19/2022			10/19/2022 15:24	Blanca Fach	2363259
	10/19/2022			10/19/2022 15:25	Blanca Fach	2363260
EPA 180.1 Rev. 2.0	10/19/2022			10/19/2022 14:20	Khloe J Berg	2363258
	10/19/2022			10/19/2022 14:23	Khloe J Berg	2363259
	10/19/2022			10/19/2022 14:24	Khloe J Berg	2363260
EPA 300.0 Rev. 2.1	10/19/2022			10/27/2022 20:15	Anna M. Plaviak	2363258
	10/19/2022			10/27/2022 20:45	Anna M. Plaviak	2363259
	10/19/2022			10/27/2022 22:31	Anna M. Plaviak	2363260
EPA 350.1 Rev. 2.0	10/19/2022			10/25/2022 16:08	Judith K. Clark	2363261
	10/19/2022			10/25/2022 16:09	Judith K. Clark	2363262
	10/19/2022			10/25/2022 16:10	Judith K. Clark	2363263
EPA 351.2 Rev. 2.0	10/19/2022	10/25/2022 12:01	Alexandra J Mattheus	10/26/2022 11:47	Samantha L Bates	2363261
	10/19/2022	10/25/2022 12:01	Alexandra J Mattheus	10/26/2022 11:49	Samantha L Bates	2363262
	10/19/2022	10/26/2022 14:10	Samantha L Bates	10/27/2022 10:51	Samantha L Bates	2363263
EPA 353.2 Rev. 2.0	10/19/2022			10/20/2022 10:13	Beverly Y. Sanders	2363261
	10/19/2022			10/20/2022 10:19	Beverly Y. Sanders	2363262
	10/19/2022			10/20/2022 10:21	Beverly Y. Sanders	2363263
EPA 365.1 Rev. 2.0	10/19/2022	10/20/2022 15:06	Adam P Silver	10/24/2022 10:57	James L Waggerby	2363261
	10/19/2022	10/21/2022 14:01	Adam P Silver	10/23/2022 10:11	James L Waggerby	2363262
	10/19/2022	10/21/2022 14:01	Adam P Silver	10/23/2022 12:37	James L Waggerby	2363263
EPA 365.1 Rev. 2.0 dissolved	10/19/2022			10/19/2022 15:31	Elise M. Gillis	2363264
	10/19/2022			10/19/2022 15:32	Elise M. Gillis	2363265
	10/19/2022			10/19/2022 15:33	Elise M. Gillis	2363266
SM 2320 B-2011	10/19/2022			10/22/2022 12:26	Dale L. Simmons	2363260
	10/19/2022			10/22/2022 12:47	Dale L. Simmons	2363258
	10/19/2022			10/22/2022 12:58	Dale L. Simmons	2363259
SM 2540 C-2015	10/19/2022			10/21/2022 14:05	Ping Hua	2363258, 2363259, 2363260
SM 2540 D-2015	10/19/2022			10/21/2022 14:05	Ping Hua	2363258, 2363259, 2363260
SM 4500-F- C-2011	10/19/2022			10/22/2022 12:17	Dale L. Simmons	2363260
	10/19/2022			10/22/2022 12:47	Dale L. Simmons	2363258
	10/19/2022			10/22/2022 12:58	Dale L. Simmons	2363259
SM 5310 B-2011	10/19/2022			10/20/2022 21:32	Khloe J Berg	2363261
	10/19/2022			10/20/2022 21:50	Khloe J Berg	2363262
	10/19/2022			10/20/2022 22:04	Khloe J Berg	2363263