

Chemical Analysis Report

SW-DIST-2022-07-13-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Run 14**
Request ID: **RQ-2022-07-11-05**
Customer: **SW-DIST**
Project ID: **SMP**

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

Date Certified: 29-JUL-2022 13:24



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 Beulah SW

Collection Date/Time: 07/12/2022 10:45

Field ID: G2SW0053

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2341069	DEP SOP: NU-094-1	Color (true)	9.3		PCU	P416604	
	EPA 180.1 Rev. 2.0	Turbidity	0.65	I	NTU	P416611	
	EPA 300.0 Rev. 2.1	Chloride	3.6	A	mg Cl/L	P417111	
		Sulfate	2.0	A	mg SO4/L	P417114	
	SM 2320 B-2011	Total Alkalinity	41		mg CaCO3/L	P417026	
	SM 2540 C-2011	TDS	66		mg/L	P417072	
	SM 2540 D-2011	TSS	2	U	mg/L	P416977	
	SM 4500-F- C-2011	Fluoride	0.25		mg F/L	P417023	MS
2341072	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P417118	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P416776	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P416769	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P416806	
	SM 5310 B-2011	Organic Carbon	6.0		mg C/L	P416759	
2341075	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	UQ	mg P/L	P416661	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The sample was reanalyzed out of holding time because of analytical difficulties.

Sample Location: Lake Mirror @ Center

Collection Date/Time: 07/12/2022 11:45

Field ID: G3SW0101

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2341070	DEP SOP: NU-094-1	Color (true)	14		PCU	P416604	
	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P416611	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P417111	
		Sulfate	17		mg SO4/L	P417114	
	SM 2320 B-2011	Total Alkalinity	44		mg CaCO3/L	P417026	
	SM 2540 C-2011	TDS	111		mg/L	P417072	
	SM 2540 D-2011	TSS	2	I	mg/L	P416977	
	SM 4500-F- C-2011	Fluoride	0.17		mg F/L	P417023	MS
2341073	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P417118	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.98		mg N/L	P416778	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P416769	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P416806	
	SM 5310 B-2011	Organic Carbon	9.0		mg C/L	P416759	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Crystal Lake @ Center

Collection Date/Time: 07/12/2022 13:00

Field ID: G3SW0076

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2341071	DEP SOP: NU-094-1	Color (true)	19	A	PCU	P416604	
	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P416611	
	EPA 300.0 Rev. 2.1	Chloride	9.7		mg Cl/L	P417111	
		Sulfate	5.4		mg SO4/L	P417114	
	SM 2320 B-2011	Total Alkalinity	39		mg CaCO3/L	P417026	
	SM 2540 C-2011	TDS	81		mg/L	P417072	
	SM 2540 D-2011	TSS	3	I	mg/L	P416977	
	SM 4500-F- C-2011	Fluoride	0.20		mg F/L	P417023	MS
2341074	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P417118	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P416823	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P416770	
	EPA 365.1 Rev. 2.0	Total-P	0.043		mg P/L	P416806	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P416759	
2341076	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P416661	

Ref. Method and Comment:

SM 2540 D-2011: 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: P416604

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416611

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417111

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417114

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417118

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416776

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416778

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416823

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416769

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416770

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416806

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P416661

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

Reference Method: SM 2320 B-2011
Batch ID: P417026

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

Reference Method: SM 2540 C-2011
Batch ID: P417072

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P416977

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P417023

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P416759

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: P416604

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416611

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	94.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417111

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417114

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417118

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416776

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: P416778

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416823

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.7		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416769

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 353.2 Rev. 2.0
Batch ID: P416770

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416806

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P416661

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

Reference Method: SM 2320 B-2011
Batch ID: P417026

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P417023

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

Reference Method: SM 5310 B-2011
Batch ID: P416759

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341069	Chloride	97.9		P	90 - 110
2341071	Chloride	97.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417114

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341069	Sulfate	97.2		P	90 - 110
2341071	Sulfate	96.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417118

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2340853	Ammonia-N	100	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416776

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341072	Kjeldahl Nitrogen	93.3	95.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416778

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2340690	Kjeldahl Nitrogen	99.2	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416823

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341276	Kjeldahl Nitrogen	103	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341047	NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416770

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341074	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341073	Total-P	100	102	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P416661

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341062	O-Phosphate-P	100	98.7	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P417023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341350	Fluoride	111	110	F/F	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P416759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341155	Organic Carbon	102	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P416604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341071	Color (true)	1.28	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416611

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2340813	Turbidity	4.13	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341069	Chloride	1.56	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417114

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341069	Sulfate	1.96	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417118

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2340853	Ammonia-N	0.131	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416776

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341072	Kjeldahl Nitrogen	1.66	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416778

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2340690	Kjeldahl Nitrogen	1.47	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341276	Kjeldahl Nitrogen	1.81	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416769

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341047	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341074	NO2NO3-N	0.484	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341073	Total-P	1.47	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P416661

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341062	O-Phosphate-P	1.61	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P417026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341350	Total Alkalinity	0.00504	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P417072

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2340818	TDS	6.09	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P417023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341350	Fluoride	1.00	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P416759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341155	Organic Carbon	0.483	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: DEP SOP: NU-094-1

Run ID: A113478

Included Lab Sample IDs: 2341069, 2341070, 2341071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.4	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A113480

Included Lab Sample IDs: 2341069, 2341070, 2341071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	98.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A113505

Included Lab Sample IDs: 2341075, 2341076

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

Reference Method: SM 5310 B-2011

Run ID: A113546

Included Lab Sample IDs: 2341072, 2341073, 2341074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	98.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113558

Included Lab Sample IDs: 2341072, 2341073, 2341074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113613

Included Lab Sample IDs: 2341072

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.4	92.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113617

Included Lab Sample IDs: 2341072, 2341073, 2341074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113630

Included Lab Sample IDs: 2341073

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.0	97.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A113634

Included Lab Sample IDs: 2341069, 2341070, 2341071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.1	99.5	P/P	90 - 110
Sulfate	99.0	99.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113648

Included Lab Sample IDs: 2341074

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

Reference Method: SM 2320 B-2011

Run ID: A113658

Included Lab Sample IDs: 2341069, 2341070, 2341071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.2	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A113658

Included Lab Sample IDs: 2341069, 2341070, 2341071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	105	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113708

Included Lab Sample IDs: 2341072, 2341073, 2341074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.8	96.5	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)	96.9			1.28	
EPA 180.1 Rev. 2.0	Turbidity	94.7			4.13	
EPA 300.0 Rev. 2.1	Chloride	98.0	97.9	97.5	1.56	
	Sulfate	98.1	97.2	96.4	1.96	
EPA 350.1 Rev. 2.0	Ammonia-N	93.8	100	100		0.131
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	93.3	95.9		1.66
	Kjeldahl Nitrogen	103	99.2	101		1.47
	Kjeldahl Nitrogen	99.7	103	105		1.81
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	99.0	99.0		0.0
	NO2NO3-N	99.0	104	103		0.484
EPA 365.1 Rev. 2.0	Total-P	104	100	102		1.47
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	100	98.7		1.61
SM 2320 B-2011	Total Alkalinity	101			0.0050	
SM 2540 C-2011	TDS				6.09	
SM 4500-F- C-2011	Fluoride	104	111	110		1.00
SM 5310 B-2011	Organic Carbon	98.2	102	103		0.483

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2341069, 2341070, 2341071
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2341069, 2341070, 2341071
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2341069, 2341070, 2341071
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2341069, 2341070, 2341071
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2341072, 2341073, 2341074
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2341072, 2341073, 2341074
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2341072, 2341073, 2341074
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2341072, 2341073, 2341074
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2341075, 2341076
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2341069, 2341070, 2341071
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2341069, 2341070, 2341071
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2341069, 2341070, 2341071
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2341069, 2341070, 2341071
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2341072, 2341073, 2341074

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	07/13/2022			07/13/2022 15:11	Anna M. Plaviak	2341069
	07/13/2022			07/13/2022 15:12	Anna M. Plaviak	2341070
	07/13/2022			07/13/2022 15:13	Anna M. Plaviak	2341071
EPA 180.1 Rev. 2.0	07/13/2022			07/13/2022 15:19	Khloe J Berg	2341069
	07/13/2022			07/13/2022 15:20	Khloe J Berg	2341070
	07/13/2022			07/13/2022 15:21	Khloe J Berg	2341071
EPA 300.0 Rev. 2.1	07/13/2022			07/21/2022 12:54	James L Waggeberby	2341069
	07/13/2022			07/21/2022 13:18	James L Waggeberby	2341071
	07/13/2022			07/21/2022 14:06	James L Waggeberby	2341070
EPA 350.1 Rev. 2.0	07/13/2022			07/25/2022 11:54	Judith K. Clark	2341072
	07/13/2022			07/25/2022 11:55	Judith K. Clark	2341073
	07/13/2022			07/25/2022 11:56	Judith K. Clark	2341074
EPA 351.2 Rev. 2.0	07/13/2022	07/19/2022 11:11	Samantha L Bates	07/20/2022 12:48	Alexandra J Mattheus	2341072
	07/13/2022	07/19/2022 11:11	Samantha L Bates	07/20/2022 16:46	Alexandra J Mattheus	2341073
	07/13/2022	07/20/2022 11:06	Samantha L Bates	07/21/2022 11:55	Alexandra J Mattheus	2341074
EPA 353.2 Rev. 2.0	07/13/2022			07/18/2022 10:14	Beverly Y. Sanders	2341073
	07/13/2022			07/18/2022 10:21	Beverly Y. Sanders	2341074
	07/13/2022			07/18/2022 11:06	Beverly Y. Sanders	2341072
EPA 365.1 Rev. 2.0	07/13/2022	07/19/2022 16:00	Adam P Silver	07/20/2022 14:45	James L Waggeberby	2341073
	07/13/2022	07/19/2022 16:00	Adam P Silver	07/20/2022 14:46	James L Waggeberby	2341072
	07/13/2022	07/19/2022 16:00	Adam P Silver	07/20/2022 14:47	James L Waggeberby	2341074
EPA 365.1 Rev. 2.0 dissolved	07/13/2022			07/14/2022 12:50	Chandler E Cox	2341075
	07/13/2022			07/14/2022 12:51	Chandler E Cox	2341076
SM 2320 B-2011	07/13/2022			07/21/2022 02:54	Dale L. Simmons	2341069
	07/13/2022			07/21/2022 03:08	Dale L. Simmons	2341070
	07/13/2022			07/21/2022 03:22	Dale L. Simmons	2341071
SM 2540 C-2011	07/13/2022			07/18/2022 15:45	Yijie Li	2341069, 2341070, 2341071
SM 2540 D-2011	07/13/2022			07/18/2022 15:45	Yijie Li	2341069, 2341070, 2341071
SM 4500-F- C-2011	07/13/2022			07/21/2022 02:54	Dale L. Simmons	2341069
	07/13/2022			07/21/2022 03:08	Dale L. Simmons	2341070
	07/13/2022			07/21/2022 03:22	Dale L. Simmons	2341071
SM 5310 B-2011	07/13/2022			07/15/2022 19:05	Khloe J Berg	2341072
	07/13/2022			07/15/2022 19:21	Khloe J Berg	2341073
	07/13/2022			07/15/2022 19:36	Khloe J Berg	2341074