

Chemical Analysis Report

SO-DIST-2022-05-05-01

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

Event Description: **2022 SMP: Lake Placid**
Request ID: **RQ-2022-05-02-54**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 27-MAY-2022 10:04

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Lake June in Winter

Collection Date/Time: 05/04/2022 10:20

Field ID: G4SD0186

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2324923	DEP SOP: NU-094-1	Color (true)**	9.0		PCU	P413463	
	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P413438	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P413635	
		Sulfate	26		mg SO4/L	P413637	
	SM 2320 B-2011	Total Alkalinity	22		mg CaCO3/L	P413853	
	SM 2540 C-2011	TDS	112	A	mg/L	P413945	
	SM 2540 D-2011	TSS	3	IA	mg/L	P413947	
	SM 4500-F- C-2011	Fluoride	0.060	I	mg F/L	P413858	
2324925	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P413703	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P413871	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P413811	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P413895	
	SM 5310 B-2011	Organic Carbon	7.0		mg C/L	P413819	

Ref. Method and Comment:

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

SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: PlacidJuneCnl@LkeGrvsRd

Collection Date/Time: 05/04/2022 11:00

Field ID: G4SD0209

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2324921	DEP SOP: NU-094-1	Color (true)**	48		PCU	P413463	
	EPA 180.1 Rev. 2.0	Turbidity	0.65	I	NTU	P413438	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P413635	
		Sulfate	23		mg SO4/L	P413637	
	SM 2320 B-2011	Total Alkalinity	4.0		mg CaCO3/L	P413845	
	SM 2540 C-2011	TDS	89		mg/L	P413945	
	SM 2540 D-2011	TSS	2	U	mg/L	P413947	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P413847	
2324922	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P413703	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P413874	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.0		mg N/L	P413811	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P413895	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P413819	

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: Lake Placid @ Center

Collection Date/Time: 05/04/2022 11:30

Field ID: G4SD0191

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2324924	DEP SOP: NU-094-1	Color (true)**	7.7		PCU	P413463	
	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P413438	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P413635	
		Sulfate	19		mg SO4/L	P413637	
	SM 2320 B-2011	Total Alkalinity	22		mg CaCO3/L	P413853	
	SM 2540 C-2011	TDS	77		mg/L	P413945	
	SM 2540 D-2011	TSS	4	I	mg/L	P413947	
	SM 4500-F- C-2011	Fluoride	0.050	I	mg F/L	P413858	
2324926	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P413703	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P413874	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P413811	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P413895	
	SM 5310 B-2011	Organic Carbon	6.0		mg C/L	P413819	

Ref. Method and Comment:

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

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: P413463

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P413438

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413635

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413637

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413703

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413871

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413874

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413811

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413895

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P413845

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

Reference Method: SM 2320 B-2011
Batch ID: P413853

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

Reference Method: SM 2540 C-2011
Batch ID: P413945

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P413947

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P413847

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P413858

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P413819

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: P413463

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.2		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P413438

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	95.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413635

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413637

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413703

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413871

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413874

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413811

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: P413895

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P413845

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.9		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P413853

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.1		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P413847

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P413858

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.8		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P413819

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413635

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2324263	Chloride	97.1		P	90 - 110
2324445	Chloride	95.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413637

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2324263	Sulfate	98.4		P	90 - 110
2324445	Sulfate	99.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2324926	Ammonia-N	97.6	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413871

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2324850	Kjeldahl Nitrogen	102	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2324757	Kjeldahl Nitrogen	101	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413811

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2324886	NO2NO3-N	98.0	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2324852	Total-P	102	103	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P413847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2324917	Fluoride	98.0	97.4	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P413819

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2324925	Organic Carbon	96.0	98.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P413463

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324885	Color (true)	3.91	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P413438

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324885	Turbidity	6.49	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413635

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324263	Chloride	0.116	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413637

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324263	Sulfate	0.0768	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324926	Ammonia-N	0.588	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413871

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324850	Kjeldahl Nitrogen	0.726	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324757	Kjeldahl Nitrogen	2.58	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413811

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324886	NO2NO3-N	0.257	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324852	Total-P	0.665	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P413845

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324917	Total Alkalinity	0.764	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P413853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2325271	Total Alkalinity	0.0107	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P413945

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324923	TDS	2.67	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P413847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324917	Fluoride	0.480	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P413858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2325271	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P413819

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2324925	Organic Carbon	1.63	Spike	P	0 - 20

* 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: A111945

Included Lab Sample IDs: 2324921, 2324923, 2324924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	98.0	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A111955

Included Lab Sample IDs: 2324921, 2324923, 2324924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.0	101	P/P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A112033

Included Lab Sample IDs: 2324921, 2324923, 2324924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.4	96.8	P/P	90 - 110
Sulfate	100	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A112066

Included Lab Sample IDs: 2324922, 2324925, 2324926

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.6	97.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A112119

Included Lab Sample IDs: 2324922, 2324925, 2324926

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	P/P	90 - 110
NO2NO3-N	100	100	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A112128

Included Lab Sample IDs: 2324922, 2324925, 2324926

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.7	97.4	P/P	90 - 110
Organic Carbon	97.6	97.8	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A112154

Included Lab Sample IDs: 2324921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.3	96.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A112154

Included Lab Sample IDs: 2324921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.5	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A112155

Included Lab Sample IDs: 2324923, 2324924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.4	97.7	P/P	90 - 110
Total Alkalinity	97.4	95.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A112155

Included Lab Sample IDs: 2324923, 2324924

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A112258

Included Lab Sample IDs: 2324922, 2324925, 2324926

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.0	95.8	P/P	90 - 110
Total-P	96.2	96.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A112268

Included Lab Sample IDs: 2324925

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.3	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A112278

Included Lab Sample IDs: 2324922, 2324926

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.8	99.3	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)	98.2			3.91	
EPA 180.1 Rev. 2.0	Turbidity	95.1			6.49	
EPA 300.0 Rev. 2.1	Chloride	98.7	97.1	95.0	0.116	
	Sulfate	102	98.4	99.1	0.0768	
EPA 350.1 Rev. 2.0	Ammonia-N	96.4	97.6	98.2		0.588
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.8	102	103		0.726
	Kjeldahl Nitrogen	105	101	104		2.58
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	98.0	97.5		0.257
EPA 365.1 Rev. 2.0	Total-P	102	102	103		0.665
SM 2320 B-2011	Total Alkalinity	97.9			0.764	
	Total Alkalinity	98.1			0.0107	
SM 2540 C-2011	TDS				2.67	
SM 4500-F- C-2011	Fluoride	97.9	98.0	97.4		0.480
	Fluoride	98.8				0.0
SM 5310 B-2011	Organic Carbon	96.8	96.0	98.2		1.63

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2324921, 2324923, 2324924
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2324921, 2324923, 2324924
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2324921, 2324923, 2324924
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2324921, 2324923, 2324924
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2324922, 2324925, 2324926
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2324922, 2324925, 2324926
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2324922, 2324925, 2324926
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2324922, 2324925, 2324926
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2324921, 2324923, 2324924
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2324921, 2324923, 2324924
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2324921, 2324923, 2324924
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2324921, 2324923, 2324924
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2324922, 2324925, 2324926

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	05/05/2022			05/05/2022 15:23	Blanca Fach	2324921
	05/05/2022			05/05/2022 15:24	Blanca Fach	2324923
	05/05/2022			05/05/2022 15:25	Blanca Fach	2324924
EPA 180.1 Rev. 2.0	05/05/2022			05/05/2022 13:41	Anna M. Plaviak	2324921
	05/05/2022			05/05/2022 13:43	Anna M. Plaviak	2324923
	05/05/2022			05/05/2022 13:49	Anna M. Plaviak	2324924
EPA 300.0 Rev. 2.1	05/05/2022			05/10/2022 10:45	Anna M. Plaviak	2324921
	05/05/2022			05/10/2022 10:57	Anna M. Plaviak	2324923
	05/05/2022			05/10/2022 11:10	Anna M. Plaviak	2324924
EPA 350.1 Rev. 2.0	05/05/2022			05/11/2022 10:48	Ping Hua	2324926
	05/05/2022			05/11/2022 11:00	Ping Hua	2324922
	05/05/2022			05/11/2022 11:01	Ping Hua	2324925
EPA 351.2 Rev. 2.0	05/05/2022	05/17/2022 14:29	Samantha L Bates	05/19/2022 11:35	Samantha L Bates	2324925
	05/05/2022	05/18/2022 12:24	Samantha L Bates	05/19/2022 16:45	Samantha L Bates	2324922
	05/05/2022	05/18/2022 12:24	Samantha L Bates	05/19/2022 16:46	Samantha L Bates	2324926
EPA 353.2 Rev. 2.0	05/05/2022			05/12/2022 17:20	Nathaniel J Jones	2324926
	05/05/2022			05/12/2022 18:10	Nathaniel J Jones	2324922
	05/05/2022			05/12/2022 18:12	Nathaniel J Jones	2324925
EPA 365.1 Rev. 2.0	05/05/2022	05/17/2022 14:42	Simonne.V. Calhoun	05/19/2022 11:52	James L Waggeberby	2324922
	05/05/2022	05/17/2022 14:42	Simonne.V. Calhoun	05/19/2022 12:00	James L Waggeberby	2324925
	05/05/2022	05/17/2022 14:42	Simonne.V. Calhoun	05/19/2022 12:01	James L Waggeberby	2324926
SM 2320 B-2011	05/05/2022			05/12/2022 20:11	Dale L. Simmons	2324921
	05/05/2022			05/14/2022 07:14	Dale L. Simmons	2324923
	05/05/2022			05/14/2022 07:52	Dale L. Simmons	2324924
SM 2540 C-2011	05/05/2022			05/09/2022 15:28	Yijie Li	2324921, 2324923, 2324924
SM 2540 D-2011	05/05/2022			05/09/2022 13:28	Yijie Li	2324921, 2324923, 2324924
SM 4500-F- C-2011	05/05/2022			05/12/2022 20:11	Dale L. Simmons	2324921
	05/05/2022			05/14/2022 07:14	Dale L. Simmons	2324923
	05/05/2022			05/14/2022 07:52	Dale L. Simmons	2324924
SM 5310 B-2011	05/05/2022			05/12/2022 14:53	Judith K. Clark	2324925
	05/05/2022			05/12/2022 21:01	Judith K. Clark	2324922
	05/05/2022			05/12/2022 21:15	Judith K. Clark	2324926