

Chemical Analysis Report

CEN-DIST-2021-02-11-01

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

Event Description: **Okahumpka/Deaton/Hidden**
Request ID: **RQ-2021-02-08-18**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Date Certified: 03-MAR-2021 16:14



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: Hidden Lake @ Center

Collection Date/Time: 02/10/2021 13:22

Field ID: G4CE0158

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2224786	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P393679	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P393881	
		Sulfate	1.8		mg SO4/L	P393884	
	SM 2120 B-2011	Color (true)	67		PCU	P393682	
	SM 2320 B-2011	Total Alkalinity	127		mg CaCO3/L	P393786	
	SM 2540 C-2011	TDS	204		mg/L	P394108	
	SM 2540 D-2011	TSS	2	I	mg/L	P394092	
	SM 4500 F-C-2011	Fluoride	0.13		mg F/L	P393944	
2224789	EPA 350.1 Rev. 2.0	Ammonia-N	0.077		mg N/L	P393917	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P393892	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P393755	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P393774	
	SM 5310 B-2011	Organic Carbon	18		mg C/L	P393934	
2224792	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P393676	

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 Deaton @ Center

Collection Date/Time: 02/10/2021 12:37

Field ID: G4CE0160

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2224787	EPA 180.1 Rev. 2.0	Turbidity	0.95		NTU	P393679	
	EPA 300.0 Rev. 2.1	Chloride	32		mg Cl/L	P393881	
		Sulfate	2.0		mg SO4/L	P393884	
	SM 2120 B-2011	Color (true)	33	A	PCU	P393682	
	SM 2320 B-2011	Total Alkalinity	30		mg CaCO3/L	P393786	
	SM 2540 C-2011	TDS	111		mg/L	P394108	
	SM 2540 D-2011	TSS	2	U	mg/L	P394092	
	SM 4500 F-C-2011	Fluoride	0.11		mg F/L	P393944	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P394033	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P393892	
2224790	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P393755	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P393774	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P393934	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P393676	
	dissolved						
2224793	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P393676	

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 Okahumpka At Center

Collection Date/Time: 02/10/2021 11:55

Field ID: G4CE0159

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2224788	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P393679	
	EPA 300.0 Rev. 2.1	Chloride	33		mg Cl/L	P393881	
		Sulfate	0.20	U	mg SO4/L	P393884	
	SM 2120 B-2011	Color (true)	20		PCU	P393682	
	SM 2320 B-2011	Total Alkalinity	87		mg CaCO3/L	P393786	
	SM 2540 C-2011	TDS	187	A	mg/L	P394108	
	SM 2540 D-2011	TSS	2	IA	mg/L	P394092	
	SM 4500 F-C-2011	Fluoride	0.30		mg F/L	P393944	
2224791	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P394033	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79		mg N/L	P393892	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P393755	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P393774	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P393934	
2224794	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P393676	

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: EPA 180.1 Rev. 2.0
Batch ID: P393679

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393881

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393884

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393917

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394033

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393892

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393755

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P393774

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P393676

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B-2011
Batch ID: P393682

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P393786

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

Reference Method: SM 2540 C-2011
Batch ID: P394108

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P394092

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P393944

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P393934

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393881

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393884

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393917

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394033

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393892

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393755

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P393774

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P393676

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.2		P	90 - 110

Reference Method: SM 2120 B-2011
Batch ID: P393682

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.2		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P393786

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.1		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P393944

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	93.4		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P393934

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	89.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393881

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224712	Chloride	102		P	90 - 110
2224863	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393884

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224712	Sulfate	100		P	90 - 110
2224863	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224714	Ammonia-N	97.6	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394033

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224790	Ammonia-N	97.4	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393892

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224715	Kjeldahl Nitrogen	110	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393755

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224789	NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P393774

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224756	Total-P	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P393676

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224793	O-Phosphate-P	98.0	97.0	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P393944

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224849	Fluoride	94.6	94.1	P/P	94 - 107

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P393934

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224856	Organic Carbon	89.1	89.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P393679

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224713	Turbidity	3.90	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393881

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224712	Chloride	0.966	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P393884

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224712	Sulfate	0.280	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224714	Ammonia-N	0.205	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224790	Ammonia-N	1.77	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393892

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224715	Kjeldahl Nitrogen	3.54	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224789	NO2NO3-N	0.913	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P393774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224756	Total-P	1.43	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P393676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224793	O-Phosphate-P	1.03	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P393682

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224787	Color (true)	2.07	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P393786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224849	Total Alkalinity	1.47	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P394108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224788	TDS	3.21	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P393944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224849	Fluoride	0.484	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P393934

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224856	Organic Carbon	0.0890	Spike	P	0 - 20

* 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: A103541

Included Lab Sample IDs: 2224792, 2224793, 2224794

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	99.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A103542

Included Lab Sample IDs: 2224786, 2224787, 2224788

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	102	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A103543

Included Lab Sample IDs: 2224786, 2224787, 2224788

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.8	99.9	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A103580

Included Lab Sample IDs: 2224789, 2224790, 2224791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	106	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A103594

Included Lab Sample IDs: 2224786, 2224787, 2224788

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.1	96.7	P/P	90 - 110
Total Alkalinity	96.7	94.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A103610

Included Lab Sample IDs: 2224789, 2224790, 2224791

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A103628

Included Lab Sample IDs: 2224786, 2224787, 2224788

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	99.9	P/P	90 - 110
Sulfate	101	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A103638

Included Lab Sample IDs: 2224789

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A103638

Included Lab Sample IDs: 2224789

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.8	97.8	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A103645

Included Lab Sample IDs: 2224789, 2224790, 2224791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	91.2	90.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A103652

Included Lab Sample IDs: 2224786, 2224787, 2224788

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.0	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A103666

Included Lab Sample IDs: 2224789, 2224790, 2224791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	100	P/P	90 - 110
Kjeldahl Nitrogen	100	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A103697

Included Lab Sample IDs: 2224790, 2224791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.1	98.6	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
EPA 180.1 Rev. 2.0	Turbidity				3.90	
EPA 300.0 Rev. 2.1	Chloride	103	102	103	0.966	
	Sulfate	103	100	102	0.280	
EPA 350.1 Rev. 2.0	Ammonia-N	99.6	97.6	97.8		0.205
	Ammonia-N	99.4	97.4	99.8		1.77
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	110	105		3.54
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	104	103	104		0.913
EPA 365.1 Rev. 2.0	Total-P	106	105	103		1.43
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.2	98.0	97.0		1.03
SM 2120 B-2011	Color (true)	96.2			2.07	
SM 2320 B-2011	Total Alkalinity	98.1			1.47	
SM 2540 C-2011	TDS				3.21	
SM 4500 F-C-2011	Fluoride	93.4	94.1	94.6		0.484
SM 5310 B-2011	Organic Carbon	89.9	89.1	89.2		0.0890

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2224786, 2224787, 2224788
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2224786, 2224787, 2224788
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2224786, 2224787, 2224788
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2224789, 2224790, 2224791
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2224789, 2224790, 2224791
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2224789, 2224790, 2224791
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2224789, 2224790, 2224791
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2224792, 2224793, 2224794
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2224786, 2224787, 2224788
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2224786, 2224787, 2224788
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2224786, 2224787, 2224788
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2224786, 2224787, 2224788
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2224786, 2224787, 2224788
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2224789, 2224790, 2224791

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	02/11/2021			02/11/2021 15:08	Yen Ta	2224786, 2224787, 2224788
EPA 300.0 Rev. 2.1	02/11/2021			02/16/2021 06:31	Lipi Saha	2224786
	02/11/2021			02/16/2021 06:43	Lipi Saha	2224787
	02/11/2021			02/16/2021 06:56	Lipi Saha	2224788
EPA 350.1 Rev. 2.0	02/11/2021			02/17/2021 17:41	Ping Hua	2224789
	02/11/2021			02/19/2021 18:17	Ping Hua	2224791
	02/11/2021			02/19/2021 18:21	Ping Hua	2224790
EPA 351.2 Rev. 2.0	02/11/2021	02/17/2021 12:20	Yen Ta	02/18/2021 16:01	Julia Storbeck	2224789
	02/11/2021	02/17/2021 12:20	Yen Ta	02/18/2021 16:06	Julia Storbeck	2224790
	02/11/2021	02/17/2021 12:20	Yen Ta	02/18/2021 16:08	Julia Storbeck	2224791
EPA 353.2 Rev. 2.0	02/11/2021			02/15/2021 09:46	Beverly Y. Sanders	2224789
	02/11/2021			02/15/2021 09:51	Beverly Y. Sanders	2224790
	02/11/2021			02/15/2021 09:53	Beverly Y. Sanders	2224791
EPA 365.1 Rev. 2.0	02/11/2021	02/15/2021 19:15	Madeline Gruver	02/16/2021 13:37	Shengyu Wang	2224789
	02/11/2021	02/15/2021 19:15	Madeline Gruver	02/16/2021 13:38	Shengyu Wang	2224790
	02/11/2021	02/15/2021 19:15	Madeline Gruver	02/16/2021 13:39	Shengyu Wang	2224791
EPA 365.1 Rev. 2.0 dissolved	02/11/2021			02/11/2021 14:58	Blanca Fach	2224793
	02/11/2021			02/11/2021 15:01	Blanca Fach	2224792
	02/11/2021			02/11/2021 15:02	Blanca Fach	2224794
SM 2120 B-2011	02/11/2021			02/11/2021 17:26	Madeline Gruver	2224786
	02/11/2021			02/11/2021 17:28	Madeline Gruver	2224787
	02/11/2021			02/11/2021 17:29	Madeline Gruver	2224788
SM 2320 B-2011	02/11/2021			02/12/2021 17:51	Dale L. Simmons	2224786
	02/11/2021			02/12/2021 18:03	Dale L. Simmons	2224787
	02/11/2021			02/12/2021 19:00	Dale L. Simmons	2224788
SM 2540 C-2011	02/11/2021			02/15/2021 14:26	Yijie Li	2224786, 2224787, 2224788
SM 2540 D-2011	02/11/2021			02/15/2021 14:26	Yijie Li	2224786, 2224787, 2224788
SM 4500 F-C-2011	02/11/2021			02/18/2021 09:29	Dale L. Simmons	2224786
	02/11/2021			02/18/2021 09:34	Dale L. Simmons	2224787
	02/11/2021			02/18/2021 09:39	Dale L. Simmons	2224788
SM 5310 B-2011	02/11/2021			02/17/2021 00:00	Touraj Touran	2224789
	02/11/2021			02/17/2021 00:12	Touraj Touran	2224790
	02/11/2021			02/17/2021 00:24	Touraj Touran	2224791