

Chemical Analysis Report

BSSP-2018-09-06-01

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

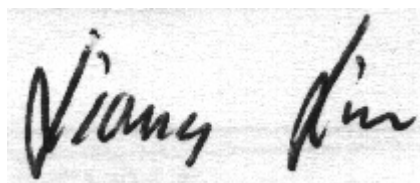
Event Description: **Reference Lake Sampling**
Request ID: **RQ-2018-08-13-78**
Customer: **BSSP**
Project ID: **LAKESREF**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 26-SEP-2018 14:51

A handwritten signature in black ink, appearing to read "Liang Lin", is shown 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 groups are included in this report: Metals and 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 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 Iamonia

Collection Date/Time: 09/06/2018 09:57

Field ID: IAMONIREF

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2022795	EPA 300.0	Bromide	0.013	U	mg Br/L	P351339	
	EPA 300.0 Rev. 2.1	Chloride	3.0		mg Cl/L	P351859	
		Sulfate	0.20	U	mg SO4/L	P351862	
		Color (true)	75		PCU	P351235	
	SM 2320 B-97	Total Alkalinity	7.0		mg CaCO3/L	P351533	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P351536	
2022796	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P351357	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P351386	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P351429	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P351332	
2022797	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P351205	
2022800	EPA 200.7 Rev. 4.4	Calcium	2.80		mg/L	P351199	
		Iron	380		ug/L	P351199	
		Magnesium	0.94		mg/L	P351199	
		Potassium	0.54	I	mg/L	P351199	
		Sodium	1.3	I	mg/L	P351199	
		Zinc	5.0	U	ug/L	P351199	
	EPA 200.8 Rev. 5.4	Arsenic	0.20	I	ug/L	P351199	
		Cadmium	0.020	U	ug/L	P351199	
		Chromium	0.40	U	ug/L	P351199	
		Copper	0.20	U	ug/L	P351199	
		Lead	0.050	U	ug/L	P351199	
		Nickel	0.22	I	ug/L	P351199	
		Silver	0.010	U	ug/L	P351199	

Ref. Method and Comment:

EPA 300.0: Bromide: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P351199

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351199

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0
Batch ID: P351339

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351859

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351862

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351357

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351386

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351429

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351332

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351205

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

Reference Method: SM 2120 B
Batch ID: P351235

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P351533

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

Reference Method: SM 4500 F-C-97
Batch ID: P351536

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P351199

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	111		P	85 - 115
Iron	109		P	85 - 115
Magnesium	114		P	85 - 115
Potassium	111		P	85 - 115
Sodium	112		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351199

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	101		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	106		P	85 - 115
Copper	96.7		P	85 - 115
Lead	104		P	85 - 115
Nickel	98.7		P	85 - 115
Silver	104		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P351339

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351859

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351862

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351357

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351386

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351429

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351332

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351205

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

Reference Method: SM 2120 B
Batch ID: P351235

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

Reference Method: SM 2320 B-97
Batch ID: P351533

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P351536

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.7		P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P351199

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021575	Calcium	113		P	80 - 120
2021575	Iron	111		P	80 - 120
2021575	Magnesium	117		P	80 - 120
2021575	Potassium	108		P	80 - 120
2021575	Sodium	111		P	80 - 120
2021575	Zinc	105		P	80 - 120
2022031	Calcium	112	111	P/P	80 - 120
2022031	Iron	111	110	P/P	80 - 120
2022031	Magnesium	114	114	P/P	80 - 120
2022031	Potassium	109	107	P/P	80 - 120
2022031	Sodium	108	107	P/P	80 - 120
2022031	Zinc	106	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351199

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021575	Arsenic	104		P	80 - 120
2021575	Cadmium	106		P	80 - 120
2021575	Chromium	111		P	80 - 120
2021575	Copper	99.7		P	80 - 120
2021575	Lead	106		P	80 - 120
2021575	Nickel	102		P	80 - 120
2021575	Silver	105		P	80 - 120
2022031	Arsenic	99.9	100	P/P	80 - 120
2022031	Cadmium	103	105	P/P	80 - 120
2022031	Chromium	111	107	P/P	80 - 120
2022031	Copper	96.4	96.6	P/P	80 - 120
2022031	Lead	105	104	P/P	80 - 120
2022031	Nickel	100	97.8	P/P	80 - 120
2022031	Silver	104	104	P/P	80 - 120

Reference Method: EPA 300.0
Batch ID: P351339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2020563	Bromide	96.0		P	90 - 110
2022795	Bromide	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351859

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022843	Chloride	98.4		P	90 - 110
2022844	Chloride	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351862

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022843	Sulfate	96.8		P	90 - 110
2022844	Sulfate	99.4		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351357

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022567	Ammonia-N	98.5	95.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351386

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022796	Kjeldahl Nitrogen	106	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351429

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022616	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351332

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022796	Total-P	99.6	95.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351205

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022569	O-Phosphate-P	96.3	97.3	P/P	90 - 110

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P351199

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022031	Calcium	0.437	Spike	P	0 - 20
2022031	Iron	0.815	Spike	P	0 - 20
2022031	Magnesium	0.155	Spike	P	0 - 20
2022031	Potassium	1.75	Spike	P	0 - 20
2022031	Sodium	0.873	Spike	P	0 - 20
2022031	Zinc	3.54	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351199

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022031	Arsenic	0.356	Spike	P	0 - 20
2022031	Cadmium	2.33	Spike	P	0 - 20
2022031	Chromium	3.66	Spike	P	0 - 20
2022031	Copper	0.165	Spike	P	0 - 20
2022031	Lead	0.626	Spike	P	0 - 20
2022031	Nickel	2.19	Spike	P	0 - 20
2022031	Silver	0.0735	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351859

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022843	Chloride	0.215	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351862

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022843	Sulfate	0.553	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022567	Ammonia-N	1.93	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022796	Kjeldahl Nitrogen	1.57	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P351429

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022616	NO2NO3-N	0.282	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P351332

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022796	Total-P	3.76	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P351205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022569	O-Phosphate-P	0.858	Spike	P	0 - 20

Reference Method: SM 2120 B
 Batch ID: P351235

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022558	Color (true)	0.500	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P351533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022887	Total Alkalinity	0.0958	Sample	P	0 - 1.6

Reference Method: SM 4500 F-C-97
 Batch ID: P351536

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022887	Fluoride	0.0	Spike	P	0 - 3.5

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
 Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A86326

Included Lab Sample IDs: 2022797

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.7	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A86332

Included Lab Sample IDs: 2022795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.6	99.0	P/P	90 - 115

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A86361

Included Lab Sample IDs: 2022800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	103	P/P	90 - 110
Iron	105	105	P/P	90 - 110
Magnesium	105	105	P/P	90 - 110
Potassium	107	108	P/P	90 - 110
Sodium	106	108	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: EPA 300.0

Run ID: A86363

Included Lab Sample IDs: 2022795

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86384

Included Lab Sample IDs: 2022796

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	99.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86403

Included Lab Sample IDs: 2022796

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86434

Included Lab Sample IDs: 2022796

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86437

Included Lab Sample IDs: 2022796

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

Reference Method: SM 2320 B-97

Run ID: A86448

Included Lab Sample IDs: 2022795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A86448

Included Lab Sample IDs: 2022795

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A86537

Included Lab Sample IDs: 2022800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	94.9	95.4	P/P	90 - 110
Cadmium	97.2	97.3	P/P	90 - 110
Chromium	101	100	P/P	90 - 110
Copper	93.3	92.8	P/P	90 - 110
Lead	104	104	P/P	90 - 110
Nickel	93.8	93.3	P/P	90 - 110
Silver	100	99.3	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A86566

Included Lab Sample IDs: 2022795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	103	P/P	90 - 110
Sulfate	101	102	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 SMP	MS
			LCS				
EPA 200.7 Rev. 4.4	Calcium	111	113	112	111		0.437
	Iron	109	111	110	111		0.815
	Magnesium	114	117	114	114		0.155
	Potassium	111	108	109	107		1.75
	Sodium	112	111	108	107		0.873
	Zinc	104	105	106	103		3.54
EPA 200.8 Rev. 5.4	Arsenic	101	104	99.9	100		0.356
	Cadmium	103	106	103	105		2.33
	Chromium	106	111	111	107		3.66
	Copper	96.7	99.7	96.4	96.6		0.165
	Lead	104	106	105	104		0.626
	Nickel	98.7	102	100	97.8		2.19
	Silver	104	105	104	104		0.0735
EPA 300.0	Bromide	99.5	96.0	103			
EPA 300.0 Rev. 2.1	Chloride	99.1	98.4	98.6		0.215	
	Sulfate	99.8	96.8	99.4		0.553	
EPA 350.1 Rev. 2.0	Ammonia-N	97.9	98.5	95.3			1.93
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.4	106	104			1.57
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	102	101			0.282
EPA 365.1 Rev. 2.0	Total-P	99.4	99.6	95.8			3.76
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	96.3	97.3			0.858
SM 2120 B	Color (true)	98.0				0.500	
SM 2320 B-97	Total Alkalinity	103				0.0958	
SM 4500 F-C-97	Fluoride	97.7					0.0

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2022800
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2022800
EPA 300.0 / E31780	Bromide in aqueous matrices	2022795
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2022795
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2022795
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2022796
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2022796
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2022796
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2022796
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2022797
SM 2120 B / E31780	True Color measured at 450 nm	2022795
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2022795
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2022795

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 200.7 Rev. 4.4	09/06/2018	09/06/2018 17:15	Elliott D. Healy	09/08/2018 00:03	Martin Acosta	2022800
EPA 200.8 Rev. 5.4	09/06/2018	09/06/2018 17:15	Elliott D. Healy	09/14/2018 23:46	Allison Taylor	2022800
EPA 300.0	09/06/2018			09/08/2018 00:06	Lipi Saha	2022795
EPA 300.0 Rev. 2.1	09/06/2018			09/17/2018 19:51	Lipi Saha	2022795
EPA 350.1 Rev. 2.0	09/06/2018			09/10/2018 12:45	Ping Hua	2022796
EPA 351.2 Rev. 2.0	09/06/2018	09/11/2018 10:50	Adrian Shelby	09/12/2018 10:11	Joseph Suarez	2022796
EPA 353.2 Rev. 2.0	09/06/2018			09/11/2018 14:20	Lauren Bottorf	2022796
EPA 365.1 Rev. 2.0	09/06/2018	09/10/2018 13:47	Sima Feizi	09/12/2018 11:29	Beverly Y. Sanders	2022796
EPA 365.1 Rev. 2.0 dissolved	09/06/2018			09/06/2018 16:43	Julia Storbeck	2022797
SM 2120 B	09/06/2018			09/06/2018 15:48	DeAsia Armster	2022795
SM 2320 B-97	09/06/2018			09/12/2018 23:12	Dale L. Simmons	2022795
SM 4500 F-C-97	09/06/2018			09/12/2018 23:12	Dale L. Simmons	2022795