Chemical Analysis Report

SW-DIST-2018-08-08-01

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

Event Description: **Reference Lake_McKethan**
Request ID: **RQ-2018-08-06-26**
Customer: **SW-DIST**
Project ID: **LAKESREF**

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 30-AUG-2018 15:15

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: McKethan Lk TPMCTHN01L **Collection Date/Time: 08/07/2018 11:50**

Field ID: MCKETHAN Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2015234	EPA 300.0	Bromide	0.013	U	mg Br/L	P350564	
	EPA 300.0 Rev. 2.1	Chloride	2.1		mg Cl/L	P350007	
		Sulfate	0.20	U	mg SO4/L	P350008	
	SM 2120 B	Color (true)	72	A	PCU	P349824	
	SM 2320 B-97	Total Alkalinity	8.4		mg CaCO3/L	P350106	
	SM 4500 F-C-97	Fluoride	0.040	I	mg F/L	P350110	
2015235	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P350004	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P349995	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P350080	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P350136	
2015236	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P349894	
2015239	EPA 200.7 Rev. 4.4	Calcium	3.69		mg/L	P349876	
		Iron	61	I	ug/L	P349876	
		Magnesium	1.04		mg/L	P349876	
		Potassium	0.30	U	mg/L	P349876	
		Sodium	1.1	I	mg/L	P349876	
		Zinc	5.0	U	ug/L	P349876	
	EPA 200.8 Rev. 5.4	Arsenic	0.20		ug/L	P349876	
		Cadmium	0.020	U	ug/L	P349876	
		Chromium	0.40	U	ug/L	P349876	
		Copper	0.20	U	ug/L	P349876	
		Lead	0.050	U	ug/L	P349876	
		Nickel	0.20	U	ug/L	P349876	
		Silver	0.010	U	ug/L	P349876	

Quality Assurance Report
Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349876

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: P349876

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: P350564

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350007

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350008

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350004

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349995

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: P350080

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350136

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349894

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

Reference Method: SM 2120 B
Batch ID: P349824

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P350106

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

Reference Method: SM 4500 F-C-97
Batch ID: P350110

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: P349876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	111		P	85 - 115
Iron	107		P	85 - 115
Magnesium	112		P	85 - 115
Potassium	105		P	85 - 115
Sodium	105		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	98.7		P	85 - 115
Cadmium	99.5		P	85 - 115
Chromium	96.3		P	85 - 115
Copper	95.3		P	85 - 115
Lead	97.3		P	85 - 115
Nickel	97.3		P	85 - 115
Silver	113		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P350564

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350007

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350008

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350004

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349995

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350080

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350136

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349894

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

Reference Method: SM 2120 B
Batch ID: P349824

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.0		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P350106

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

Reference Method: SM 4500 F-C-97
Batch ID: P350110

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	91 - 105

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2015724	Calcium	109	110	P/P	80 - 120
2015724	Iron	107	107	P/P	80 - 120
2015724	Magnesium	111	111	P/P	80 - 120
2015724	Potassium	107	107	P/P	80 - 120
2015724	Sodium	100	101	P/P	80 - 120
2015724	Zinc	106	108	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2015724	Arsenic	97.0	96.6	P/P	80 - 120
2015724	Cadmium	98.2	99.3	P/P	80 - 120
2015724	Chromium	98.0	96.8	P/P	80 - 120
2015724	Copper	95.0	94.1	P/P	80 - 120
2015724	Lead	97.2	96.4	P/P	80 - 120
2015724	Nickel	97.8	97.9	P/P	80 - 120
2015724	Silver	112	112	P/P	80 - 120

Reference Method: EPA 300.0
Batch ID: P350564

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2015234	Bromide	104	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2014634	Chloride	99.1		P	90 - 110
2015234	Chloride	97.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350008

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2014634	Sulfate	98.1		P	90 - 110
2015234	Sulfate	95.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350004

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2015263	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349995

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2015235	Kjeldahl Nitrogen	108	100	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350080

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2015235	NO2NO3-N	97.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350136

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2015474	Total-P	103	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349894

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2015236	O-Phosphate-P	94.6	95.5	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P350110

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2015773	Fluoride	99.2	97.9	P/P	91 - 105

Quality Assurance Report
Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2015724	Calcium	0.311	Spike	P	0 - 20
2015724	Iron	0.165	Spike	P	0 - 20
2015724	Magnesium	0.515	Spike	P	0 - 20
2015724	Potassium	0.626	Spike	P	0 - 20
2015724	Sodium	0.0489	Spike	P	0 - 20
2015724	Zinc	1.93	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2015724	Arsenic	0.417	Spike	P	0 - 20
2015724	Cadmium	1.13	Spike	P	0 - 20
2015724	Chromium	1.20	Spike	P	0 - 20
2015724	Copper	0.902	Spike	P	0 - 20
2015724	Lead	0.729	Spike	P	0 - 20
2015724	Nickel	0.0874	Spike	P	0 - 20
2015724	Silver	0.557	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P350564

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2015234	Bromide	2.25	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2014634	Chloride	6.40	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350008

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2014634	Sulfate	7.04	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350004

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2015263	Ammonia-N	0.331	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349995

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2015235	Kjeldahl Nitrogen	3.93	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350080

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2015235	NO2NO3-N	2.53	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2015474	Total-P	4.45	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349894

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2015236	O-Phosphate-P	0.899	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P349824

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2015234	Color (true)	1.51	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P350106

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2015773	Total Alkalinity	0.492	Sample	P	0 - 1.6

Reference Method: SM 4500 F-C-97
Batch ID: P350110

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2015773	Fluoride	0.986	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 300.0 Rev. 2.1
Run ID: A85712
Included Lab Sample IDs: 2015234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.8	103	P/P	90 - 110
Sulfate	96.6	103	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A85759
Included Lab Sample IDs: 2015234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.1	97.9	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A85798
Included Lab Sample IDs: 2015236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.8	95.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A85818
Included Lab Sample IDs: 2015239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	103	103	P/P	95 - 105
Iron	102	102	P/P	95 - 105
Magnesium	102	103	P/P	95 - 105
Potassium	101	101	P/P	95 - 105
Sodium	100	99.0	P/P	95 - 105
Zinc	103	105	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A85837
Included Lab Sample IDs: 2015235

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A85859
Included Lab Sample IDs: 2015235

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

Reference Method: SM 2320 B-97
Run ID: A85868
Included Lab Sample IDs: 2015234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	101	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 4500 F-C-97
Run ID: A85868
Included Lab Sample IDs: 2015234

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A85901
Included Lab Sample IDs: 2015235

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.3	93.3	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A85912
Included Lab Sample IDs: 2015239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	94.9	95.3	P/P	90 - 110
Cadmium	92.6	93.8	P/P	90 - 110
Chromium	92.8	94.2	P/P	90 - 110
Copper	93.3	93.3	P/P	90 - 110
Lead	98.2	98.7	P/P	90 - 110
Nickel	93.6	93.7	P/P	90 - 110
Silver	96.0	97.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A85924
Included Lab Sample IDs: 2015235

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

Reference Method: EPA 300.0
Run ID: A86045
Included Lab Sample IDs: 2015234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	109	106	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 200.7 Rev. 4.4	Calcium	111	109	110			0.311
	Iron	107	107	107			0.165
	Magnesium	112	111	111			0.515
	Potassium	105	107	107			0.626
	Sodium	105	100	101			0.0489
	Zinc	105	106	108			1.93
EPA 200.8 Rev. 5.4	Arsenic	98.7	97.0	96.6			0.417
	Cadmium	99.5	98.2	99.3			1.13
	Chromium	96.3	98.0	96.8			1.20
	Copper	95.3	95.0	94.1			0.902
	Lead	97.3	97.2	96.4			0.729
	Nickel	97.3	97.8	97.9			0.0874
	Silver	113	112	112			0.557
EPA 300.0	Bromide	106	104	101			2.25
EPA 300.0 Rev. 2.1	Chloride	97.9	99.1	97.0		6.40	
	Sulfate	95.7	98.1	95.4		7.04	
EPA 350.1 Rev. 2.0	Ammonia-N	102	100	101			0.331
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	108	100			3.93
EPA 353.2 Rev. 2.0	NO2NO3-N	100	97.5	100			2.53
EPA 365.1 Rev. 2.0	Total-P	102	103	98.2			4.45
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.4	94.6	95.5			0.899
SM 2120 B	Color (true)	96.0				1.51	
SM 2320 B-97	Total Alkalinity	103				0.492	
SM 4500 F-C-97	Fluoride	99.3	99.2	97.9			0.986

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	2015239
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2015239
EPA 300.0 / E31780	Bromide in aqueous matrices	2015234
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2015234
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2015234
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2015235
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2015235
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2015235
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2015235
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2015236
SM 2120 B / E31780	True Color measured at 450 nm	2015234
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2015234
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2015234

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	08/08/2018	08/09/2018 17:40	Elliott D. Healy	08/10/2018 13:07	Betina Topolski	2015239
EPA 200.8 Rev. 5.4	08/08/2018	08/09/2018 17:40	Elliott D. Healy	08/15/2018 22:39	Allison Taylor	2015239
EPA 300.0	08/08/2018			08/20/2018 19:17	Lipi Saha	2015234
EPA 300.0 Rev. 2.1	08/08/2018			08/09/2018 12:55	Lipi Saha	2015234
EPA 350.1 Rev. 2.0	08/08/2018			08/13/2018 14:13	Ping Hua	2015235
EPA 351.2 Rev. 2.0	08/08/2018	08/13/2018 16:00	Adrian Shelby	08/15/2018 16:50	Joseph Suarez	2015235
EPA 353.2 Rev. 2.0	08/08/2018			08/14/2018 13:41	Lauren Bottorf	2015235
EPA 365.1 Rev. 2.0	08/08/2018	08/15/2018 13:20	Sima Feizi	08/16/2018 11:32	Beverly Y. Sanders	2015235
EPA 365.1 Rev. 2.0 dissolved	08/08/2018			08/08/2018 14:50	Megan Treadwell	2015236
SM 2120 B	08/08/2018			08/08/2018 17:01	Tanya Welborn	2015234
SM 2320 B-97	08/08/2018			08/14/2018 09:56	Dale L. Simmons	2015234
SM 4500 F-C-97	08/08/2018			08/14/2018 09:56	Dale L. Simmons	2015234