

Chemical Analysis Report

SO-DIST-2019-09-20-01

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

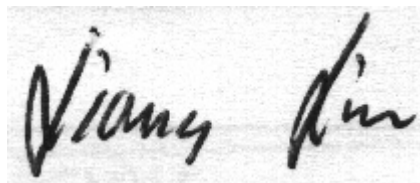
Event Description: **CALOOSA LT**
Request ID: **RQ-2019-09-09-09**
Customer: **SO-DIST**
Project ID: **BMAP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 17-OCT-2019 14:21

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 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 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: USGSStation-PuntaBlanca

Collection Date/Time: 09/19/2019 10:10

Field ID: G3SD0108

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121238	SM 2320 B-97	Total Alkalinity	133		mg CaCO3/L	P371515	
	SM 4500 F-C-97	Fluoride	0.78		mg F/L	P371519	
2121242	SM 5310 B-00 dissolved	Organic Carbon	9.4		mg C/L	P371200	
2121246	EPA 350.1 Rev. 2.0	Ammonia-N	0.034		mg N/L	P371596	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.72		mg N/L	P371444	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.063		mg N/L	P371220	
	EPA 365.1 Rev. 2.0	Total-P	0.069		mg P/L	P371168	
	SM 5310 B-00	Organic Carbon	9.6		mg C/L	P371200	
2121250	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.046		mg P/L	P371083	
2121316	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P371246	
		Zinc	15	U	ug/L	P371246	
	EPA 200.8 Rev. 5.4	Arsenic	2.2		ug/L	P371246	
		Cadmium	0.20	U	ug/L	P371246	
		Chromium	4.0	U	ug/L	P371246	
		Copper	1.6	U	ug/L	P371246	
		Lead	2.0	U	ug/L	P371246	
		Nickel	2.0	U	ug/L	P371246	
		Silver	0.10	U	ug/L	P371246	

Sample Location: USGS Station-ShellPoint

Collection Date/Time: 09/19/2019 10:40

Field ID: G3SD0109

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121239	SM 2320 B-97	Total Alkalinity	135		mg CaCO3/L	P371515	
	SM 4500 F-C-97	Fluoride	0.69		mg F/L	P371519	
2121243	SM 5310 B-00 dissolved	Organic Carbon	11		mg C/L	P371200	
2121247	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P371596	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P371444	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.072		mg N/L	P371220	
	EPA 365.1 Rev. 2.0	Total-P	0.070		mg P/L	P371168	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P371200	
2121251	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.046		mg P/L	P371083	
2121317	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P371246	
		Zinc	15	U	ug/L	P371246	
	EPA 200.8 Rev. 5.4	Arsenic	2.2		ug/L	P371246	
		Cadmium	0.20	U	ug/L	P371246	
		Chromium	4.0	U	ug/L	P371246	
		Copper	1.6	U	ug/L	P371246	
		Lead	2.0	U	ug/L	P371246	
		Nickel	2.0	U	ug/L	P371246	
		Silver	0.10	U	ug/L	P371246	

Sample Location: Marker # 76

Collection Date/Time: 09/19/2019 11:10

Field ID: G3SD0110

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121240	SM 2320 B-97	Total Alkalinity	141		mg CaCO3/L	P371515	
	SM 4500 F-C-97	Fluoride	0.47		mg F/L	P371519	
2121244	SM 5310 B-00 dissolved	Organic Carbon	14		mg C/L	P371200	
2121248	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P371596	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.89		mg N/L	P371444	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P371220	
	EPA 365.1 Rev. 2.0	Total-P	0.098		mg P/L	P371168	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P371200	
2121252	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.055		mg P/L	P371083	
2121318	EPA 200.7 Rev. 4.4	Iron	110	I	ug/L	P371246	
		Zinc	15	U	ug/L	P371246	
	EPA 200.8 Rev. 5.4	Arsenic	2.2		ug/L	P371246	
		Cadmium	0.20	U	ug/L	P371246	
		Chromium	4.0	U	ug/L	P371246	
		Copper	1.6	U	ug/L	P371246	
		Lead	2.0	U	ug/L	P371246	
		Nickel	2.0	I	ug/L	P371246	
		Silver	0.10	U	ug/L	P371246	

Sample Location: Marker # 52

Collection Date/Time: 09/19/2019 11:50

Field ID: G3SD0111

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121241	SM 2320 B-97	Total Alkalinity	155		mg CaCO3/L	P371527	
	SM 4500 F-C-97	Fluoride	0.30		mg F/L	P371531	
2121245	SM 5310 B-00 dissolved	Organic Carbon	18		mg C/L	P371256	
2121249	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P371596	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P371444	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P371220	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P371168	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P371256	
2121253	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.071		mg P/L	P371083	
2121319	EPA 200.7 Rev. 4.4	Iron	240		ug/L	P371231	
		Zinc	5.0	U	ug/L	P371231	
	EPA 200.8 Rev. 5.4	Arsenic	2.38		ug/L	P371231	
		Cadmium	0.020	U	ug/L	P371231	
		Chromium	0.53	I	ug/L	P371231	
		Copper	1.66		ug/L	P371231	
		Lead	0.22	I	ug/L	P371231	
		Nickel	0.51	I	ug/L	P371231	
		Silver	0.010	U	ug/L	P371231	

Sample Location: US 41, Marker # 38

Collection Date/Time: 09/19/2019 12:15

Field ID: G3SD0112

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121254	SM 5310 B-00 dissolved	Organic Carbon	18		mg C/L	P371256	
2121262	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P371594	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P371443	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.25		mg N/L	P371293	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P371169	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P371256	
2121270	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.078		mg P/L	P371082	
2121320	EPA 200.7 Rev. 4.4	Calcium	86.0		mg/L	P371231	
		Iron	300		ug/L	P371231	
		Magnesium	81.9		mg/L	P371231	
		Potassium	25.7		mg/L	P371231	
		Sodium	632		mg/L	P371231	
		Zinc	5.0	U	ug/L	P371231	
	EPA 200.8 Rev. 5.4	Arsenic	2.27		ug/L	P371231	
		Cadmium	0.020	U	ug/L	P371231	
		Chromium	0.56	I	ug/L	P371231	
		Copper	1.51		ug/L	P371231	
		Lead	0.21	I	ug/L	P371231	
		Nickel	0.72	I	ug/L	P371231	
		Silver	0.010	U	ug/L	P371231	

Sample Location: Marker # 28

Collection Date/Time: 09/19/2019 12:25

Field ID: G3SD0113

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121255	SM 5310 B-00 dissolved	Organic Carbon	18		mg C/L	P371256	
2121263	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P371594	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P371443	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.31		mg N/L	P371293	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P371169	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P371256	
2121271	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.086		mg P/L	P371082	
2121321	EPA 200.7 Rev. 4.4	Calcium	68.1		mg/L	P371231	
		Iron	540		ug/L	P371231	
		Magnesium	17.5		mg/L	P371231	
		Potassium	6.5		mg/L	P371231	
		Sodium	96.9		mg/L	P371231	
		Zinc	5.0	U	ug/L	P371231	
	EPA 200.8 Rev. 5.4	Arsenic	2.08		ug/L	P371231	
		Cadmium	0.020	U	ug/L	P371231	
		Chromium	0.78	I	ug/L	P371231	
		Copper	1.25		ug/L	P371231	
		Lead	0.24	I	ug/L	P371231	
		Nickel	0.74	I	ug/L	P371231	
		Silver	0.010	U	ug/L	P371231	

Sample Location: Marker # 22

Collection Date/Time: 09/19/2019 12:35

Field ID: G3SD0114

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121256	SM 5310 B-00 dissolved	Organic Carbon	18		mg C/L	P371256	
2121264	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P371594	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P371443	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.35		mg N/L	P371293	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P371169	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P371256	
2121272	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.084		mg P/L	P371082	
2121322	EPA 200.7 Rev. 4.4	Calcium	70.3		mg/L	P371231	
		Iron	370		ug/L	P371231	
		Magnesium	13.1		mg/L	P371231	
		Potassium	5.3		mg/L	P371231	
		Sodium	59.2		mg/L	P371231	
		Zinc	5.0	U	ug/L	P371231	
	EPA 200.8 Rev. 5.4	Arsenic	1.95		ug/L	P371231	
		Cadmium	0.020	U	ug/L	P371231	
		Chromium	0.60	I	ug/L	P371231	
		Copper	1.30		ug/L	P371231	
		Lead	0.20	U	ug/L	P371231	
		Nickel	0.77	I	ug/L	P371231	
		Silver	0.010	U	ug/L	P371231	

Sample Location: Old Swing Bridge

Collection Date/Time: 09/19/2019 12:45

Field ID: G3SD0115

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121257	SM 5310 B-00 dissolved	Organic Carbon	19		mg C/L	P371256	
2121265	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P371594	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.96		mg N/L	P371443	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.35		mg N/L	P371293	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P371169	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P371256	
2121273	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.084		mg P/L	P371082	
2121323	EPA 200.7 Rev. 4.4	Calcium	70.5		mg/L	P371231	
		Iron	350		ug/L	P371231	
		Magnesium	12.8		mg/L	P371231	
		Potassium	5.1		mg/L	P371231	
		Sodium	55.4		mg/L	P371231	
		Zinc	5.0	U	ug/L	P371231	
	EPA 200.8 Rev. 5.4	Arsenic	1.97		ug/L	P371231	
		Cadmium	0.020	U	ug/L	P371231	
		Chromium	0.48	I	ug/L	P371231	
		Copper	0.92		ug/L	P371231	
		Lead	0.20	U	ug/L	P371231	
		Nickel	0.69	I	ug/L	P371231	
		Silver	0.010	U	ug/L	P371231	

Sample Location: MidChannel@OrangeRiver

Collection Date/Time: 09/19/2019 13:00

Field ID: G3SD0116

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121258	SM 5310 B-00 dissolved	Organic Carbon	17		mg C/L	P371256	
2121266	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P371594	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.96		mg N/L	P371443	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.34		mg N/L	P371293	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P371313	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P371257	
2121274	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.076		mg P/L	P371082	
2121324	EPA 200.7 Rev. 4.4	Calcium	72.3		mg/L	P371231	
		Iron	380		ug/L	P371231	
		Magnesium	10.1		mg/L	P371231	
		Potassium	4.1		mg/L	P371231	
		Sodium	31.9		mg/L	P371231	
		Zinc	5.0	U	ug/L	P371231	
	EPA 200.8 Rev. 5.4	Arsenic	1.91		ug/L	P371231	
		Cadmium	0.020	U	ug/L	P371231	
		Chromium	0.50	I	ug/L	P371231	
		Copper	0.87		ug/L	P371231	
		Lead	0.20	U	ug/L	P371231	
		Nickel	0.65	I	ug/L	P371231	
		Silver	0.010	U	ug/L	P371231	

Sample Location: Upstream of Power Plant

Collection Date/Time: 09/19/2019 13:10

Field ID: G3SD0117

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121259	SM 5310 B-00 dissolved	Organic Carbon	19		mg C/L	P371256	
2121267	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P371594	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P371443	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.33		mg N/L	P371293	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P371313	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P371257	
2121275	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.089		mg P/L	P371082	
2121325	EPA 200.7 Rev. 4.4	Calcium	71.7		mg/L	P371231	
		Iron	420		ug/L	P371231	
		Magnesium	10.0		mg/L	P371231	
		Potassium	4.6		mg/L	P371231	
		Sodium	30.8		mg/L	P371231	
		Zinc	5.0	U	ug/L	P371231	
	EPA 200.8 Rev. 5.4	Arsenic	1.99		ug/L	P371231	
		Cadmium	0.020	U	ug/L	P371231	
		Chromium	0.49	I	ug/L	P371231	
		Copper	0.99		ug/L	P371231	
		Lead	0.20	U	ug/L	P371231	
		Nickel	0.69	I	ug/L	P371231	
		Silver	0.010	U	ug/L	P371231	

Sample Location: Mid Channel off Oxbow

Collection Date/Time: 09/19/2019 13:25

Field ID: G3SD0118

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121260	SM 5310 B-00 dissolved	Organic Carbon	20		mg C/L	P371256	
2121268	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P371594	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P371192	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.40		mg N/L	P371293	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P371313	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P371257	
2121276	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.091		mg P/L	P371082	
2121326	EPA 200.7 Rev. 4.4	Calcium	68.1		mg/L	P371231	
		Iron	410		ug/L	P371231	
		Magnesium	8.81		mg/L	P371231	
		Potassium	4.5		mg/L	P371231	
		Sodium	24.0		mg/L	P371231	
		Zinc	5.0	U	ug/L	P371231	
	EPA 200.8 Rev. 5.4	Arsenic	1.84		ug/L	P371231	
		Cadmium	0.020	U	ug/L	P371231	
		Chromium	0.53	I	ug/L	P371231	
		Copper	0.74	I	ug/L	P371231	
		Lead	0.20	U	ug/L	P371231	
		Nickel	0.67	I	ug/L	P371231	
		Silver	0.010	U	ug/L	P371231	

Sample Location: Mid channel off point

Collection Date/Time: 09/19/2019 13:35

Field ID: G3SD0119

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121261	SM 5310 B-00 dissolved	Organic Carbon	19		mg C/L	P371256	
2121269	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P371595	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P371192	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.42		mg N/L	P371293	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P371313	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P371257	
2121277	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.099		mg P/L	P371082	
2121327	EPA 200.7 Rev. 4.4	Calcium	69.2		mg/L	P371231	
		Iron	430		ug/L	P371231	
		Magnesium	8.76		mg/L	P371231	
		Potassium	4.5		mg/L	P371231	
		Sodium	23.7		mg/L	P371231	
		Zinc	5.0	U	ug/L	P371231	
	EPA 200.8 Rev. 5.4	Arsenic	1.87		ug/L	P371231	
		Cadmium	0.020	U	ug/L	P371231	
		Chromium	0.45	I	ug/L	P371231	
		Copper	0.78	I	ug/L	P371231	
		Lead	0.20	U	ug/L	P371231	
		Nickel	0.67	I	ug/L	P371231	
		Silver	0.010	U	ug/L	P371231	

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371231

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 200.7 Rev. 4.4
Batch ID: P371246

Component	Result	Code	Units
Iron	30	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371231

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371246

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.44	I	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371594

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371595

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371596

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371192

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371443

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371444

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371220

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371293

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371168

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371169

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371313

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371082

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371083

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

Reference Method: SM 2320 B-97
Batch ID: P371515

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

Reference Method: SM 2320 B-97
Batch ID: P371527

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

Reference Method: SM 4500 F-C-97
Batch ID: P371519

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P371531

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P371200

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

Reference Method: SM 5310 B-00
Batch ID: P371256

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

Reference Method: SM 5310 B-00
Batch ID: P371257

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

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00 dissolved
Batch ID: P371200

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P371256

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371231

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	109		P	85 - 115
Iron	107		P	85 - 115
Magnesium	111		P	85 - 115
Potassium	103		P	85 - 115
Sodium	108		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371246

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	100		P	85 - 115
Zinc	96.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371231

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	98.5		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	93.8		P	85 - 115
Copper	97.1		P	85 - 115
Lead	92.5		P	85 - 115
Nickel	96.7		P	85 - 115
Silver	98.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371246

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	100		P	85 - 115
Cadmium	98.6		P	85 - 115
Chromium	97.3		P	85 - 115
Copper	96.3		P	85 - 115
Lead	98.6		P	85 - 115
Nickel	98.3		P	85 - 115
Silver	104		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371594

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371595

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.3		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P371596

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: P371192

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P371443

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.5		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P371444

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P371220

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P371293

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: P371168

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P371169

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P371313

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371082

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371083

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

Reference Method: SM 2320 B-97
Batch ID: P371515

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P371527

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P371519

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P371531

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P371200

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.9		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P371256

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.7		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P371257

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.6		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00 dissolved
Batch ID: P371200

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.9		P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P371256

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371231

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121052	Calcium	105		P	80 - 120
2121052	Iron	109		P	80 - 120
2121052	Magnesium	105		P	80 - 120
2121052	Potassium	101		P	80 - 120
2121052	Sodium	106		P	80 - 120
2121052	Zinc	103		P	80 - 120
2121216	Calcium	110	108	P/P	80 - 120
2121216	Iron	108	107	P/P	80 - 120
2121216	Magnesium	113	110	P/P	80 - 120
2121216	Potassium	108	106	P/P	80 - 120
2121216	Sodium	106		P	80 - 120
2121216	Zinc	103	105	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371246

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121676	Iron	98.0	97.8	P/P	70 - 130
2121676	Zinc	101	100	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371231

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121052	Arsenic	104		P	80 - 120
2121052	Cadmium	106		P	80 - 120
2121052	Chromium	102		P	80 - 120
2121052	Copper	100		P	80 - 120
2121052	Lead	99.6		P	80 - 120
2121052	Nickel	102		P	80 - 120
2121052	Silver	102		P	80 - 120
2121216	Arsenic	106	105	P/P	80 - 120
2121216	Cadmium	106	105	P/P	80 - 120
2121216	Chromium	101	102	P/P	80 - 120
2121216	Copper	105	105	P/P	80 - 120
2121216	Lead	102	99.5	P/P	80 - 120
2121216	Nickel	104	103	P/P	80 - 120
2121216	Silver	104	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371246

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121676	Arsenic	101	101	P/P	70 - 130
2121676	Cadmium	99.5	99.8	P/P	70 - 130
2121676	Chromium	93.6	92.5	P/P	70 - 130
2121676	Copper	94.6	92.9	P/P	70 - 130
2121676	Lead	103	102	P/P	70 - 130
2121676	Nickel	95.1	93.1	P/P	70 - 130
2121676	Silver	103	101	P/P	70 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371594

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121201	Ammonia-N	97.3	95.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371595

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121279	Ammonia-N	98.5	98.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371596

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121089	Ammonia-N	97.7	96.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371192

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121279	Kjeldahl Nitrogen	106	108	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371443

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121210	Kjeldahl Nitrogen	95.3	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371444

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121246	Kjeldahl Nitrogen	101	99.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371220

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121130	NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371293

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121267	NO2NO3-N	98.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371168

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121131	Total-P	95.6	97.2	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371169

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121198	Total-P	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371313

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121266	Total-P	99.6	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371082

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121280	O-Phosphate-P	95.4	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371083

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121252	O-Phosphate-P	96.7	97.1	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P371519

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119124	Fluoride	95.1	95.1	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P371531

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121189	Fluoride	97.1	96.5	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P371200

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121392	Organic Carbon	97.0	99.3	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P371256

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120966	Organic Carbon	101	100	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P371257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121199	Organic Carbon	96.8	97.6	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00 dissolved
Batch ID: P371200

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121392	Organic Carbon	97.0	99.3	P/P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P371256

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120966	Organic Carbon	101	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371231

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121216	Calcium	1.67	Spike	P	0 - 20
2121216	Iron	1.19	Spike	P	0 - 20
2121216	Magnesium	2.09	Spike	P	0 - 20
2121216	Potassium	1.85	Spike	P	0 - 20
2121216	Sodium	0.335	Spike	P	0 - 20
2121216	Zinc	2.02	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371246

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121676	Iron	0.125	Spike	P	0 - 20
2121676	Zinc	0.694	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371231

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121216	Arsenic	0.549	Spike	P	0 - 20
2121216	Cadmium	0.645	Spike	P	0 - 20
2121216	Chromium	0.981	Spike	P	0 - 20
2121216	Copper	0.0985	Spike	P	0 - 20
2121216	Lead	2.69	Spike	P	0 - 20
2121216	Nickel	0.707	Spike	P	0 - 20
2121216	Silver	0.586	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371246

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121676	Arsenic	0.125	Spike	P	0 - 20
2121676	Cadmium	0.295	Spike	P	0 - 20
2121676	Chromium	1.21	Spike	P	0 - 20
2121676	Copper	1.66	Spike	P	0 - 20
2121676	Lead	1.00	Spike	P	0 - 20
2121676	Nickel	2.07	Spike	P	0 - 20
2121676	Silver	1.30	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121201	Ammonia-N	1.82	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371595

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121279	Ammonia-N	0.294	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371596

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121089	Ammonia-N	1.28	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371192

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121279	Kjeldahl Nitrogen	1.33	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371443

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121210	Kjeldahl Nitrogen	8.82	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371444

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121246	Kjeldahl Nitrogen	0.654	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371220

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121130	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371293

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121267	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371168

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121131	Total-P	1.64	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371169

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121198	Total-P	1.15	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371313

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121266	Total-P	1.69	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371082

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121280	O-Phosphate-P	1.66	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121252	O-Phosphate-P	0.322	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P371515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121389	Total Alkalinity	0.179	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P371527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121189	Total Alkalinity	0.487	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-97
Batch ID: P371519

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119124	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P371531

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121189	Fluoride	0.487	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P371200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121392	Organic Carbon	2.02	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P371256

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120966	Organic Carbon	0.0862	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P371257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121199	Organic Carbon	0.926	Spike	P	0 - 20

Reference Method: SM 5310 B-00 dissolved
Batch ID: P371200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121392	Organic Carbon	2.02	Spike	P	0 - 20

Reference Method: SM 5310 B-00 dissolved
Batch ID: P371256

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120966	Organic Carbon	0.0862	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: A94385

Included Lab Sample IDs: 2121250, 2121251, 2121252, 2121253, 2121270, 2121271, 2121272, 2121273, 2121274, 2121275, 2121276, 2121277

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.0	98.6	P/P	90 - 110
O-Phosphate-P	98.1	98.5	P/P	90 - 110
O-Phosphate-P	98.6	99.0	P/P	90 - 110
O-Phosphate-P	99.0	97.6	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A94437

Included Lab Sample IDs: 2121246, 2121247, 2121248

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	99.6	P/P	90 - 110

Reference Method: SM 5310 B-00 dissolved

Run ID: A94437

Included Lab Sample IDs: 2121242, 2121243, 2121244

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.1	98.2	P/P	90 - 110
Organic Carbon	98.2	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94439

Included Lab Sample IDs: 2121262, 2121263, 2121264

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.8	P/P	90 - 110
Total-P	99.8	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94442

Included Lab Sample IDs: 2121265

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A94451

Included Lab Sample IDs: 2121246, 2121247, 2121248, 2121249

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94456

Included Lab Sample IDs: 2121246, 2121247, 2121248, 2121249

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A94471

Included Lab Sample IDs: 2121249, 2121262, 2121263, 2121264, 2121265, 2121266, 2121267, 2121268, 2121269

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	97.7	P/P	90 - 110
Organic Carbon	95.8	95.1	P/P	90 - 110
Organic Carbon	97.7	95.8	P/P	90 - 110

Reference Method: SM 5310 B-00 dissolved

Run ID: A94471

Included Lab Sample IDs: 2121245, 2121254, 2121255, 2121256, 2121257, 2121258, 2121259, 2121260, 2121261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	97.7	P/P	90 - 110
Organic Carbon	97.7	95.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A94489

Included Lab Sample IDs: 2121262, 2121263, 2121264, 2121265, 2121266, 2121267, 2121268, 2121269

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A94502

Included Lab Sample IDs: 2121319, 2121320, 2121321, 2121322, 2121323, 2121324, 2121325, 2121326, 2121327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	104	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Iron	104	102	P/P	90 - 110
Magnesium	103	104	P/P	90 - 110
Potassium	101	100	P/P	90 - 110
Sodium	104	103	P/P	90 - 110
Zinc	101	97.9	P/P	90 - 110
Zinc	97.9	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94517

Included Lab Sample IDs: 2121266, 2121267, 2121268, 2121269

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	98.7	P/P	90 - 110
Total-P	99.9	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94536

Included Lab Sample IDs: 2121268, 2121269

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	106	P/P	90 - 110
Kjeldahl Nitrogen	106	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A94562

Included Lab Sample IDs: 2121316, 2121317, 2121318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	101	98.1	P/P	90 - 110
Zinc	99.1	96.0	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A94575

Included Lab Sample IDs: 2121238, 2121239, 2121240

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

Reference Method: SM 4500 F-C-97

Run ID: A94575

Included Lab Sample IDs: 2121238, 2121239, 2121240

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

Reference Method: SM 2320 B-97

Run ID: A94582

Included Lab Sample IDs: 2121241

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

Reference Method: SM 4500 F-C-97

Run ID: A94582

Included Lab Sample IDs: 2121241

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94597

Included Lab Sample IDs: 2121246, 2121247, 2121248, 2121249, 2121262, 2121263, 2121264, 2121265, 2121266, 2121267

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	101	P/P	90 - 110
Kjeldahl Nitrogen	99.0	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94610

Included Lab Sample IDs: 2121246, 2121247, 2121248, 2121249, 2121262, 2121263, 2121264, 2121265, 2121266, 2121267, 2121268, 2121269

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.0	97.5	P/P	90 - 110
Ammonia-N	99.1	99.2	P/P	90 - 110
Ammonia-N	99.2	99.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94771

Included Lab Sample IDs: 2121316, 2121317, 2121318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	104	103	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Chromium	100	99.2	P/P	90 - 110
Lead	103	103	P/P	90 - 110
Silver	104	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94847

Included Lab Sample IDs: 2121316, 2121317, 2121318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	98.7	99.4	P/P	90 - 110
Nickel	99.1	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94936

Included Lab Sample IDs: 2121319, 2121320, 2121321, 2121322, 2121323, 2121324, 2121325, 2121326, 2121327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	103	103	P/P	90 - 110
Arsenic	103	103	P/P	90 - 110
Chromium	96.3	97.7	P/P	90 - 110
Chromium	99.3	96.3	P/P	90 - 110
Copper	103	104	P/P	90 - 110
Copper	104	104	P/P	90 - 110
Lead	96.0	96.6	P/P	90 - 110
Lead	99.9	96.0	P/P	90 - 110
Nickel	103	104	P/P	90 - 110
Nickel	104	103	P/P	90 - 110
Silver	100	99.5	P/P	90 - 110
Silver	99.5	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94975

Included Lab Sample IDs: 2121319, 2121320, 2121321, 2121322, 2121323, 2121324, 2121325, 2121326, 2121327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	96.7	97.3	P/P	90 - 110
Cadmium	97.4	96.7	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	109	105	110	108		1.67
	Iron	107	109	108	107		1.19
	Iron	100	98.0	97.8			0.125
	Magnesium	111	105	113	110		2.09
	Potassium	103	101	108	106		1.85
	Sodium	108	106	106			0.335
	Zinc	101	103	103	105		2.02
	Zinc	96.1	101	100			0.694
EPA 200.8 Rev. 5.4	Arsenic	98.5	104	106	105		0.549
	Arsenic	100	101	101			0.125
	Cadmium	100	106	106	105		0.645
	Cadmium	98.6	99.5	99.8			0.295
	Chromium	93.8	102	101	102		0.981
	Chromium	97.3	93.6	92.5			1.21
	Copper	97.1	100	105	105		0.0985
	Copper	96.3	94.6	92.9			1.66
	Lead	92.5	99.6	102	99.5		2.69
	Lead	98.6	103	102			1.00
	Nickel	96.7	102	104	103		0.707
	Nickel	98.3	95.1	93.1			2.07
EPA 350.1 Rev. 2.0	Silver	98.5	102	104	103		0.586
	Silver	104	103	101			1.30
	Ammonia-N	99.7	97.3	95.6			1.82
	Ammonia-N	98.3	98.5	98.9			0.294
EPA 351.2 Rev. 2.0	Ammonia-N	102	97.7	96.3			1.28
	Kjeldahl Nitrogen	103	106	108			1.33
	Kjeldahl Nitrogen	98.5	95.3	107			8.82
	Kjeldahl Nitrogen	96.5	101	99.7			0.654
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.5	99.5			0.0
	NO2NO3-N	104	98.2				0.0
EPA 365.1 Rev. 2.0	Total-P	101	95.6	97.2			1.64
	Total-P	101	102	101			1.15
	Total-P	97.2	99.6	102			1.69
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.4	95.4	97.0			1.66
	O-Phosphate-P	102	96.7	97.1			0.322
SM 2320 B-97	Total Alkalinity	101				0.179	
	Total Alkalinity	102				0.487	
SM 4500 F-C-97	Fluoride	96.1	95.1	95.1			0.0
	Fluoride	97.4	97.1	96.5			0.487
SM 5310 B-00	Organic Carbon	97.9	97.0	99.3			2.02
	Organic Carbon	98.7	101	100			0.0862
	Organic Carbon	94.6	96.8	97.6			0.926
SM 5310 B-00 dissolved	Organic Carbon	97.9	97.0	99.3			2.02
	Organic Carbon	98.7	101	100			0.0862

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	2121316, 2121317, 2121318, 2121319, 2121320, 2121321, 2121322, 2121323, 2121324, 2121325, 2121326, 2121327

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2121316, 2121317, 2121318, 2121319, 2121320, 2121321, 2121322, 2121323, 2121324, 2121325, 2121326, 2121327
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2121246, 2121247, 2121248, 2121249, 2121262, 2121263, 2121264, 2121265, 2121266, 2121267, 2121268, 2121269
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2121246, 2121247, 2121248, 2121249, 2121262, 2121263, 2121264, 2121265, 2121266, 2121267, 2121268, 2121269
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2121246, 2121247, 2121248, 2121249, 2121262, 2121263, 2121264, 2121265, 2121266, 2121267, 2121268, 2121269
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2121246, 2121247, 2121248, 2121249, 2121262, 2121263, 2121264, 2121265, 2121266, 2121267, 2121268, 2121269
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2121250, 2121251, 2121252, 2121253, 2121270, 2121271, 2121272, 2121273, 2121274, 2121275, 2121276, 2121277
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2121238, 2121239, 2121240, 2121241
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2121238, 2121239, 2121240, 2121241
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2121246, 2121247, 2121248, 2121249, 2121262, 2121263, 2121264, 2121265, 2121266, 2121267, 2121268, 2121269
SM 5310 B-00 dissolved / E31780	Dissolved Nonpurgeable Organic Carbon in filtered, aqueous matrices	2121242, 2121243, 2121244, 2121245, 2121254, 2121255, 2121256, 2121257, 2121258, 2121259, 2121260, 2121261

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	09/20/2019	09/24/2019 15:40	Elliott D. Healy	09/25/2019 16:56	Alexander Thompson	2121319
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	09/25/2019 17:28	Alexander Thompson	2121320
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	09/25/2019 17:35	Alexander Thompson	2121320
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	09/25/2019 17:42	Alexander Thompson	2121321
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	09/25/2019 17:50	Alexander Thompson	2121322
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	09/25/2019 17:57	Alexander Thompson	2121323
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	09/25/2019 18:04	Alexander Thompson	2121324
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	09/25/2019 18:12	Alexander Thompson	2121325
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	09/25/2019 18:19	Alexander Thompson	2121326
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	09/25/2019 18:27	Alexander Thompson	2121327
	09/20/2019	09/25/2019 09:04	Alexander Thompson	09/27/2019 16:08	Betina Topolski	2121316
	09/20/2019	09/25/2019 09:04	Alexander Thompson	09/27/2019 16:16	Betina Topolski	2121317
	09/20/2019	09/25/2019 09:04	Alexander Thompson	09/27/2019 16:23	Betina Topolski	2121318
EPA 200.8 Rev. 5.4	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/14/2019 11:14	Justin Cutchin	2121319
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/14/2019 11:24	Justin Cutchin	2121320
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/14/2019 11:33	Justin Cutchin	2121321
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/14/2019 11:43	Justin Cutchin	2121322
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/14/2019 12:21	Justin Cutchin	2121323
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/14/2019 12:31	Justin Cutchin	2121324
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/14/2019 12:40	Justin Cutchin	2121325
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/14/2019 12:50	Justin Cutchin	2121326
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/14/2019 13:00	Justin Cutchin	2121327
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/15/2019 21:15	Justin Cutchin	2121319
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/15/2019 21:25	Justin Cutchin	2121320
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/15/2019 21:35	Justin Cutchin	2121321
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/15/2019 21:44	Justin Cutchin	2121322
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/15/2019 22:23	Justin Cutchin	2121323
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/15/2019 22:32	Justin Cutchin	2121324
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/15/2019 22:42	Justin Cutchin	2121325
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/15/2019 22:51	Justin Cutchin	2121326
	09/20/2019	09/24/2019 15:40	Elliott D. Healy	10/15/2019 23:01	Justin Cutchin	2121327
	09/20/2019	09/25/2019 09:04	Alexander Thompson	10/04/2019 23:59	Robert K Palmer	2121316
	09/20/2019	09/25/2019 09:04	Alexander Thompson	10/05/2019 00:08	Robert K Palmer	2121317
	09/20/2019	09/25/2019 09:04	Alexander Thompson	10/05/2019 00:18	Robert K Palmer	2121318
	09/20/2019	09/25/2019 09:04	Alexander Thompson	10/08/2019 20:13	Robert K Palmer	2121316
	09/20/2019	09/25/2019 09:04	Alexander Thompson	10/08/2019 20:19	Robert K Palmer	2121317
	09/20/2019	09/25/2019 09:04	Alexander Thompson	10/08/2019 20:26	Robert K Palmer	2121318
EPA 350.1 Rev. 2.0	09/20/2019			09/27/2019 13:26	Ping Hua	2121262
	09/20/2019			09/27/2019 13:27	Ping Hua	2121263
	09/20/2019			09/27/2019 13:29	Ping Hua	2121264

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 350.1 Rev. 2.0	09/20/2019			09/27/2019 13:30	Ping Hua	2121265
	09/20/2019			09/27/2019 13:32	Ping Hua	2121266
	09/20/2019			09/27/2019 13:33	Ping Hua	2121267
	09/20/2019			09/27/2019 13:35	Ping Hua	2121268
	09/20/2019			09/27/2019 13:51	Ping Hua	2121269
	09/20/2019			09/27/2019 14:27	Ping Hua	2121246
	09/20/2019			09/27/2019 14:29	Ping Hua	2121247
	09/20/2019			09/27/2019 14:30	Ping Hua	2121248
	09/20/2019			09/27/2019 14:32	Ping Hua	2121249
	09/20/2019					
EPA 351.2 Rev. 2.0	09/20/2019	09/24/2019 12:39	Sima Feizi	09/25/2019 17:02	Julia Storbeck	2121268
	09/20/2019	09/24/2019 12:39	Sima Feizi	09/25/2019 17:07	Julia Storbeck	2121269
	09/20/2019	09/27/2019 12:10	Jhamieka S. Greenwood	09/30/2019 14:06	Virginia P. Brown	2121262
	09/20/2019	09/27/2019 12:10	Jhamieka S. Greenwood	09/30/2019 14:08	Virginia P. Brown	2121263
	09/20/2019	09/27/2019 12:10	Jhamieka S. Greenwood	09/30/2019 14:09	Virginia P. Brown	2121264
	09/20/2019	09/27/2019 12:10	Jhamieka S. Greenwood	09/30/2019 14:11	Virginia P. Brown	2121265
	09/20/2019	09/27/2019 12:10	Jhamieka S. Greenwood	09/30/2019 14:12	Virginia P. Brown	2121266
	09/20/2019	09/27/2019 12:10	Jhamieka S. Greenwood	09/30/2019 14:14	Virginia P. Brown	2121267
	09/20/2019	09/27/2019 12:10	Jhamieka S. Greenwood	09/30/2019 14:23	Virginia P. Brown	2121246
	09/20/2019	09/27/2019 12:10	Jhamieka S. Greenwood	09/30/2019 14:28	Virginia P. Brown	2121247
EPA 353.2 Rev. 2.0	09/20/2019	09/27/2019 12:10	Jhamieka S. Greenwood	09/30/2019 14:29	Virginia P. Brown	2121248
	09/20/2019	09/27/2019 12:10	Jhamieka S. Greenwood	09/30/2019 14:31	Virginia P. Brown	2121249
	09/20/2019			09/24/2019 10:53	Beverly Y. Sanders	2121246
	09/20/2019			09/24/2019 10:54	Beverly Y. Sanders	2121247
	09/20/2019			09/24/2019 10:55	Beverly Y. Sanders	2121248
	09/20/2019			09/24/2019 10:56	Beverly Y. Sanders	2121249
	09/20/2019			09/25/2019 10:30	Beverly Y. Sanders	2121267
	09/20/2019			09/25/2019 10:36	Beverly Y. Sanders	2121262
	09/20/2019			09/25/2019 10:37	Beverly Y. Sanders	2121263
	09/20/2019			09/25/2019 10:38	Beverly Y. Sanders	2121264
EPA 365.1 Rev. 2.0	09/20/2019			09/25/2019 10:40	Beverly Y. Sanders	2121265
	09/20/2019			09/25/2019 10:41	Beverly Y. Sanders	2121266
	09/20/2019			09/25/2019 10:42	Beverly Y. Sanders	2121268
	09/20/2019			09/25/2019 10:43	Beverly Y. Sanders	2121269
	09/20/2019	09/23/2019 14:45	Lipi Saha	09/24/2019 12:05	Lipi Saha	2121262
	09/20/2019	09/23/2019 14:45	Lipi Saha	09/24/2019 12:06	Lipi Saha	2121263
	09/20/2019	09/23/2019 14:45	Lipi Saha	09/24/2019 12:09	Lipi Saha	2121264
	09/20/2019	09/23/2019 14:45	Lipi Saha	09/24/2019 12:59	Lipi Saha	2121265
	09/20/2019	09/23/2019 14:45	Lipi Saha	09/24/2019 13:46	Lipi Saha	2121246
	09/20/2019	09/23/2019 14:45	Lipi Saha	09/24/2019 13:47	Lipi Saha	2121247
	09/20/2019	09/23/2019 14:45	Lipi Saha	09/24/2019 13:48	Lipi Saha	2121248

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0	09/20/2019	09/23/2019 14:45	Lipi Saha	09/24/2019 13:49	Lipi Saha	2121249
	09/20/2019	09/25/2019 14:00	Lipi Saha	09/26/2019 11:20	Lipi Saha	2121266
	09/20/2019	09/25/2019 14:00	Lipi Saha	09/26/2019 11:28	Lipi Saha	2121267
	09/20/2019	09/25/2019 14:00	Lipi Saha	09/26/2019 11:29	Lipi Saha	2121268
	09/20/2019	09/25/2019 14:00	Lipi Saha	09/26/2019 11:30	Lipi Saha	2121269
EPA 365.1 Rev. 2.0 dissolved	09/20/2019			09/20/2019 17:32	Jhamieka S. Greenwood	2121252
	09/20/2019			09/20/2019 17:52	Jhamieka S. Greenwood	2121250
	09/20/2019			09/20/2019 17:54	Jhamieka S. Greenwood	2121251
	09/20/2019			09/20/2019 17:59	Jhamieka S. Greenwood	2121253
	09/20/2019			09/20/2019 18:07	Jhamieka S. Greenwood	2121270
	09/20/2019			09/20/2019 18:08	Jhamieka S. Greenwood	2121271, 2121272
	09/20/2019			09/20/2019 18:09	Jhamieka S. Greenwood	2121273
	09/20/2019			09/20/2019 18:10	Jhamieka S. Greenwood	2121274
	09/20/2019			09/20/2019 18:11	Jhamieka S. Greenwood	2121275
	09/20/2019			09/20/2019 18:12	Jhamieka S. Greenwood	2121276
SM 2320 B-97	09/20/2019			09/20/2019 18:17	Jhamieka S. Greenwood	2121277
	09/20/2019			09/27/2019 02:58	Dale L. Simmons	2121240
	09/20/2019			09/27/2019 04:47	Dale L. Simmons	2121238
	09/20/2019			09/27/2019 04:59	Dale L. Simmons	2121239
SM 4500 F-C-97	09/20/2019			09/28/2019 10:37	Dale L. Simmons	2121241
	09/20/2019			09/27/2019 00:25	Dale L. Simmons	2121240
	09/20/2019			09/27/2019 01:45	Dale L. Simmons	2121238
	09/20/2019			09/27/2019 01:49	Dale L. Simmons	2121239
SM 5310 B-00	09/20/2019			09/28/2019 10:37	Dale L. Simmons	2121241
	09/20/2019			09/24/2019 09:30	Madeline Funaro	2121246
	09/20/2019			09/24/2019 09:44	Madeline Funaro	2121247
	09/20/2019			09/24/2019 10:11	Madeline Funaro	2121248
	09/20/2019			09/24/2019 18:55	Madeline Funaro	2121249
	09/20/2019			09/24/2019 21:24	Madeline Funaro	2121262
	09/20/2019			09/24/2019 21:36	Madeline Funaro	2121263
	09/20/2019			09/24/2019 21:48	Madeline Funaro	2121264
	09/20/2019			09/24/2019 22:00	Madeline Funaro	2121265
	09/20/2019			09/24/2019 23:56	Madeline Funaro	2121266
SM 5310 B-00 dissolved	09/20/2019			09/25/2019 00:08	Madeline Funaro	2121267
	09/20/2019			09/25/2019 00:20	Madeline Funaro	2121268
	09/20/2019			09/25/2019 00:35	Madeline Funaro	2121269
	09/20/2019			09/24/2019 08:21	Madeline Funaro	2121242
	09/20/2019			09/24/2019 09:02	Madeline Funaro	2121243
	09/20/2019			09/24/2019 09:16	Madeline Funaro	2121244
	09/20/2019			09/24/2019 18:41	Madeline Funaro	2121245

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00 dissolved	09/20/2019			09/24/2019 19:08	Madeline Funaro	2121254
	09/20/2019			09/24/2019 19:24	Madeline Funaro	2121255
	09/20/2019			09/24/2019 19:36	Madeline Funaro	2121256
	09/20/2019			09/24/2019 19:48	Madeline Funaro	2121257
	09/20/2019			09/24/2019 20:02	Madeline Funaro	2121258
	09/20/2019			09/24/2019 20:17	Madeline Funaro	2121259
	09/20/2019			09/24/2019 20:55	Madeline Funaro	2121260
	09/20/2019			09/24/2019 21:12	Madeline Funaro	2121261