Chemical Analysis Report

SO-DIST-2019-04-25-02

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-2019-04-08-04**
Customer: **SO-DIST**
Project ID: **BMAP**

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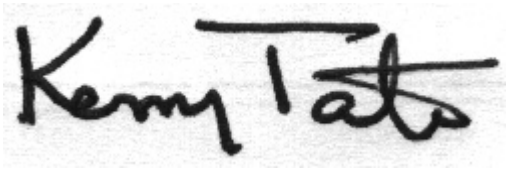
Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 13-MAY-2019 12:18



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: 04/24/2019 09:30**

Field ID: G3SD0108 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2080821	SM 2320 B-97	Total Alkalinity	124		mg CaCO3/L	P363248	
	SM 4500 F-C-97	Fluoride	0.92		mg F/L	P363251	
2080825	SM 5310 B-00 dissolved	Organic Carbon	6.7		mg C/L	P363085	
2080829	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P363042	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P362999	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P363157	
	EPA 365.1 Rev. 2.0	Total-P	0.052		mg P/L	P363057	
	SM 5310 B-00	Organic Carbon	6.9		mg C/L	P363085	
2080833	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.035		mg P/L	P362873	
2080890	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P363173	
		Zinc	15	U	ug/L	P363173	
	EPA 200.8 Rev. 5.4	Arsenic	2.62		ug/L	P363173	
		Cadmium	0.080	U	ug/L	P363173	
		Chromium	4.0	U	ug/L	P363173	
		Copper	1.6	U	ug/L	P363173	
		Lead	0.80	U	ug/L	P363173	
		Nickel	2.0	U	ug/L	P363173	
		Silver	0.040	U	ug/L	P363173	

Sample Location: USGS Station-ShellPoint **Collection Date/Time: 04/24/2019 09:50**

Field ID: G3SD0109 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2080822	SM 2320 B-97	Total Alkalinity	125		mg CaCO3/L	P363248	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P363251	
2080826	SM 5310 B-00 dissolved	Organic Carbon	4.6		mg C/L	P363085	
2080830	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P363042	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37	I	mg N/L	P362999	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P363157	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P363057	
	SM 5310 B-00	Organic Carbon	4.7		mg C/L	P363085	
2080834	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.022		mg P/L	P362873	
2080891	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P363173	
		Zinc	20	U	ug/L	P363173	
	EPA 200.8 Rev. 5.4	Arsenic	2.52		ug/L	P363173	
		Cadmium	0.080	U	ug/L	P363173	
		Chromium	4.0	U	ug/L	P363173	
		Copper	1.6	U	ug/L	P363173	
		Lead	2.0	U	ug/L	P363173	
		Nickel	2.0	U	ug/L	P363173	
		Silver	0.040	U	ug/L	P363173	

Sample Location: Marker # 76 **Collection Date/Time: 04/24/2019 10:25**

Field ID: G3SD0110 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2080823	SM 2320 B-97	Total Alkalinity	124		mg CaCO3/L	P363248	
	SM 4500 F-C-97	Fluoride	0.61		mg F/L	P363251	
2080827	SM 5310 B-00 dissolved	Organic Carbon	10		mg C/L	P363085	
2080831	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P363042	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.68		mg N/L	P362999	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P363157	
	EPA 365.1 Rev. 2.0	Total-P	0.083		mg P/L	P363057	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P363085	
2080835	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.062		mg P/L	P362873	
2080892	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P363173	
		Zinc	15	U	ug/L	P363173	
	EPA 200.8 Rev. 5.4	Arsenic	2.47		ug/L	P363173	
		Cadmium	0.080	U	ug/L	P363173	
		Chromium	4.0	U	ug/L	P363173	
		Copper	1.6	U	ug/L	P363173	
		Lead	0.80	U	ug/L	P363173	
		Nickel	2.0	U	ug/L	P363173	
		Silver	0.040	U	ug/L	P363173	

Sample Location: Marker # 52 **Collection Date/Time: 04/24/2019 11:20**

Field ID: G3SD0111 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2080824	SM 2320 B-97	Total Alkalinity	129		mg CaCO3/L	P363359	
	SM 4500 F-C-97	Fluoride	0.34		mg F/L	P363554	
2080828	SM 5310 B-00 dissolved	Organic Carbon	13		mg C/L	P362985	
2080832	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P363042	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.88		mg N/L	P362999	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P363157	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P363057	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P362985	
2080836	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.072		mg P/L	P362873	
2080893	EPA 200.7 Rev. 4.4	Iron	50	I	ug/L	P362970	
		Zinc	5.0	U	ug/L	P362970	
	EPA 200.8 Rev. 5.4	Arsenic	1.97		ug/L	P362970	
		Cadmium	0.060	U	ug/L	P362970	
		Chromium	1.2	U	ug/L	P362970	
		Copper	1.5	I	ug/L	P362970	
		Lead	0.60	U	ug/L	P362970	
		Nickel	1.5	U	ug/L	P362970	
		Silver	0.030	U	ug/L	P362970	

Ref. Method and Comment:
EPA 200.8 Rev. 5.4: The sample required dilution due to matrix interference.

Sample Location: US 41, Marker # 38 **Collection Date/Time: 04/24/2019 11:45**

Field ID: G3SD0112 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2080837	SM 5310 B-00 dissolved	Organic Carbon	13		mg C/L	P362985	
2080853	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P363042	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.97		mg N/L	P362999	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P363157	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P363057	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P362985	
2080861	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.074		mg P/L	P362873	
2080894	EPA 200.7 Rev. 4.4	Iron	83	I	ug/L	P362970	
		Zinc	5.0	U	ug/L	P362970	
	EPA 200.8 Rev. 5.4	Arsenic	1.90		ug/L	P362970	
		Cadmium	0.020	U	ug/L	P362970	
		Chromium	0.40	U	ug/L	P362970	
		Copper	1.21		ug/L	P362970	
		Lead	0.20	U	ug/L	P362970	
		Nickel	0.50	U	ug/L	P362970	
		Silver	0.010	U	ug/L	P362970	

Sample Location: Marker # 28 **Collection Date/Time: 04/24/2019 11:55**

Field ID: G3SD0113 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2080838	SM 5310 B-00 dissolved	Organic Carbon	13		mg C/L	P362985	
2080854	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P363040	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P363096	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.043		mg N/L	P363306	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P363058	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P362985	
2080862	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.084		mg P/L	P362868	
2080895	EPA 200.7 Rev. 4.4	Iron	93	I	ug/L	P362970	
		Zinc	5.0	U	ug/L	P362970	
	EPA 200.8 Rev. 5.4	Arsenic	1.84		ug/L	P362970	
		Cadmium	0.020	U	ug/L	P362970	
		Chromium	0.40	U	ug/L	P362970	
		Copper	1.09		ug/L	P362970	
		Lead	0.20	U	ug/L	P362970	
		Nickel	0.50	U	ug/L	P362970	
		Silver	0.010	U	ug/L	P362970	

Sample Location: Marker # 22 **Collection Date/Time: 04/24/2019 12:05**

Field ID: G3SD0114 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2080839	SM 5310 B-00 dissolved	Organic Carbon	13		mg C/L	P362985	
2080855	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P363040	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P363096	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.067		mg N/L	P363008	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P363059	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P362985	
2080863	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.086		mg P/L	P362868	
2080896	EPA 200.7 Rev. 4.4	Iron	100	I	ug/L	P362970	
		Zinc	5.0	U	ug/L	P362970	
	EPA 200.8 Rev. 5.4	Arsenic	1.81		ug/L	P362970	
		Cadmium	0.020	U	ug/L	P362970	
		Chromium	0.40	U	ug/L	P362970	
		Copper	1.03		ug/L	P362970	
		Lead	0.20	U	ug/L	P362970	
		Nickel	0.50	U	ug/L	P362970	
		Silver	0.010	U	ug/L	P362970	

Sample Location: Old Swing Bridge **Collection Date/Time: 04/24/2019 12:15**

Field ID: G3SD0115 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2080840	SM 5310 B-00 dissolved	Organic Carbon	14		mg C/L	P362985	
2080856	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P363040	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P363097	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.029		mg N/L	P363009	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P363059	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P362985	
2080864	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.077		mg P/L	P362868	
2080897	EPA 200.7 Rev. 4.4	Iron	120	I	ug/L	P362970	
		Zinc	5.0	U	ug/L	P362970	
	EPA 200.8 Rev. 5.4	Arsenic	1.81		ug/L	P362970	
		Cadmium	0.020	U	ug/L	P362970	
		Chromium	0.40	U	ug/L	P362970	
		Copper	1.02		ug/L	P362970	
		Lead	0.20	U	ug/L	P362970	
		Nickel	0.50	U	ug/L	P362970	
		Silver	0.010	U	ug/L	P362970	

Sample Location: MidChannel@OrangeRiver **Collection Date/Time: 04/24/2019 12:25**

Field ID: G3SD0116 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2080841	SM 5310 B-00 dissolved	Organic Carbon	13		mg C/L	P362985	
2080857	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P363135	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P363097	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.041		mg N/L	P363009	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P363059	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P362985	
2080865	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.073		mg P/L	P362868	
2080898	EPA 200.7 Rev. 4.4	Iron	89	I	ug/L	P362970	
		Zinc	5.0	U	ug/L	P362970	
	EPA 200.8 Rev. 5.4	Arsenic	1.78		ug/L	P362970	
		Cadmium	0.020	U	ug/L	P362970	
		Chromium	0.40	U	ug/L	P362970	
		Copper	1.0		ug/L	P362970	
		Lead	0.20	U	ug/L	P362970	
		Nickel	0.50	U	ug/L	P362970	
		Silver	0.010	U	ug/L	P362970	

Sample Location: Upstream of Power Plant **Collection Date/Time: 04/24/2019 12:35**

Field ID: G3SD0117 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2080842	SM 5310 B-00 dissolved	Organic Carbon	14		mg C/L	P362985	
2080858	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P363135	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P363097	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P363009	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P363059	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P362985	
2080866	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.078		mg P/L	P362870	
2080899	EPA 200.7 Rev. 4.4	Iron	270		ug/L	P362970	
		Zinc	5.0	U	ug/L	P362970	
	EPA 200.8 Rev. 5.4	Arsenic	1.78		ug/L	P362970	
		Cadmium	0.021	I	ug/L	P362970	
		Chromium	0.54	I	ug/L	P362970	
		Copper	1.14		ug/L	P362970	
		Lead	0.20	U	ug/L	P362970	
		Nickel	0.51	I	ug/L	P362970	
		Silver	0.010	U	ug/L	P362970	

Sample Location: Mid Channel off Oxbow **Collection Date/Time: 04/24/2019 13:40**

Field ID: G3SD0118 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2080843	SM 5310 B-00 dissolved	Organic Carbon	14		mg C/L	P362985	
2080859	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P363135	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P363097	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P363009	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P363059	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P362985	
2080867	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.094		mg P/L	P362870	
2080900	EPA 200.7 Rev. 4.4	Iron	110	I	ug/L	P362970	
		Zinc	5.0	U	ug/L	P362970	
	EPA 200.8 Rev. 5.4	Arsenic	1.71		ug/L	P362970	
		Cadmium	0.020	U	ug/L	P362970	
		Chromium	0.40	U	ug/L	P362970	
		Copper	0.84		ug/L	P362970	
		Lead	0.20	U	ug/L	P362970	
		Nickel	0.50	U	ug/L	P362970	
		Silver	0.010	U	ug/L	P362970	

Sample Location: Mid channel off point **Collection Date/Time: 04/24/2019 13:55**

Field ID: G3SD0119 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2080844	SM 5310 B-00 dissolved	Organic Carbon	14		mg C/L	P362985	
2080860	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P363135	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P363097	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P363009	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P363059	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P362985	
2080868	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.097		mg P/L	P362870	
2080901	EPA 200.7 Rev. 4.4	Iron	110	I	ug/L	P362970	
		Zinc	5.0	U	ug/L	P362970	
	EPA 200.8 Rev. 5.4	Arsenic	1.69		ug/L	P362970	
		Cadmium	0.020	U	ug/L	P362970	
		Chromium	0.40	U	ug/L	P362970	
		Copper	0.82		ug/L	P362970	
		Lead	0.20	U	ug/L	P362970	
		Nickel	0.50	U	ug/L	P362970	
		Silver	0.010	U	ug/L	P362970	

Quality Assurance Report
Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P362970

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P363173

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: P362970

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: P363173

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 350.1 Rev. 2.0
Batch ID: P363040

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363042

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363135

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362999

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363096

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363097

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363008

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363009

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363157

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363306

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363057

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363058

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
Batch ID: P363059

Component	Result	Code	Units
Total-P	0.005	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362868

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362870

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362873

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

Reference Method: SM 2320 B-97
Batch ID: P363248

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

Reference Method: SM 2320 B-97
Batch ID: P363359

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

Reference Method: SM 4500 F-C-97
Batch ID: P363251

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P363554

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P362985

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P363085

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P362985

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P363085

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: P362970

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	109		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P363173

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	103		P	85 - 115
Zinc	99.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P362970

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	99.9		P	85 - 115
Cadmium	99.5		P	85 - 115
Chromium	92.0		P	85 - 115
Copper	100		P	85 - 115
Lead	92.1		P	85 - 115
Nickel	98.7		P	85 - 115
Silver	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P363173

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	97.0		P	70 - 130
Cadmium	103		P	85 - 115
Chromium	97.3		P	70 - 130
Copper	95.2		P	70 - 130
Lead	97.2		P	70 - 130
Nickel	96.2		P	70 - 130
Silver	92.7		P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363040

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363042

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363135

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362999

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363096

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363097

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363008

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: P363009

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363157

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363306

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363057

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363058

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363059

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362868

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362870

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.7		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362873

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.3		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P363248

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

Reference Method: SM 2320 B-97
Batch ID: P363359

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

Reference Method: SM 4500 F-C-97
Batch ID: P363251

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P363554

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P362985

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.6		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P363085

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P362985

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.6		P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P363085

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P362970

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080969	Iron	105	104	P/P	80 - 120
2080969	Zinc	101	99.2	P/P	80 - 120
2081162	Iron	101		P	80 - 120
2081162	Zinc	107		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P363173

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080892	Iron	103	103	P/P	80 - 120
2080892	Zinc	99.5	100	P/P	80 - 120
2081091	Iron	101		P	80 - 120
2081091	Zinc	100		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P362970

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080969	Arsenic	100	100	P/P	80 - 120
2080969	Cadmium	100	100	P/P	80 - 120
2080969	Chromium	88.6	87.3	P/P	80 - 120
2080969	Copper	95.5	95.4	P/P	80 - 120
2080969	Lead	93.1	92.9	P/P	80 - 120
2080969	Nickel	91.8	90.8	P/P	80 - 120
2080969	Silver	102	101	P/P	80 - 120
2081162	Arsenic	102		P	80 - 120
2081162	Cadmium	101		P	80 - 120
2081162	Chromium	83.3		P	80 - 120
2081162	Copper	97.7		P	80 - 120
2081162	Lead	95.4		P	80 - 120
2081162	Nickel	89.4		P	80 - 120
2081162	Silver	100		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P363173

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080892	Arsenic	109	104	P/P	70 - 130
2080892	Cadmium	99.2	97.6	P/P	70 - 130
2080892	Chromium	96.3	101	P/P	70 - 130
2080892	Copper	98.5	92.9	P/P	70 - 130
2080892	Lead	102	96.1	P/P	70 - 130
2080892	Nickel	98.0	93.5	P/P	70 - 130
2080892	Silver	90.4	84.6	P/P	70 - 130
2081091	Arsenic	102		P	70 - 130
2081091	Cadmium	103		P	70 - 130
2081091	Chromium	98.5		P	70 - 130
2081091	Copper	92.4		P	70 - 130
2081091	Lead	98.4		P	70 - 130
2081091	Nickel	92.1		P	70 - 130
2081091	Silver	87.5		P	70 - 130

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080797	Ammonia-N	103	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363042

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080832	Ammonia-N	107	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080978	Ammonia-N	98.5	96.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362999

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080748	Kjeldahl Nitrogen	102	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363096

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080612	Kjeldahl Nitrogen	105	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363097

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080857	Kjeldahl Nitrogen	105	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363008

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080460	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363009

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080856	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363157

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080748	NO2NO3-N	104	103	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080180	NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363057

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080830	Total-P	91.5	94.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363058

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080797	Total-P	104	98.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080856	Total-P	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080800	O-Phosphate-P	96.4	97.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362870

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080889	O-Phosphate-P	97.1	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080759	O-Phosphate-P	97.6	98.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P363251

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2081066	Fluoride	97.2	97.2	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P363554

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080442	Fluoride	97.0	97.7	P/P	89 - 106

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P362985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080802	Organic Carbon	100	101	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P363085

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2081342	Organic Carbon	99.5	98.9	P/P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P362985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2080802	Organic Carbon	100	101	P/P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P363085

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2081342	Organic Carbon	99.5	98.9	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P362970

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080969	Iron	0.718	Spike	P	0 - 20
2080969	Zinc	1.93	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P363173

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080892	Iron	0.0690	Spike	P	0 - 20
2080892	Zinc	0.872	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P362970

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080969	Arsenic	0.432	Spike	P	0 - 20
2080969	Cadmium	0.201	Spike	P	0 - 20
2080969	Chromium	1.39	Spike	P	0 - 20
2080969	Copper	0.0636	Spike	P	0 - 20
2080969	Lead	0.247	Spike	P	0 - 20
2080969	Nickel	1.10	Spike	P	0 - 20
2080969	Silver	1.01	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P363173

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080892	Arsenic	4.62	Spike	P	0 - 20
2080892	Cadmium	1.58	Spike	P	0 - 20
2080892	Chromium	4.80	Spike	P	0 - 20
2080892	Copper	5.87	Spike	P	0 - 20
2080892	Lead	5.67	Spike	P	0 - 20
2080892	Nickel	4.71	Spike	P	0 - 20
2080892	Silver	6.68	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080797	Ammonia-N	0.238	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363042

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080832	Ammonia-N	5.66	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363135

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080978	Ammonia-N	1.45	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362999

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080748	Kjeldahl Nitrogen	2.58	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363096

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080612	Kjeldahl Nitrogen	2.02	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363097

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080857	Kjeldahl Nitrogen	2.14	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363008

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080460	NO2NO3-N	0.494	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363009

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080856	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363157

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080748	NO2NO3-N	0.909	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080180	NO2NO3-N	0.562	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080830	Total-P	3.13	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080797	Total-P	4.28	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080856	Total-P	0.875	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080800	O-Phosphate-P	0.918	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362870

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080889	O-Phosphate-P	1.53	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080759	O-Phosphate-P	0.409	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P363248

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2081066	Total Alkalinity	0.908	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P363359

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080442	Total Alkalinity	2.11	Sample	P	0 - 2.8

Quality Assurance Report
Precision

Reference Method: SM 4500 F-C-97
Batch ID: P363251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2081066	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P363554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080442	Fluoride	0.513	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P362985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080802	Organic Carbon	0.769	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P363085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2081342	Organic Carbon	0.541	Spike	P	0 - 20

Reference Method: SM 5310 B-00 dissolved
Batch ID: P362985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2080802	Organic Carbon	0.769	Spike	P	0 - 20

Reference Method: SM 5310 B-00 dissolved
Batch ID: P363085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2081342	Organic Carbon	0.541	Spike	P	0 - 20

* 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: A91004
Included Lab Sample IDs: 2080833, 2080834, 2080835, 2080836, 2080861, 2080862, 2080863, 2080864, 2080865, 2080866, 2080867, 2080868

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	95.7	95.1	P/P	90 - 110
O-Phosphate-P	96.6	95.7	P/P	90 - 110
O-Phosphate-P	97.1	97.5	P/P	90 - 110
O-Phosphate-P	97.2	97.1	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A91057
Included Lab Sample IDs: 2080832, 2080853, 2080854, 2080855, 2080856, 2080857, 2080858, 2080859, 2080860

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

Reference Method: SM 5310 B-00 dissolved
Run ID: A91057
Included Lab Sample IDs: 2080828, 2080837, 2080838, 2080839, 2080840, 2080841, 2080842, 2080843, 2080844

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A91059
Included Lab Sample IDs: 2080855, 2080856, 2080857, 2080858, 2080859, 2080860

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.0	P/P	90 - 110
NO2NO3-N	102	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A91072
Included Lab Sample IDs: 2080829, 2080830, 2080831, 2080832, 2080853, 2080854, 2080855, 2080856

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	104	P/P	90 - 110
Ammonia-N	105	104	P/P	90 - 110
Ammonia-N	105	105	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A91089
Included Lab Sample IDs: 2080829, 2080830, 2080831

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

Reference Method: SM 5310 B-00 dissolved
Run ID: A91089
Included Lab Sample IDs: 2080825, 2080826, 2080827

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: SM 5310 B-00 dissolved
Run ID: A91089
Included Lab Sample IDs: 2080825, 2080826, 2080827

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	103	100	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A91099
Included Lab Sample IDs: 2080893, 2080894, 2080895, 2080896, 2080897, 2080898, 2080899, 2080900, 2080901

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	101	104	P/P	95 - 105
Iron	104	106	P/P	90 - 110
Zinc	104	106	P/P	90 - 110
Zinc	104	104	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A91100
Included Lab Sample IDs: 2080832, 2080853, 2080854, 2080855, 2080856, 2080857, 2080858, 2080859, 2080860

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	104	P/P	90 - 110
Total-P	102	101	P/P	90 - 110
Total-P	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A91103
Included Lab Sample IDs: 2080829, 2080830, 2080831

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A91112
Included Lab Sample IDs: 2080857, 2080858, 2080859, 2080860

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A91123
Included Lab Sample IDs: 2080829, 2080830, 2080831, 2080832, 2080853

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A91153
Included Lab Sample IDs: 2080829, 2080830, 2080831, 2080832, 2080853

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.8	98.3	P/P	90 - 110
Kjeldahl Nitrogen	98.3	99.2	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A91158
Included Lab Sample IDs: 2080821, 2080822, 2080823

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.9	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A91158
Included Lab Sample IDs: 2080821, 2080822, 2080823

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A91169
Included Lab Sample IDs: 2080890, 2080891, 2080892

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	101	100	P/P	90 - 110
Iron	102	101	P/P	95 - 105
Zinc	100	99.0	P/P	95 - 105
Zinc	99.0	99.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A91184
Included Lab Sample IDs: 2080854

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	100	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A91204
Included Lab Sample IDs: 2080824

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A91214
Included Lab Sample IDs: 2080854, 2080855, 2080856, 2080857, 2080858, 2080859, 2080860

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	101	P/P	90 - 110
Kjeldahl Nitrogen	95.9	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A91215
Included Lab Sample IDs: 2080893, 2080894, 2080895, 2080896, 2080897, 2080898, 2080899, 2080900, 2080901

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	100	102	P/P	90 - 110
Arsenic	102	100	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Cadmium	102	104	P/P	90 - 110
Chromium	98.4	99.6	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A91215
Included Lab Sample IDs: 2080893, 2080894, 2080895, 2080896, 2080897, 2080898, 2080899, 2080900, 2080901

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	99.5	98.4	P/P	90 - 110
Lead	96.6	97.6	P/P	90 - 110
Lead	97.6	98.2	P/P	90 - 110
Nickel	97.4	98.2	P/P	90 - 110
Nickel	98.9	97.4	P/P	90 - 110
Silver	103	103	P/P	90 - 110
Silver	103	105	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A91266
Included Lab Sample IDs: 2080824

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	97.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A91284
Included Lab Sample IDs: 2080890, 2080891, 2080892

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	92.6	92.2	P/P	90 - 110
Arsenic	94.0	92.6	P/P	90 - 110
Chromium	95.4	95.4	P/P	90 - 110
Chromium	96.3	95.4	P/P	90 - 110
Copper	91.6	90.7	P/P	90 - 110
Copper	93.4	91.6	P/P	90 - 110
Lead	94.0	93.9	P/P	90 - 110
Lead	94.9	94.6	P/P	90 - 110
Lead	94.9	94.0	P/P	90 - 110
Nickel	91.9	90.5	P/P	90 - 110
Nickel	92.8	91.9	P/P	90 - 110
Silver	92.7	92.4	P/P	90 - 110
Silver	92.8	92.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A91286
Included Lab Sample IDs: 2080890, 2080891, 2080892

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A91334
Included Lab Sample IDs: 2080893, 2080894, 2080895, 2080896, 2080897, 2080898, 2080899, 2080900, 2080901

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	100	98.9	P/P	90 - 110
Copper	98.9	99.3	P/P	90 - 110

Quality Assurance Report
Calibration Verification

* 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	Iron	109	105	104	101			0.718
	Iron	103	103	103	101			0.0690
	Zinc	105	101	99.2	107			1.93
	Zinc	99.3	99.5	100	100			0.872
EPA 200.8 Rev. 5.4	Arsenic	99.9	100	100	102			0.432
	Arsenic	97.0	109	104	102			4.62
	Cadmium	99.5	100	100	101			0.201
	Cadmium	103	99.2	97.6	103			1.58
	Chromium	92.0	88.6	87.3	83.3			1.39
	Chromium	97.3	96.3	101	98.5			4.80
	Copper	100	95.5	95.4	97.7			0.0636
	Copper	95.2	98.5	92.9	92.4			5.87
	Lead	92.1	93.1	92.9	95.4			0.247
	Lead	97.2	102	96.1	98.4			5.67
	Nickel	98.7	91.8	90.8	89.4			1.10
	Nickel	96.2	98.0	93.5	92.1			4.71
	Silver	104	102	101	100			1.01
	Silver	92.7	90.4	84.6	87.5			6.68
EPA 350.1 Rev. 2.0	Ammonia-N	104	103	102				0.238
	Ammonia-N	106	107	100				5.66
	Ammonia-N	103	98.5	96.9				1.45
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.2	102	106				2.58
	Kjeldahl Nitrogen	101	105	102				2.02
	Kjeldahl Nitrogen	102	105	101				2.14
EPA 353.2 Rev. 2.0	NO2NO3-N	100	102	101				0.494
	NO2NO3-N	101	100	100				0.0
	NO2NO3-N	102	104	103				0.909
	NO2NO3-N	101	100	99.5				0.562
EPA 365.1 Rev. 2.0	Total-P	109	91.5	94.6				3.13
	Total-P	100	104	98.7				4.28
	Total-P	100	103	102				0.875
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.9	96.4	97.7				0.918
	O-Phosphate-P	97.7	97.1	98.6				1.53
	O-Phosphate-P	99.3	97.6	98.0				0.409
SM 2320 B-97	Total Alkalinity	102					0.908	
	Total Alkalinity	101					2.11	
SM 4500 F-C-97	Fluoride	98.2	97.2	97.2				0.0
	Fluoride	96.5	97.0	97.7				0.513
SM 5310 B-00	Organic Carbon	98.6	100	101				0.769
	Organic Carbon	102	99.5	98.9				0.541
SM 5310 B-00 dissolved	Organic Carbon	98.6	100	101				0.769
	Organic Carbon	102	99.5	98.9				0.541

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	2080890, 2080891, 2080892, 2080893, 2080894, 2080895, 2080896, 2080897, 2080898, 2080899, 2080900, 2080901
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2080890, 2080891, 2080892, 2080893, 2080894, 2080895, 2080896, 2080897, 2080898, 2080899, 2080900, 2080901

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2080829, 2080830, 2080831, 2080832, 2080853, 2080854, 2080855, 2080856, 2080857, 2080858, 2080859, 2080860
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2080829, 2080830, 2080831, 2080832, 2080853, 2080854, 2080855, 2080856, 2080857, 2080858, 2080859, 2080860
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2080829, 2080830, 2080831, 2080832, 2080853, 2080854, 2080855, 2080856, 2080857, 2080858, 2080859, 2080860
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2080829, 2080830, 2080831, 2080832, 2080853, 2080854, 2080855, 2080856, 2080857, 2080858, 2080859, 2080860
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2080833, 2080834, 2080835, 2080836, 2080861, 2080862, 2080863, 2080864, 2080865, 2080866, 2080867, 2080868
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2080821, 2080822, 2080823, 2080824
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2080821, 2080822, 2080823, 2080824
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2080829, 2080830, 2080831, 2080832, 2080853, 2080854, 2080855, 2080856, 2080857, 2080858, 2080859, 2080860
SM 5310 B-00 dissolved / E31780	Dissolved Nonpurgeable Organic Carbon in filtered, aqueous matrices	2080825, 2080826, 2080827, 2080828, 2080837, 2080838, 2080839, 2080840, 2080841, 2080842, 2080843, 2080844

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	04/25/2019	04/29/2019 13:15	Alexander Thompson	04/30/2019 12:15	Betina Topolski	2080893
	04/25/2019	04/29/2019 13:15	Alexander Thompson	04/30/2019 12:25	Betina Topolski	2080894
	04/25/2019	04/29/2019 13:15	Alexander Thompson	04/30/2019 12:35	Betina Topolski	2080895
	04/25/2019	04/29/2019 13:15	Alexander Thompson	04/30/2019 12:45	Betina Topolski	2080896
	04/25/2019	04/29/2019 13:15	Alexander Thompson	04/30/2019 12:48	Betina Topolski	2080897
	04/25/2019	04/29/2019 13:15	Alexander Thompson	04/30/2019 12:52	Betina Topolski	2080898
	04/25/2019	04/29/2019 13:15	Alexander Thompson	04/30/2019 13:15	Betina Topolski	2080899
	04/25/2019	04/29/2019 13:15	Alexander Thompson	04/30/2019 13:17	Betina Topolski	2080900
	04/25/2019	04/29/2019 13:15	Alexander Thompson	04/30/2019 13:20	Betina Topolski	2080901
	04/25/2019	05/01/2019 16:30	Elliott D. Healy	05/02/2019 13:37	Betina Topolski	2080890
	04/25/2019	05/01/2019 16:30	Elliott D. Healy	05/02/2019 13:42	Betina Topolski	2080891
	04/25/2019	05/01/2019 16:30	Elliott D. Healy	05/02/2019 14:11	Betina Topolski	2080892
EPA 200.8 Rev. 5.4	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/02/2019 19:47	Robert K Palmer	2080893
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/02/2019 19:57	Robert K Palmer	2080894
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/02/2019 20:06	Robert K Palmer	2080895
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/02/2019 20:16	Robert K Palmer	2080896
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/02/2019 20:26	Robert K Palmer	2080897
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/02/2019 20:36	Robert K Palmer	2080898
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/02/2019 20:45	Robert K Palmer	2080899
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/02/2019 21:25	Robert K Palmer	2080900
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/02/2019 21:34	Robert K Palmer	2080901
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/09/2019 17:50	Robert K Palmer	2080893
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/09/2019 17:58	Robert K Palmer	2080894
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/09/2019 18:05	Robert K Palmer	2080895
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/09/2019 18:13	Robert K Palmer	2080896
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/09/2019 18:20	Robert K Palmer	2080897
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/09/2019 18:28	Robert K Palmer	2080898
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/09/2019 18:35	Robert K Palmer	2080899
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/09/2019 18:58	Robert K Palmer	2080900
	04/25/2019	04/29/2019 13:15	Alexander Thompson	05/09/2019 19:06	Robert K Palmer	2080901
	04/25/2019	05/01/2019 16:30	Elliott D. Healy	05/08/2019 02:51	Martin Acosta	2080890
	04/25/2019	05/01/2019 16:30	Elliott D. Healy	05/08/2019 03:29	Martin Acosta	2080891
	04/25/2019	05/01/2019 16:30	Elliott D. Healy	05/08/2019 03:38	Martin Acosta	2080892
	04/25/2019	05/01/2019 16:30	Elliott D. Healy	05/08/2019 07:14	Robert K Palmer	2080890
	04/25/2019	05/01/2019 16:30	Elliott D. Healy	05/08/2019 07:24	Robert K Palmer	2080891
	04/25/2019	05/01/2019 16:30	Elliott D. Healy	05/08/2019 07:34	Robert K Palmer	2080892
	04/25/2019	05/01/2019 16:30	Elliott D. Healy	05/08/2019 07:55	Martin Acosta	2080890
	04/25/2019	05/01/2019 16:30	Elliott D. Healy	05/08/2019 08:05	Martin Acosta	2080891
	04/25/2019	05/01/2019 16:30	Elliott D. Healy	05/08/2019 08:52	Martin Acosta	2080892
EPA 350.1 Rev. 2.0	04/25/2019			04/29/2019 12:14	Ping Hua	2080854

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	04/25/2019			04/29/2019 12:16	Ping Hua	2080855
	04/25/2019			04/29/2019 12:17	Ping Hua	2080856
	04/25/2019			04/29/2019 12:56	Ping Hua	2080832
	04/25/2019			04/29/2019 13:01	Ping Hua	2080830
	04/25/2019			04/29/2019 13:02	Ping Hua	2080831
	04/25/2019			04/29/2019 13:04	Ping Hua	2080829
	04/25/2019			04/29/2019 13:11	Ping Hua	2080853
	04/25/2019			04/30/2019 12:20	Ping Hua	2080857
	04/25/2019			04/30/2019 12:27	Ping Hua	2080858
	04/25/2019			04/30/2019 12:29	Ping Hua	2080859
	04/25/2019			04/30/2019 12:30	Ping Hua	2080860
EPA 351.2 Rev. 2.0	04/25/2019	04/29/2019 17:00	Adrian Shelby	05/02/2019 09:34	Joseph Suarez	2080829
	04/25/2019	04/29/2019 17:00	Adrian Shelby	05/02/2019 09:39	Joseph Suarez	2080830
	04/25/2019	04/29/2019 17:00	Adrian Shelby	05/02/2019 09:41	Joseph Suarez	2080831
	04/25/2019	04/29/2019 17:00	Adrian Shelby	05/02/2019 09:42	Joseph Suarez	2080832
	04/25/2019	04/29/2019 17:00	Adrian Shelby	05/02/2019 09:44	Joseph Suarez	2080853
	04/25/2019	04/30/2019 12:15	Adrian Shelby	05/06/2019 09:40	Joseph Suarez	2080854
	04/25/2019	04/30/2019 12:15	Adrian Shelby	05/06/2019 09:41	Joseph Suarez	2080855
	04/25/2019	04/30/2019 12:15	Adrian Shelby	05/06/2019 09:49	Joseph Suarez	2080856
	04/25/2019	04/30/2019 12:15	Adrian Shelby	05/06/2019 09:51	Joseph Suarez	2080857
	04/25/2019	04/30/2019 12:15	Adrian Shelby	05/06/2019 09:55	Joseph Suarez	2080858
	04/25/2019	04/30/2019 12:15	Adrian Shelby	05/06/2019 09:57	Joseph Suarez	2080859
	04/25/2019	04/30/2019 12:15	Adrian Shelby	05/06/2019 09:58	Joseph Suarez	2080860
EPA 353.2 Rev. 2.0	04/25/2019			04/29/2019 10:41	Beverly Y. Sanders	2080855
	04/25/2019			04/29/2019 10:49	Beverly Y. Sanders	2080856
	04/25/2019			04/29/2019 10:54	Beverly Y. Sanders	2080857
	04/25/2019			04/29/2019 10:56	Beverly Y. Sanders	2080858
	04/25/2019			04/29/2019 10:57	Beverly Y. Sanders	2080859
	04/25/2019			04/29/2019 10:58	Beverly Y. Sanders	2080860
	04/25/2019			05/01/2019 10:32	Beverly Y. Sanders	2080829
	04/25/2019			05/01/2019 10:33	Beverly Y. Sanders	2080830
	04/25/2019			05/01/2019 10:35	Beverly Y. Sanders	2080831
	04/25/2019			05/01/2019 10:36	Beverly Y. Sanders	2080832
	04/25/2019			05/01/2019 10:37	Beverly Y. Sanders	2080853
	04/25/2019			05/03/2019 09:02	Beverly Y. Sanders	2080854
EPA 365.1 Rev. 2.0	04/25/2019	04/29/2019 13:45	Sima Feizi	04/30/2019 13:52	Rosalyn Ballman	2080832
	04/25/2019	04/29/2019 13:45	Sima Feizi	04/30/2019 13:53	Rosalyn Ballman	2080853
	04/25/2019	04/29/2019 13:45	Sima Feizi	04/30/2019 14:15	Rosalyn Ballman	2080854
	04/25/2019	04/29/2019 13:45	Sima Feizi	04/30/2019 14:18	Rosalyn Ballman	2080856
	04/25/2019	04/29/2019 13:45	Sima Feizi	04/30/2019 14:29	Rosalyn Ballman	2080855

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	04/25/2019	04/29/2019 13:45	Sima Feizi	04/30/2019 14:30	Rosalyn Ballman	2080857
	04/25/2019	04/29/2019 13:45	Sima Feizi	04/30/2019 14:31	Rosalyn Ballman	2080858
	04/25/2019	04/29/2019 13:45	Sima Feizi	04/30/2019 14:32	Rosalyn Ballman	2080859
	04/25/2019	04/29/2019 13:45	Sima Feizi	04/30/2019 14:33	Rosalyn Ballman	2080860
	04/25/2019	04/29/2019 13:45	Sima Feizi	04/30/2019 16:07	Rosalyn Ballman	2080829
	04/25/2019	04/29/2019 13:45	Sima Feizi	04/30/2019 16:08	Rosalyn Ballman	2080830
	04/25/2019	04/29/2019 13:45	Sima Feizi	04/30/2019 16:09	Rosalyn Ballman	2080831
EPA 365.1 Rev. 2.0 dissolved	04/25/2019			04/25/2019 15:31	Jhamieka S. Greenwood	2080862
	04/25/2019			04/25/2019 15:32	Jhamieka S. Greenwood	2080863
	04/25/2019			04/25/2019 15:33	Jhamieka S. Greenwood	2080864
	04/25/2019			04/25/2019 15:39	Jhamieka S. Greenwood	2080865
	04/25/2019			04/25/2019 15:44	Jhamieka S. Greenwood	2080867
	04/25/2019			04/25/2019 15:45	Jhamieka S. Greenwood	2080868
	04/25/2019			04/25/2019 16:06	Jhamieka S. Greenwood	2080866
	04/25/2019			04/25/2019 16:20	Jhamieka S. Greenwood	2080833
	04/25/2019			04/25/2019 16:21	Jhamieka S. Greenwood	2080834
	04/25/2019			04/25/2019 16:22	Jhamieka S. Greenwood	2080835
	04/25/2019			04/25/2019 16:23	Jhamieka S. Greenwood	2080836
	04/25/2019			04/25/2019 16:24	Jhamieka S. Greenwood	2080861
SM 2320 B-97	04/25/2019			05/02/2019 12:51	Dale L. Simmons	2080821
	04/25/2019			05/02/2019 13:03	Dale L. Simmons	2080822
	04/25/2019			05/02/2019 13:15	Dale L. Simmons	2080823
	04/25/2019			05/04/2019 06:14	Samantha Davila	2080824
SM 4500 F-C-97	04/25/2019			05/02/2019 07:57	Dale L. Simmons	2080821
	04/25/2019			05/02/2019 08:01	Dale L. Simmons	2080822
	04/25/2019			05/02/2019 08:05	Dale L. Simmons	2080823
	04/25/2019			05/07/2019 17:39	Dale L. Simmons	2080824
SM 5310 B-00	04/25/2019			04/27/2019 03:28	Julia Storbeck	2080832
	04/25/2019			04/27/2019 05:42	Julia Storbeck	2080853
	04/25/2019			04/27/2019 05:55	Julia Storbeck	2080854
	04/25/2019			04/27/2019 06:07	Julia Storbeck	2080855
	04/25/2019			04/27/2019 06:19	Julia Storbeck	2080856
	04/25/2019			04/27/2019 06:31	Julia Storbeck	2080857
	04/25/2019			04/27/2019 06:44	Julia Storbeck	2080858
	04/25/2019			04/27/2019 06:56	Julia Storbeck	2080859
	04/25/2019			04/27/2019 07:32	Julia Storbeck	2080860
	04/25/2019			04/30/2019 08:55	Julia Storbeck	2080829
	04/25/2019			04/30/2019 09:07	Julia Storbeck	2080830
	04/25/2019			04/30/2019 09:23	Julia Storbeck	2080831
SM 5310 B-00 dissolved	04/25/2019			04/27/2019 03:16	Julia Storbeck	2080828

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	04/25/2019			04/27/2019 03:40	Julia Storbeck	2080837
	04/25/2019			04/27/2019 03:53	Julia Storbeck	2080838
	04/25/2019			04/27/2019 04:05	Julia Storbeck	2080839
	04/25/2019			04/27/2019 04:17	Julia Storbeck	2080840
	04/25/2019			04/27/2019 04:29	Julia Storbeck	2080841
	04/25/2019			04/27/2019 05:06	Julia Storbeck	2080842
	04/25/2019			04/27/2019 05:18	Julia Storbeck	2080843
	04/25/2019			04/27/2019 05:30	Julia Storbeck	2080844
	04/25/2019			04/30/2019 07:40	Julia Storbeck	2080825
	04/25/2019			04/30/2019 07:54	Julia Storbeck	2080826
	04/25/2019			04/30/2019 08:19	Julia Storbeck	2080827