

Chemical Analysis Report

SO-DIST-2019-03-01-01

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

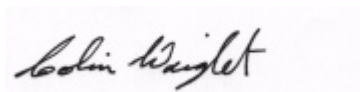
Event Description: **CALOOSA LT**
Request ID: **RQ-2019-02-04-04**
Customer: **SO-DIST**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: John Barrington

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 21-MAR-2019 08:08

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light-colored rectangular 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: 02/28/2019 09:18

Field ID: G3SD0108

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066325	SM 2320 B-97	Total Alkalinity	127		mg CaCO3/L	P359961	RPD
	SM 4500 F-C-97	Fluoride	0.76		mg F/L	P359964	
2066329	SM 5310 B-00 dissolved	Organic Carbon	7.6		mg C/L	P360400	
2066333	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P360135	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P359842	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P360094	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P359843	MS
	SM 5310 B-00	Organic Carbon	7.8		mg C/L	P360498	
2066337	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.033		mg P/L	P359784	
2066418	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P360029	
		Zinc	15	U	ug/L	P360029	
	EPA 200.8 Rev. 5.4	Arsenic	2.61		ug/L	P360029	
		Cadmium	0.060	U	ug/L	P360029	
		Chromium	1.2	U	ug/L	P360029	
		Copper	1.2	U	ug/L	P360029	
		Lead	2.0	U	ug/L	P360029	
		Nickel	1.5	U	ug/L	P360029	
		Silver	0.030	U	ug/L	P360029	

Sample Location: USGS Station-ShellPoint

Collection Date/Time: 02/28/2019 09:35

Field ID: G3SD0109

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066326	SM 2320 B-97	Total Alkalinity	128		mg CaCO3/L	P359961	RPD
	SM 4500 F-C-97	Fluoride	0.72		mg F/L	P359964	
2066330	SM 5310 B-00 dissolved	Organic Carbon	7.9		mg C/L	P360400	
2066334	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P360135	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P359842	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P360094	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P359843	MS
	SM 5310 B-00	Organic Carbon	8.2		mg C/L	P360498	
2066338	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.034		mg P/L	P359784	
2066419	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P360029	
		Zinc	15	U	ug/L	P360029	
	EPA 200.8 Rev. 5.4	Arsenic	2.62		ug/L	P360029	
		Cadmium	0.060	U	ug/L	P360029	
		Chromium	1.2	U	ug/L	P360029	
		Copper	1.2	U	ug/L	P360029	
		Lead	2.0	U	ug/L	P360029	
		Nickel	1.5	U	ug/L	P360029	
		Silver	0.030	U	ug/L	P360029	

Sample Location: Marker # 76

Collection Date/Time: 02/28/2019 09:55

Field ID: G3SD0110

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066327	SM 2320 B-97	Total Alkalinity	138	AJ	mg CaCO3/L	P359961	RPD
	SM 4500 F-C-97	Fluoride	0.44		mg F/L	P359964	
2066331	SM 5310 B-00 dissolved	Organic Carbon	10		mg C/L	P360191	
2066335	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P360135	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.93		mg N/L	P359842	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.034		mg N/L	P360094	
	EPA 365.1 Rev. 2.0	Total-P	0.075		mg P/L	P359843	MS
	SM 5310 B-00	Organic Carbon	11		mg C/L	P360191	
2066339	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.042		mg P/L	P359784	
2066420	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P360029	
		Zinc	15	U	ug/L	P360029	
	EPA 200.8 Rev. 5.4	Arsenic	2.32		ug/L	P360029	
		Cadmium	0.060	U	ug/L	P360029	
		Chromium	1.2	U	ug/L	P360029	
		Copper	1.5	I	ug/L	P360029	
		Lead	0.60	U	ug/L	P360029	
		Nickel	1.5	U	ug/L	P360029	
		Silver	0.030	U	ug/L	P360029	

Ref. Method and Comment:

SM 2320 B-97: Refer to the narrative for an explanation of QC Codes.

Sample Location: Marker # 52

Collection Date/Time: 02/28/2019 10:25

Field ID: G3SD0111

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066328	SM 2320 B-97	Total Alkalinity	169		mg CaCO3/L	P360161	
	SM 4500 F-C-97	Fluoride	0.29		mg F/L	P360164	
2066332	SM 5310 B-00 dissolved	Organic Carbon	14		mg C/L	P360191	
2066336	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P360136	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P359841	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.42		mg N/L	P359872	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P359890	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P360191	
2066340	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.066		mg P/L	P359785	
2066421	EPA 200.7 Rev. 4.4	Iron	150		ug/L	P359847	
		Zinc	5.0	U	ug/L	P359847	
	EPA 200.8 Rev. 5.4	Arsenic	1.91		ug/L	P359847	
		Cadmium	0.020	U	ug/L	P359847	
		Chromium	0.40	U	ug/L	P359847	
		Copper	1.74		ug/L	P359847	
		Lead	0.20	U	ug/L	P359847	
		Nickel	0.67	I	ug/L	P359847	
		Silver	0.010	U	ug/L	P359847	

Sample Location: US 41, Marker # 38

Collection Date/Time: 02/28/2019 10:45

Field ID: G3SD0112

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066341	SM 5310 B-00 dissolved	Organic Carbon	15		mg C/L	P360191	
2066357	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P360137	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P359841	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.50		mg N/L	P359872	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P359890	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P360281	
2066365	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.067		mg P/L	P359785	
2066422	EPA 200.7 Rev. 4.4	Iron	200		ug/L	P359847	
		Zinc	5.0	U	ug/L	P359847	
	EPA 200.8 Rev. 5.4	Arsenic	1.97		ug/L	P359847	
		Cadmium	0.020	U	ug/L	P359847	
		Chromium	0.56	I	ug/L	P359847	
		Copper	1.59		ug/L	P359847	
		Lead	0.20	U	ug/L	P359847	
		Nickel	0.73	I	ug/L	P359847	
		Silver	0.010	U	ug/L	P359847	

Sample Location: Marker # 28

Collection Date/Time: 02/28/2019 10:55

Field ID: G3SD0113

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066342	SM 5310 B-00 dissolved	Organic Carbon	15		mg C/L	P360191	
2066358	EPA 350.1 Rev. 2.0	Ammonia-N	0.052		mg N/L	P360137	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P359841	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.46		mg N/L	P359872	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P359890	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P360281	
2066366	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.059		mg P/L	P359785	
2066423	EPA 200.7 Rev. 4.4	Iron	190		ug/L	P359847	
		Zinc	5.0	U	ug/L	P359847	
	EPA 200.8 Rev. 5.4	Arsenic	1.74		ug/L	P359847	
		Cadmium	0.020	U	ug/L	P359847	
		Chromium	0.50	I	ug/L	P359847	
		Copper	1.29		ug/L	P359847	
		Lead	0.20	U	ug/L	P359847	
		Nickel	0.66	I	ug/L	P359847	
		Silver	0.010	U	ug/L	P359847	

Sample Location: Marker # 22

Collection Date/Time: 02/28/2019 11:10

Field ID: G3SD0114

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066343	SM 5310 B-00 dissolved	Organic Carbon	15		mg C/L	P360191	
2066359	EPA 350.1 Rev. 2.0	Ammonia-N	0.046		mg N/L	P360137	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P359938	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.44		mg N/L	P359872	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P359890	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P360281	
2066367	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.058		mg P/L	P359785	
2066424	EPA 200.7 Rev. 4.4	Iron	130		ug/L	P359847	
		Zinc	5.0	U	ug/L	P359847	
	EPA 200.8 Rev. 5.4	Arsenic	1.72		ug/L	P359847	
		Cadmium	0.020	U	ug/L	P359847	
		Chromium	0.40	U	ug/L	P359847	
		Copper	1.15		ug/L	P359847	
		Lead	0.20	U	ug/L	P359847	
		Nickel	0.64	I	ug/L	P359847	
		Silver	0.010	U	ug/L	P359847	

Sample Location: Old Swing Bridge

Collection Date/Time: 02/28/2019 11:20

Field ID: G3SD0115

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066344	SM 5310 B-00 dissolved	Organic Carbon	15		mg C/L	P360191	
2066360	EPA 350.1 Rev. 2.0	Ammonia-N	0.045		mg N/L	P360137	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P359938	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.43		mg N/L	P359872	
	EPA 365.1 Rev. 2.0	Total-P	0.094		mg P/L	P359890	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P360281	
2066368	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.057		mg P/L	P359785	
2066425	EPA 200.7 Rev. 4.4	Iron	130		ug/L	P359847	
		Zinc	5.0	U	ug/L	P359847	
	EPA 200.8 Rev. 5.4	Arsenic	1.71		ug/L	P359847	
		Cadmium	0.020	U	ug/L	P359847	
		Chromium	0.40	U	ug/L	P359847	
		Copper	1.13		ug/L	P359847	
		Lead	0.20	U	ug/L	P359847	
		Nickel	0.64	I	ug/L	P359847	
		Silver	0.010	U	ug/L	P359847	

Sample Location: MidChannel@OrangeRiver

Collection Date/Time: 02/28/2019 11:40

Field ID: G3SD0116

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066345	SM 5310 B-00 dissolved	Organic Carbon	14		mg C/L	P360191	
2066361	EPA 350.1 Rev. 2.0	Ammonia-N	0.059		mg N/L	P360137	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P359938	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.38		mg N/L	P359872	
	EPA 365.1 Rev. 2.0	Total-P	0.089		mg P/L	P359890	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P360281	
2066369	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.058		mg P/L	P359785	
2066426	EPA 200.7 Rev. 4.4	Iron	170		ug/L	P359847	
		Zinc	5.0	U	ug/L	P359847	
	EPA 200.8 Rev. 5.4	Arsenic	1.71		ug/L	P359847	
		Cadmium	0.020	U	ug/L	P359847	
		Chromium	0.40	U	ug/L	P359847	
		Copper	1.09		ug/L	P359847	
		Lead	0.20	U	ug/L	P359847	
		Nickel	0.62	I	ug/L	P359847	
		Silver	0.010	U	ug/L	P359847	

Sample Location: Upstream of Power Plant

Collection Date/Time: 02/28/2019 11:55

Field ID: G3SD0117

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066346	SM 5310 B-00 dissolved	Organic Carbon	16		mg C/L	P360191	
2066362	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P360137	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P359938	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.37		mg N/L	P359872	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P359890	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P360281	
2066370	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.070		mg P/L	P359785	
2066427	EPA 200.7 Rev. 4.4	Iron	200		ug/L	P359847	
		Zinc	5.0	U	ug/L	P359847	
	EPA 200.8 Rev. 5.4	Arsenic	1.68		ug/L	P359847	
		Cadmium	0.020	U	ug/L	P359847	
		Chromium	0.40	U	ug/L	P359847	
		Copper	1.15		ug/L	P359847	
		Lead	0.20	U	ug/L	P359847	
		Nickel	0.57	I	ug/L	P359847	
		Silver	0.010	U	ug/L	P359847	

Sample Location: Mid Channel off Oxbow

Collection Date/Time: 02/28/2019 12:10

Field ID: G3SD0118

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066347	SM 5310 B-00 dissolved	Organic Carbon	16		mg C/L	P360399	
2066363	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P360137	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P359938	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.35		mg N/L	P359872	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P359890	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P360281	
2066371	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.065		mg P/L	P359785	
2066428	EPA 200.7 Rev. 4.4	Iron	170		ug/L	P359847	
		Zinc	5.0	U	ug/L	P359847	
	EPA 200.8 Rev. 5.4	Arsenic	1.62		ug/L	P359847	
		Cadmium	0.020	U	ug/L	P359847	
		Chromium	0.40	U	ug/L	P359847	
		Copper	0.94		ug/L	P359847	
		Lead	0.20	U	ug/L	P359847	
		Nickel	0.52	I	ug/L	P359847	
		Silver	0.010	U	ug/L	P359847	

Sample Location: Mid channel off point

Collection Date/Time: 02/28/2019 12:15

Field ID: G3SD0119

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066348	SM 5310 B-00 dissolved	Organic Carbon	16		mg C/L	P360281	
2066364	EPA 350.1 Rev. 2.0	Ammonia-N	0.043		mg N/L	P360137	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P360023	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.42		mg N/L	P359872	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P359890	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P360281	
2066372	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.077		mg P/L	P359785	
2066429	EPA 200.7 Rev. 4.4	Iron	170		ug/L	P360028	
		Zinc	5.0	U	ug/L	P360028	
	EPA 200.8 Rev. 5.4	Arsenic	1.75		ug/L	P360028	
		Cadmium	0.020	U	ug/L	P360028	
		Chromium	0.40	U	ug/L	P360028	
		Copper	1.44		ug/L	P360028	
		Lead	0.20	U	ug/L	P360028	
		Nickel	0.54	I	ug/L	P360028	
		Silver	0.010	U	ug/L	P360028	

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P359847

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: P360028

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: P360029

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: P359847

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: P360028

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: P360029

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360135

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360136

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360137

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359841

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359842

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359938

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360023

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359872

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360094

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359843

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359890

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359784

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359785

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

Reference Method: SM 2320 B-97
Batch ID: P359961

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

Reference Method: SM 2320 B-97
Batch ID: P360161

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

Reference Method: SM 4500 F-C-97
Batch ID: P359964

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P360164

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P360191

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: P360281

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

Reference Method: SM 5310 B-00
Batch ID: P360498

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360191

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360281

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360399

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360400

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: P359847

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	108		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	104		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360029

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	108		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P359847

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	105		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	102		P	85 - 115
Copper	107		P	85 - 115
Lead	103		P	85 - 115
Nickel	103		P	85 - 115
Silver	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	103		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	101		P	85 - 115
Copper	102		P	85 - 115
Lead	102		P	85 - 115
Nickel	100		P	85 - 115
Silver	99.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360029

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	108		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	102		P	80 - 120
Copper	106		P	85 - 115
Lead	104		P	85 - 115
Nickel	104		P	85 - 115
Silver	101		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360135

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360136

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360137

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359841

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359842

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359938

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360023

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359872

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360094

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359843

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359890

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: P359784

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359785

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

Reference Method: SM 2320 B-97
Batch ID: P359961

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P360161

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P359964

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.3		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P360164

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.2		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P360191

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
Batch ID: P360281

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

Reference Method: SM 5310 B-00
Batch ID: P360498

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.9		P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360191

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360281

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360399

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.0		P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360400

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P359847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066045	Iron	107		P	80 - 120
2066045	Zinc	99.2		P	80 - 120
2066323	Iron	107	107	P/P	80 - 120
2066323	Zinc	101	102	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066498	Iron	105	107	P/P	80 - 120
2066498	Zinc	101	101	P/P	80 - 120
2066551	Iron	104		P	80 - 120
2066551	Zinc	101		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360029

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2064386	Iron	104	104	P/P	80 - 120
2064386	Zinc	102	105	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P359847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066045	Arsenic	108		P	80 - 120
2066045	Cadmium	105		P	80 - 120
2066045	Chromium	103		P	80 - 120
2066045	Copper	105		P	80 - 120
2066045	Lead	105		P	80 - 120
2066045	Nickel	101		P	80 - 120
2066045	Silver	102		P	80 - 120
2066323	Arsenic	107	108	P/P	80 - 120
2066323	Cadmium	103	104	P/P	80 - 120
2066323	Chromium	103	104	P/P	80 - 120
2066323	Copper	105	107	P/P	80 - 120
2066323	Lead	105	106	P/P	80 - 120
2066323	Nickel	103	105	P/P	80 - 120
2066323	Silver	101	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066498	Arsenic	102	106	P/P	80 - 120
2066498	Cadmium	100	103	P/P	80 - 120
2066498	Chromium	100	104	P/P	80 - 120
2066498	Copper	98.1	101	P/P	80 - 120
2066498	Lead	100	103	P/P	80 - 120
2066498	Nickel	96.1	99.5	P/P	80 - 120
2066498	Silver	101	100	P/P	80 - 120
2066551	Arsenic	109		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066551	Cadmium	105		P	80 - 120
2066551	Chromium	104		P	80 - 120
2066551	Copper	104		P	80 - 120
2066551	Lead	107		P	80 - 120
2066551	Nickel	104		P	80 - 120
2066551	Silver	103		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360029

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2064386	Arsenic	113	113	P/P	70 - 130
2064386	Cadmium	97.4	97.8	P/P	70 - 130
2064386	Chromium	94.9	91.8	P/P	70 - 130
2064386	Copper	96.5	96.6	P/P	70 - 130
2064386	Lead	105	105	P/P	70 - 130
2064386	Nickel	94.6	94.0	P/P	70 - 130
2064386	Silver	92.8	93.0	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066027	Ammonia-N	103	106	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360136

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066336	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360137

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066378	Ammonia-N	100	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359841

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066321	Kjeldahl Nitrogen	89.5	100	F/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359842

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066027	Kjeldahl Nitrogen	96.1	105	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359938

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066361	Kjeldahl Nitrogen	96.3	92.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066377	Kjeldahl Nitrogen	97.8	94.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359872

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066321	NO2NO3-N	102	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360094

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066090	NO2NO3-N	102	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359843

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066029	Total-P	89.8	90.4	F/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066360	Total-P	98.2	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359784

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066337	O-Phosphate-P	95.7	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359785

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066340	O-Phosphate-P	95.8	96.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P359964

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066327	Fluoride	92.0	92.7	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P360164

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2065784	Fluoride	97.1	95.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P360191

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066167	Organic Carbon	95.3	93.7	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P360281

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066357	Organic Carbon	96.4	99.0	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P360498

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066505	Organic Carbon	96.4	98.6	P/P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360191

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066167	Organic Carbon	95.3	93.7	P/P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360281

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066357	Organic Carbon	96.4	99.0	P/P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360399

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2064227	Organic Carbon	100	102	P/P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360400

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2065574	Organic Carbon	91.1	92.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P359847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066323	Iron	0.271	Spike	P	0 - 20
2066323	Zinc	0.930	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066498	Iron	2.02	Spike	P	0 - 20
2066498	Zinc	0.371	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2064386	Iron	0.0183	Spike	P	0 - 20
2064386	Zinc	2.91	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P359847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066323	Arsenic	1.10	Spike	P	0 - 20
2066323	Cadmium	1.17	Spike	P	0 - 20
2066323	Chromium	1.11	Spike	P	0 - 20
2066323	Copper	1.82	Spike	P	0 - 20
2066323	Lead	1.17	Spike	P	0 - 20
2066323	Nickel	1.84	Spike	P	0 - 20
2066323	Silver	1.84	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066498	Arsenic	3.61	Spike	P	0 - 20
2066498	Cadmium	2.24	Spike	P	0 - 20
2066498	Chromium	3.42	Spike	P	0 - 20
2066498	Copper	3.15	Spike	P	0 - 20
2066498	Lead	2.91	Spike	P	0 - 20
2066498	Nickel	3.47	Spike	P	0 - 20
2066498	Silver	0.961	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2064386	Arsenic	0.390	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2064386	Cadmium	0.404	Spike	P	0 - 20
2064386	Chromium	3.34	Spike	P	0 - 20
2064386	Copper	0.145	Spike	P	0 - 20
2064386	Lead	0.104	Spike	P	0 - 20
2064386	Nickel	0.570	Spike	P	0 - 20
2064386	Silver	0.186	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360135

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066027	Ammonia-N	3.32	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066336	Ammonia-N	0.215	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066378	Ammonia-N	1.74	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359841

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066321	Kjeldahl Nitrogen	6.31	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359842

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066027	Kjeldahl Nitrogen	7.87	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359938

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066361	Kjeldahl Nitrogen	1.93	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066377	Kjeldahl Nitrogen	2.26	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359872

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066321	NO2NO3-N	1.49	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360094

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066090	NO2NO3-N	1.24	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359843

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066029	Total-P	0.666	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066360	Total-P	1.61	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359784

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066337	O-Phosphate-P	0.544	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359785

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066340	O-Phosphate-P	0.554	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P359961

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066327	Total Alkalinity	1.58	Sample	F	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P360161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2065784	Total Alkalinity	0.176	Sample	P	0 - 1.6

Reference Method: SM 4500 F-C-97
Batch ID: P359964

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066327	Fluoride	0.470	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P360164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2065784	Fluoride	1.45	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P360191

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066167	Organic Carbon	1.16	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P360281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066357	Organic Carbon	1.48	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P360498

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066505	Organic Carbon	2.26	Spike	P	0 - 20

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360191

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066167	Organic Carbon	1.16	Spike	P	0 - 20

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066357	Organic Carbon	1.48	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2064227	Organic Carbon	1.15	Spike	P	0 - 20

Reference Method: SM 5310 B-00 dissolved
Batch ID: P360400

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2065574	Organic Carbon	1.86	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: A89750

Included Lab Sample IDs: 2066337, 2066338, 2066339, 2066340, 2066365, 2066366, 2066367, 2066368, 2066369, 2066370, 2066371, 2066372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	98.3	P/P	90 - 110
O-Phosphate-P	99.0	98.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89797

Included Lab Sample IDs: 2066336, 2066357, 2066358, 2066359, 2066360, 2066361, 2066362, 2066363, 2066364

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A89813

Included Lab Sample IDs: 2066421, 2066422, 2066423, 2066424, 2066425, 2066426, 2066427, 2066428

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	101	103	P/P	90 - 110
Iron	103	103	P/P	90 - 110
Zinc	101	102	P/P	90 - 110
Zinc	99.2	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89820

Included Lab Sample IDs: 2066333, 2066334, 2066335, 2066336, 2066357, 2066358

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	102	P/P	90 - 110
Kjeldahl Nitrogen	107	104	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A89826

Included Lab Sample IDs: 2066325, 2066326, 2066327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110
Total Alkalinity	102	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A89826

Included Lab Sample IDs: 2066325, 2066326, 2066327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	100	P/P	90 - 110
Fluoride	99.1	99.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89835

Included Lab Sample IDs: 2066359, 2066360, 2066361, 2066362, 2066363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	102	P/P	90 - 110
Kjeldahl Nitrogen	96.7	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89860

Included Lab Sample IDs: 2066364

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	104	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A89864

Included Lab Sample IDs: 2066421, 2066422, 2066423, 2066424, 2066425, 2066426, 2066427, 2066428

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	102	P/P	90 - 110
Arsenic	102	101	P/P	90 - 110
Cadmium	97.0	97.7	P/P	90 - 110
Cadmium	97.7	97.9	P/P	90 - 110
Chromium	101	101	P/P	90 - 110
Chromium	101	105	P/P	90 - 110
Copper	106	107	P/P	90 - 110
Copper	107	107	P/P	90 - 110
Lead	102	103	P/P	90 - 110
Lead	103	104	P/P	90 - 110
Nickel	101	103	P/P	90 - 110
Nickel	103	103	P/P	90 - 110
Silver	97.9	97.9	P/P	90 - 110
Silver	97.9	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89878

Included Lab Sample IDs: 2066333, 2066334, 2066335

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A89880

Included Lab Sample IDs: 2066418, 2066419, 2066420, 2066429

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	101	104	P/P	90 - 110
Iron	101	100	P/P	90 - 110
Iron	104	104	P/P	90 - 110
Zinc	101	106	P/P	90 - 110
Zinc	102	101	P/P	90 - 110
Zinc	106	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A89900

Included Lab Sample IDs: 2066333, 2066334, 2066335, 2066336, 2066357, 2066358, 2066359, 2066360, 2066361, 2066362, 2066363, 2066364

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A89907
Included Lab Sample IDs: 2066328

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

Reference Method: SM 4500 F-C-97
Run ID: A89907
Included Lab Sample IDs: 2066328

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	99.5	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A89919
Included Lab Sample IDs: 2066335, 2066336

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.2	91.8	P/P	90 - 110

Reference Method: SM 5310 B-00 dissolved
Run ID: A89919
Included Lab Sample IDs: 2066331, 2066332, 2066341, 2066342, 2066343, 2066344, 2066345, 2066346

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.2	91.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A89923
Included Lab Sample IDs: 2066418, 2066419, 2066420, 2066429

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.5	99.7	P/P	90 - 110
Arsenic	99.7	98.9	P/P	90 - 110
Cadmium	94.9	95.8	P/P	90 - 110
Cadmium	97.2	96.8	P/P	90 - 110
Chromium	99.5	99.8	P/P	90 - 110
Copper	101	98.2	P/P	90 - 110
Copper	101	102	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Lead	102	101	P/P	90 - 110
Lead	99.9	99.8	P/P	90 - 110
Nickel	98.7	96.5	P/P	90 - 110
Nickel	98.8	99.1	P/P	90 - 110
Silver	94.2	94.0	P/P	90 - 110
Silver	95.8	95.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A89930
Included Lab Sample IDs: 2066336, 2066357, 2066358, 2066359, 2066360, 2066361, 2066362, 2066363, 2066364

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	103	102	P/P	90 - 110
Total-P	99.9	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A89942

Included Lab Sample IDs: 2066333, 2066334, 2066335

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

Reference Method: SM 5310 B-00

Run ID: A89961

Included Lab Sample IDs: 2066357, 2066358, 2066359, 2066360, 2066361, 2066362, 2066363, 2066364

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.0	93.9	P/P	90 - 110
Organic Carbon	93.9	93.0	P/P	90 - 110

Reference Method: SM 5310 B-00 dissolved

Run ID: A89961

Included Lab Sample IDs: 2066348

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.9	93.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A89977

Included Lab Sample IDs: 2066418, 2066419, 2066420

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	98.6	96.1	P/P	90 - 110

Reference Method: SM 5310 B-00 dissolved

Run ID: A89997

Included Lab Sample IDs: 2066329, 2066330, 2066347

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	91.4	93.8	P/P	90 - 110
Organic Carbon	92.2	93.4	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A90030

Included Lab Sample IDs: 2066333, 2066334

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.3	94.8	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			LCS	Precision SMP	MS
EPA 200.7 Rev. 4.4	Iron	108	107	107	107			0.271
	Iron	104	105	107	104			2.02
	Iron	108	104	104				0.0183
	Zinc	101	99.2	101	102			0.930
	Zinc	102	101	101	101			0.371
	Zinc	102	102	105				2.91
EPA 200.8 Rev. 5.4	Arsenic	105	108	107	108			1.10
	Arsenic	103	102	106	109			3.61
	Arsenic	108	113	113				0.390
	Cadmium	103	105	103	104			1.17
	Cadmium	102	100	103	105			2.24
	Cadmium	102	97.4	97.8				0.404
	Chromium	102	103	103	104			1.11
	Chromium	101	100	104	104			3.42
	Chromium	102	94.9	91.8				3.34
	Copper	107	105	105	107			1.82
	Copper	102	98.1	101	104			3.15
	Copper	106	96.5	96.6				0.145
	Lead	103	105	105	106			1.17
	Lead	102	100	103	107			2.91
	Lead	104	105	105				0.104
	Nickel	103	101	103	105			1.84
	Nickel	100	96.1	99.5	104			3.47
	Nickel	104	94.6	94.0				0.570
	Silver	103	102	101	103			1.84
	Silver	99.5	101	100	103			0.961
	Silver	101	92.8	93.0				0.186
	Ammonia-N	100	103	106				3.32
	Ammonia-N	101	101	101				0.215
	Ammonia-N	99.7	100	102				1.74
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	89.5	100				6.31
	Kjeldahl Nitrogen	107	96.1	105				7.87
	Kjeldahl Nitrogen	99.1	96.3	92.6				1.93
	Kjeldahl Nitrogen	109	97.8	94.1				2.26
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	102	100				1.49
	NO2NO3-N	101	102	100				1.24
EPA 365.1 Rev. 2.0	Total-P	104	89.8	90.4				0.666
	Total-P	100	98.2	100				1.61
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.9	95.7	96.4				0.544
	O-Phosphate-P	101	95.8	96.7				0.554
SM 2320 B-97	Total Alkalinity	102					1.58	
	Total Alkalinity	102					0.176	
SM 4500 F-C-97	Fluoride	95.3	92.0	92.7				0.470
	Fluoride	95.2	97.1	95.6				1.45
SM 5310 B-00	Organic Carbon	94.6	95.3	93.7				1.16
	Organic Carbon	96.8	96.4	99.0				1.48
	Organic Carbon	96.9	96.4	98.6				2.26
SM 5310 B-00 dissolved	Organic Carbon	94.6	95.3	93.7				1.16
	Organic Carbon	96.8	96.4	99.0				1.48
	Organic Carbon	93.0	100	102				1.15
	Organic Carbon	94.8	91.1	92.9				1.86

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	2066418, 2066419, 2066420, 2066421, 2066422, 2066423, 2066424, 2066425, 2066426, 2066427, 2066428, 2066429
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2066418, 2066419, 2066420, 2066421, 2066422, 2066423, 2066424, 2066425, 2066426, 2066427, 2066428, 2066429
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2066333, 2066334, 2066335, 2066336, 2066357, 2066358, 2066359, 2066360, 2066361, 2066362, 2066363, 2066364
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2066333, 2066334, 2066335, 2066336, 2066357, 2066358, 2066359, 2066360, 2066361, 2066362, 2066363, 2066364
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2066333, 2066334, 2066335, 2066336, 2066357, 2066358, 2066359, 2066360, 2066361, 2066362, 2066363, 2066364
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2066333, 2066334, 2066335, 2066336, 2066357, 2066358, 2066359, 2066360, 2066361, 2066362, 2066363, 2066364
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2066337, 2066338, 2066339, 2066340, 2066365, 2066366, 2066367, 2066368, 2066369, 2066370, 2066371, 2066372
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2066325, 2066326, 2066327, 2066328
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2066325, 2066326, 2066327, 2066328
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2066333, 2066334, 2066335, 2066336, 2066357, 2066358, 2066359, 2066360, 2066361, 2066362, 2066363, 2066364
SM 5310 B-00 dissolved / E31780	Dissolved Nonpurgeable Organic Carbon in filtered, aqueous matrices	2066329, 2066330, 2066331, 2066332, 2066341, 2066342, 2066343, 2066344, 2066345, 2066346, 2066347, 2066348

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	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/05/2019 16:59	Betina Topolski	2066421
	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/05/2019 17:10	Betina Topolski	2066422
	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/05/2019 17:20	Betina Topolski	2066423
	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/05/2019 17:26	Betina Topolski	2066424
	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/05/2019 17:49	Betina Topolski	2066425
	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/05/2019 17:55	Betina Topolski	2066426
	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/05/2019 18:01	Betina Topolski	2066427
	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/05/2019 18:07	Betina Topolski	2066428
	03/01/2019	03/06/2019 19:05	Elliott D. Healy	03/07/2019 20:05	Betina Topolski	2066418
	03/01/2019	03/06/2019 19:05	Elliott D. Healy	03/07/2019 20:12	Betina Topolski	2066419
	03/01/2019	03/06/2019 19:05	Elliott D. Healy	03/07/2019 21:15	Betina Topolski	2066420
	03/01/2019	03/06/2019 19:10	Elliott D. Healy	03/07/2019 16:33	Betina Topolski	2066429
	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/07/2019 02:08	Allison Taylor	2066421
EPA 200.8 Rev. 5.4	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/07/2019 02:46	Allison Taylor	2066422
	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/07/2019 02:55	Allison Taylor	2066423
	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/07/2019 03:05	Allison Taylor	2066424
	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/07/2019 03:14	Allison Taylor	2066425
	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/07/2019 03:24	Allison Taylor	2066426
	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/07/2019 03:33	Allison Taylor	2066427
	03/01/2019	03/04/2019 17:40	Elliott D. Healy	03/07/2019 03:43	Allison Taylor	2066428
	03/01/2019	03/06/2019 19:05	Elliott D. Healy	03/09/2019 09:59	Allison Taylor	2066418
	03/01/2019	03/06/2019 19:05	Elliott D. Healy	03/09/2019 10:18	Allison Taylor	2066419
	03/01/2019	03/06/2019 19:05	Elliott D. Healy	03/09/2019 13:38	Allison Taylor	2066418
	03/01/2019	03/06/2019 19:05	Elliott D. Healy	03/09/2019 13:47	Allison Taylor	2066419
	03/01/2019	03/06/2019 19:05	Elliott D. Healy	03/09/2019 13:57	Allison Taylor	2066420
	03/01/2019	03/06/2019 19:05	Elliott D. Healy	03/12/2019 18:01	Allison Taylor	2066418
	03/01/2019	03/06/2019 19:05	Elliott D. Healy	03/12/2019 18:08	Allison Taylor	2066419
	03/01/2019	03/06/2019 19:05	Elliott D. Healy	03/12/2019 18:15	Allison Taylor	2066420
	03/01/2019	03/06/2019 19:10	Elliott D. Healy	03/09/2019 02:03	Allison Taylor	2066429
EPA 350.1 Rev. 2.0	03/01/2019			03/07/2019 13:08	Ping Hua	2066333
	03/01/2019			03/07/2019 13:09	Ping Hua	2066334
	03/01/2019			03/07/2019 13:11	Ping Hua	2066335
	03/01/2019			03/07/2019 13:21	Ping Hua	2066336
	03/01/2019			03/07/2019 13:53	Ping Hua	2066357
	03/01/2019			03/07/2019 14:00	Ping Hua	2066358
	03/01/2019			03/07/2019 14:02	Ping Hua	2066359
	03/01/2019			03/07/2019 14:03	Ping Hua	2066360
	03/01/2019			03/07/2019 14:05	Ping Hua	2066361
	03/01/2019			03/07/2019 14:06	Ping Hua	2066362
	03/01/2019			03/07/2019 14:08	Ping Hua	2066363

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	03/01/2019			03/07/2019 14:09	Ping Hua	2066364
EPA 351.2 Rev. 2.0	03/01/2019	03/04/2019 16:00	Adrian Shelby	03/06/2019 09:34	Joseph Suarez	2066336
	03/01/2019	03/04/2019 16:00	Adrian Shelby	03/06/2019 09:35	Joseph Suarez	2066357
	03/01/2019	03/04/2019 16:00	Adrian Shelby	03/06/2019 09:37	Joseph Suarez	2066358
	03/01/2019	03/04/2019 16:00	Adrian Shelby	03/06/2019 10:02	Joseph Suarez	2066333
	03/01/2019	03/04/2019 16:00	Adrian Shelby	03/06/2019 10:04	Joseph Suarez	2066334
	03/01/2019	03/04/2019 16:00	Adrian Shelby	03/06/2019 10:05	Joseph Suarez	2066335
	03/01/2019	03/05/2019 12:00	Adrian Shelby	03/06/2019 12:24	Joseph Suarez	2066359
	03/01/2019	03/05/2019 12:00	Adrian Shelby	03/06/2019 12:26	Joseph Suarez	2066360
	03/01/2019	03/05/2019 12:00	Adrian Shelby	03/06/2019 12:27	Joseph Suarez	2066361
	03/01/2019	03/05/2019 12:00	Adrian Shelby	03/06/2019 12:35	Joseph Suarez	2066362
	03/01/2019	03/05/2019 12:00	Adrian Shelby	03/06/2019 12:37	Joseph Suarez	2066363
	03/01/2019	03/06/2019 12:15	Adrian Shelby	03/07/2019 10:16	Joseph Suarez	2066364
EPA 353.2 Rev. 2.0	03/01/2019			03/05/2019 09:52	Beverly Y. Sanders	2066336
	03/01/2019			03/05/2019 09:53	Beverly Y. Sanders	2066357
	03/01/2019			03/05/2019 09:54	Beverly Y. Sanders	2066358
	03/01/2019			03/05/2019 09:55	Beverly Y. Sanders	2066359
	03/01/2019			03/05/2019 09:56	Beverly Y. Sanders	2066360
	03/01/2019			03/05/2019 09:58	Beverly Y. Sanders	2066361
	03/01/2019			03/05/2019 09:59	Beverly Y. Sanders	2066362
	03/01/2019			03/05/2019 10:00	Beverly Y. Sanders	2066363
	03/01/2019			03/05/2019 10:01	Beverly Y. Sanders	2066364
	03/01/2019			03/06/2019 10:18	Beverly Y. Sanders	2066333
	03/01/2019			03/06/2019 10:20	Beverly Y. Sanders	2066334
	03/01/2019			03/06/2019 10:21	Beverly Y. Sanders	2066335
EPA 365.1 Rev. 2.0	03/01/2019	03/04/2019 13:30	Sima Feizi	03/11/2019 15:49	Rosalyn Ballman	2066333
	03/01/2019	03/04/2019 13:30	Sima Feizi	03/11/2019 15:50	Rosalyn Ballman	2066334
	03/01/2019	03/04/2019 13:30	Sima Feizi	03/11/2019 15:58	Rosalyn Ballman	2066335
	03/01/2019	03/05/2019 13:25	Sima Feizi	03/11/2019 15:49	Rosalyn Ballman	2066360
	03/01/2019	03/05/2019 13:25	Sima Feizi	03/11/2019 15:54	Rosalyn Ballman	2066336
	03/01/2019	03/05/2019 13:25	Sima Feizi	03/11/2019 15:57	Rosalyn Ballman	2066357
	03/01/2019	03/05/2019 13:25	Sima Feizi	03/11/2019 15:58	Rosalyn Ballman	2066358
	03/01/2019	03/05/2019 13:25	Sima Feizi	03/11/2019 15:59	Rosalyn Ballman	2066359
	03/01/2019	03/05/2019 13:25	Sima Feizi	03/11/2019 16:00	Rosalyn Ballman	2066361
	03/01/2019	03/05/2019 13:25	Sima Feizi	03/11/2019 16:02	Rosalyn Ballman	2066362
	03/01/2019	03/05/2019 13:25	Sima Feizi	03/11/2019 16:03	Rosalyn Ballman	2066363
	03/01/2019	03/05/2019 13:25	Sima Feizi	03/11/2019 16:04	Rosalyn Ballman	2066364
EPA 365.1 Rev. 2.0 dissolved	03/01/2019			03/01/2019 14:52	Lipi Saha	2066337
	03/01/2019			03/01/2019 14:56	Lipi Saha	2066340
	03/01/2019			03/01/2019 15:03	Lipi Saha	2066338

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 dissolved	03/01/2019			03/01/2019 15:04	Lipi Saha	2066339, 2066365
	03/01/2019			03/01/2019 15:05	Lipi Saha	2066366
	03/01/2019			03/01/2019 15:06	Lipi Saha	2066367
	03/01/2019			03/01/2019 15:07	Lipi Saha	2066368
	03/01/2019			03/01/2019 15:08	Lipi Saha	2066369
	03/01/2019			03/01/2019 15:09	Lipi Saha	2066370, 2066371
	03/01/2019			03/01/2019 15:10	Lipi Saha	2066372
SM 2320 B-97	03/01/2019			03/06/2019 04:35	Dale L. Simmons	2066327
	03/01/2019			03/06/2019 08:33	Dale L. Simmons	2066325
	03/01/2019			03/06/2019 08:46	Dale L. Simmons	2066326
	03/01/2019			03/08/2019 08:03	Dale L. Simmons	2066328
SM 4500 F-C-97	03/01/2019			03/06/2019 00:59	Dale L. Simmons	2066327
	03/01/2019			03/06/2019 02:53	Dale L. Simmons	2066325
	03/01/2019			03/06/2019 02:57	Dale L. Simmons	2066326
	03/01/2019			03/08/2019 08:03	Dale L. Simmons	2066328
SM 5310 B-00	03/01/2019			03/09/2019 03:54	Julia Storbeck	2066335
	03/01/2019			03/09/2019 04:11	Julia Storbeck	2066336
	03/01/2019			03/11/2019 08:24	Chelsea Hernandez	2066357
	03/01/2019			03/11/2019 09:22	Chelsea Hernandez	2066358
	03/01/2019			03/11/2019 10:04	Chelsea Hernandez	2066359
	03/01/2019			03/11/2019 10:45	Chelsea Hernandez	2066360
	03/01/2019			03/11/2019 10:59	Chelsea Hernandez	2066361
	03/01/2019			03/11/2019 11:13	Chelsea Hernandez	2066362
	03/01/2019			03/11/2019 11:26	Chelsea Hernandez	2066363
	03/01/2019			03/11/2019 11:40	Chelsea Hernandez	2066364
	03/01/2019			03/15/2019 06:05	Chelsea Hernandez	2066334
	03/01/2019			03/15/2019 06:18	Chelsea Hernandez	2066333
SM 5310 B-00 dissolved	03/01/2019			03/09/2019 03:26	Julia Storbeck	2066331
	03/01/2019			03/09/2019 03:40	Julia Storbeck	2066332
	03/01/2019			03/09/2019 04:27	Julia Storbeck	2066341
	03/01/2019			03/09/2019 04:41	Julia Storbeck	2066342
	03/01/2019			03/09/2019 04:57	Julia Storbeck	2066343
	03/01/2019			03/09/2019 05:13	Julia Storbeck	2066344
	03/01/2019			03/09/2019 05:29	Julia Storbeck	2066345
	03/01/2019			03/09/2019 05:42	Julia Storbeck	2066346
	03/01/2019			03/11/2019 09:50	Chelsea Hernandez	2066348
	03/01/2019			03/13/2019 03:08	Chelsea Hernandez	2066329
	03/01/2019			03/13/2019 03:22	Chelsea Hernandez	2066330
	03/01/2019			03/13/2019 06:17	Chelsea Hernandez	2066347