

Chemical Analysis Report

SO-DIST-2019-11-22-01

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-2019-11-11-03**
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: Liang Lin, Environmental Administrator

Date Certified: 17-DEC-2019 11:04

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals and Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

A - Value reported is the mean of two or more determinations.
B - Results based on colony counts outside the acceptable range.
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J - Estimated value and/or the analysis did not meet established quality control criteria.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
N - Presumptive evidence of presence of material.
O - Sampled, but analysis lost or not performed.
Q - Sample held beyond normal holding time.
T - Value reported is less than the criterion of detection.
U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
V - Analyte was detected in both sample and method blank.
X - Too few individuals to calculate SCI value.
Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: USGSStation-PuntaBlanca

Collection Date/Time: 11/21/2019 09:50

Field ID: G3SD0108

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138659	SM 2320 B-97	Total Alkalinity	133	A	mg CaCO3/L	P375174	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P375181	
2138663	SM 5310 B-00 dissolved	Organic Carbon	6.9		mg C/L	P374799	
2138667	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P374935	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P374917	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.052		mg N/L	P374870	
	EPA 365.1 Rev. 2.0	Total-P	0.067		mg P/L	P375197	
	SM 5310 B-00	Organic Carbon	7.1		mg C/L	P374799	
2138671	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.048		mg P/L	P374715	
2138733	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P374895	
		Zinc	20	U	ug/L	P374895	
	EPA 200.8 Rev. 5.4	Arsenic	2.4		ug/L	P374895	
		Cadmium	0.20	U	ug/L	P374895	
		Chromium	4.0	U	ug/L	P374895	
		Copper	1.6	U	ug/L	P374895	
		Lead	2.0	U	ug/L	P374895	
		Nickel	5.0	U	ug/L	P374895	
		Silver	0.10	U	ug/L	P374895	

Sample Location: USGS Station-ShellPoint

Collection Date/Time: 11/21/2019 10:10

Field ID: G3SD0109

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138660	SM 2320 B-97	Total Alkalinity	132		mg CaCO3/L	P375174	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P375181	
2138664	SM 5310 B-00 dissolved	Organic Carbon	5.7		mg C/L	P374799	
2138668	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P374935	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P374917	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P374870	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P375197	
	SM 5310 B-00	Organic Carbon	5.7		mg C/L	P374799	
2138672	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.027		mg P/L	P374715	
2138734	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P374895	
		Zinc	20	U	ug/L	P374895	
	EPA 200.8 Rev. 5.4	Arsenic	2.5		ug/L	P374895	
		Cadmium	0.20	U	ug/L	P374895	
		Chromium	4.0	U	ug/L	P374895	
		Copper	1.6	U	ug/L	P374895	
		Lead	2.0	U	ug/L	P374895	
		Nickel	5.0	U	ug/L	P374895	
		Silver	0.10	U	ug/L	P374895	

Sample Location: Marker # 76

Collection Date/Time: 11/21/2019 10:30

Field ID: G3SD0110

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138661	SM 2320 B-97	Total Alkalinity	135		mg CaCO3/L	P375174	
	SM 4500 F-C-97	Fluoride	0.92		mg F/L	P375181	
2138665	SM 5310 B-00 dissolved	Organic Carbon	9.1		mg C/L	P374799	
2138669	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P374935	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P374917	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.031		mg N/L	P374870	
	EPA 365.1 Rev. 2.0	Total-P	0.083		mg P/L	P375197	
	SM 5310 B-00	Organic Carbon	9.1		mg C/L	P374799	
2138673	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.061		mg P/L	P374715	
2138735	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P374895	
		Zinc	15	U	ug/L	P374895	
	EPA 200.8 Rev. 5.4	Arsenic	2.6		ug/L	P374895	
		Cadmium	0.20	U	ug/L	P374895	
		Chromium	4.0	U	ug/L	P374895	
		Copper	1.6	I	ug/L	P374895	
		Lead	2.0	U	ug/L	P374895	
		Nickel	5.0	U	ug/L	P374895	
		Silver	0.10	U	ug/L	P374895	

Sample Location: Marker # 52

Collection Date/Time: 11/21/2019 11:05

Field ID: G3SD0111

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138662	SM 2320 B-97	Total Alkalinity	142		mg CaCO3/L	P375174	
	SM 4500 F-C-97	Fluoride	0.63		mg F/L	P375181	
2138666	SM 5310 B-00 dissolved	Organic Carbon	15		mg C/L	P374799	
2138670	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P374935	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P374917	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P374870	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P375200	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P374799	
2138674	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.095		mg P/L	P374715	
2138736	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P374895	
		Zinc	15	U	ug/L	P374895	
	EPA 200.8 Rev. 5.4	Arsenic	2.5		ug/L	P374895	
		Cadmium	0.20	U	ug/L	P374895	
		Chromium	4.0	U	ug/L	P374895	
		Copper	2.0	I	ug/L	P374895	
		Lead	2.0	U	ug/L	P374895	
		Nickel	5.0	U	ug/L	P374895	
		Silver	0.10	U	ug/L	P374895	

Sample Location: US 41, Marker # 38

Collection Date/Time: 11/21/2019 11:30

Field ID: G3SD0112

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138675	SM 5310 B-00 dissolved	Organic Carbon	16		mg C/L	P375087	
2138683	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P374935	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P375060	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P374870	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P375200	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P375087	
2138691	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.094		mg P/L	P374715	
2138737	EPA 200.7 Rev. 4.4	Calcium	180		mg/L	P374895	
		Iron	90	U	ug/L	P374895	
		Magnesium	457		mg/L	P374895	
		Potassium	148		mg/L	P374895	
		Sodium	3.90E+03		mg/L	P374895	
		Zinc	15	U	ug/L	P374895	
	EPA 200.8 Rev. 5.4	Arsenic	2.4		ug/L	P374895	
		Cadmium	0.20	U	ug/L	P374895	
		Chromium	4.0	U	ug/L	P374895	
		Copper	1.7	I	ug/L	P374895	
		Lead	2.0	U	ug/L	P374895	
		Nickel	5.0	U	ug/L	P374895	
		Silver	0.10	U	ug/L	P374895	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium and sodium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Marker # 28

Collection Date/Time: 11/21/2019 11:40

Field ID: G3SD0113

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138676	SM 5310 B-00 dissolved	Organic Carbon	16		mg C/L	P375087	
2138684	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P374935	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.99		mg N/L	P375060	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P374869	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P375200	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P375087	
2138692	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P374715	
2138738	EPA 200.7 Rev. 4.4	Calcium	163		mg/L	P374895	
		Iron	93	I	ug/L	P374895	
		Magnesium	382		mg/L	P374895	
		Potassium	124		mg/L	P374895	
		Sodium	3.34E+03		mg/L	P374895	
		Zinc	15	U	ug/L	P374895	
	EPA 200.8 Rev. 5.4	Arsenic	2.0	I	ug/L	P374895	
		Cadmium	0.20	U	ug/L	P374895	
		Chromium	4.0	U	ug/L	P374895	
		Copper	1.8	I	ug/L	P374895	
		Lead	2.0	U	ug/L	P374895	
		Nickel	5.0	U	ug/L	P374895	
		Silver	0.10	U	ug/L	P374895	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium and sodium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Marker # 22

Collection Date/Time: 11/21/2019 11:55

Field ID: G3SD0114

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138677	SM 5310 B-00 dissolved	Organic Carbon	18		mg C/L	P375005	
2138685	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P374935	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P375060	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.23		mg N/L	P374869	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P375200	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P375005	
2138693	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P374715	
2138739	EPA 200.7 Rev. 4.4	Calcium	144		mg/L	P374895	
		Iron	140	I	ug/L	P374895	
		Magnesium	319		mg/L	P374895	
		Potassium	104		mg/L	P374895	
		Sodium	2.74E+03		mg/L	P374895	
		Zinc	15	U	ug/L	P374895	
	EPA 200.8 Rev. 5.4	Arsenic	2.3		ug/L	P374895	
		Cadmium	0.20	U	ug/L	P374895	
		Chromium	4.0	U	ug/L	P374895	
		Copper	1.7	I	ug/L	P374895	
		Lead	2.0	U	ug/L	P374895	
		Nickel	5.0	U	ug/L	P374895	
		Silver	0.10	U	ug/L	P374895	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium and sodium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Old Swing Bridge

Collection Date/Time: 11/21/2019 12:05

Field ID: G3SD0115

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138678	SM 5310 B-00 dissolved	Organic Carbon	19		mg C/L	P375005	
2138686	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P375092	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P375060	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.30		mg N/L	P374870	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P375200	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P375005	
2138694	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P374715	
2138740	EPA 200.7 Rev. 4.4	Calcium	133		mg/L	P374895	
		Iron	150	I	ug/L	P374895	
		Magnesium	264		mg/L	P374895	
		Potassium	86		mg/L	P374895	
		Sodium	2.26E+03		mg/L	P374895	
		Zinc	15	U	ug/L	P374895	
	EPA 200.8 Rev. 5.4	Arsenic	2.1		ug/L	P374895	
		Cadmium	0.20	U	ug/L	P374895	
		Chromium	4.0	U	ug/L	P374895	
		Copper	1.6	U	ug/L	P374895	
		Lead	2.0	U	ug/L	P374895	
		Nickel	5.0	U	ug/L	P374895	
		Silver	0.10	U	ug/L	P374895	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium and sodium are unavailable because of high analyte concentration in the QC sample.

Sample Location: MidChannel@OrangeRiver

Collection Date/Time: 11/21/2019 12:30

Field ID: G3SD0116

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138679	SM 5310 B-00 dissolved	Organic Carbon	18		mg C/L	P375005	
2138687	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P375092	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.99		mg N/L	P375060	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.33		mg N/L	P374870	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P375200	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P375005	
2138695	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P374715	
2138741	EPA 200.7 Rev. 4.4	Calcium	131		mg/L	P374895	
		Iron	190	I	ug/L	P374895	
		Magnesium	266		mg/L	P374895	
		Potassium	86		mg/L	P374895	
		Sodium	2.26E+03		mg/L	P374895	
		Zinc	15	U	ug/L	P374895	
	EPA 200.8 Rev. 5.4	Arsenic	2.2		ug/L	P374895	
		Cadmium	0.20	U	ug/L	P374895	
		Chromium	4.0	U	ug/L	P374895	
		Copper	1.6	U	ug/L	P374895	
		Lead	2.0	U	ug/L	P374895	
		Nickel	5.0	U	ug/L	P374895	
		Silver	0.10	U	ug/L	P374895	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium and sodium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Upstream of Power Plant

Collection Date/Time: 11/21/2019 12:45

Field ID: G3SD0117

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138680	SM 5310 B-00 dissolved	Organic Carbon	19		mg C/L	P375005	
2138688	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P375092	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P375060	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.36		mg N/L	P374870	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P375200	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P375005	
2138696	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P374715	
2138742	EPA 200.7 Rev. 4.4	Calcium	128		mg/L	P374895	
		Iron	180	I	ug/L	P374895	
		Magnesium	240		mg/L	P374895	
		Potassium	79		mg/L	P374895	
		Sodium	2.04E+03		mg/L	P374895	
		Zinc	15	U	ug/L	P374895	
	EPA 200.8 Rev. 5.4	Arsenic	2.3		ug/L	P374895	
		Cadmium	0.20	U	ug/L	P374895	
		Chromium	4.0	U	ug/L	P374895	
		Copper	1.9	I	ug/L	P374895	
		Lead	2.0	U	ug/L	P374895	
		Nickel	5.0	U	ug/L	P374895	
		Silver	0.10	U	ug/L	P374895	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium and sodium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Mid Channel off Oxbow

Collection Date/Time: 11/21/2019 13:00

Field ID: G3SD0118

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138681	SM 5310 B-00 dissolved	Organic Carbon	18		mg C/L	P375005	
2138689	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P375092	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P375060	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.37		mg N/L	P374870	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P375200	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P375005	
2138697	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P374716	
2138743	EPA 200.7 Rev. 4.4	Calcium	126		mg/L	P374895	
		Iron	190	I	ug/L	P374895	
		Magnesium	246		mg/L	P374895	
		Potassium	82		mg/L	P374895	
		Sodium	2.13E+03		mg/L	P374895	
		Zinc	15	U	ug/L	P374895	
	EPA 200.8 Rev. 5.4	Arsenic	2.1		ug/L	P374895	
		Cadmium	0.20	U	ug/L	P374895	
		Chromium	4.0	U	ug/L	P374895	
		Copper	1.6	U	ug/L	P374895	
		Lead	2.0	U	ug/L	P374895	
		Nickel	5.0	U	ug/L	P374895	
		Silver	0.10	U	ug/L	P374895	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium and sodium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Mid channel off point

Collection Date/Time: 11/21/2019 13:10

Field ID: G3SD0119

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138682	SM 5310 B-00 dissolved	Organic Carbon	19		mg C/L	P375005	
2138690	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P375092	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.97		mg N/L	P375060	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.36		mg N/L	P374870	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P375200	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P375005	
2138698	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P374716	
2138744	EPA 200.7 Rev. 4.4	Calcium	128		mg/L	P374895	
		Iron	210	I	ug/L	P374895	
		Magnesium	255		mg/L	P374895	
		Potassium	76		mg/L	P374895	
		Sodium	2.18E+03		mg/L	P374895	
		Zinc	15	U	ug/L	P374895	
	EPA 200.8 Rev. 5.4	Arsenic	2.1		ug/L	P374895	
		Cadmium	0.20	U	ug/L	P374895	
		Chromium	4.0	U	ug/L	P374895	
		Copper	1.6	U	ug/L	P374895	
		Lead	2.0	U	ug/L	P374895	
		Nickel	5.0	U	ug/L	P374895	
		Silver	0.10	U	ug/L	P374895	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium and sodium are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P374895

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P374895

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: P374935

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P375092

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374917

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375060

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374869

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374870

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375197

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375200

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374715

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374716

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

Reference Method: SM 2320 B-97
Batch ID: P375174

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

Reference Method: SM 4500 F-C-97
Batch ID: P375181

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P374799

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

Reference Method: SM 5310 B-00
Batch ID: P375005

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: P375087

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P374799

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P375005

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P375087

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: P374895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	106		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	106		P	85 - 115
Sodium	107		P	85 - 115
Zinc	98.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P374895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	97.8		P	85 - 115
Cadmium	96.5		P	85 - 115
Chromium	95.3		P	85 - 115
Copper	95.9		P	85 - 115
Lead	100		P	85 - 115
Nickel	96.1		P	85 - 115
Silver	98.4		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374935

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P375092

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374917

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375060

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374869

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374870

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375197

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375200

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374715

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374716

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

Reference Method: SM 2320 B-97
Batch ID: P375174

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P375181

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P374799

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

Reference Method: SM 5310 B-00
Batch ID: P375005

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	105		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P375087

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	105		P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P374799

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P375005

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	105		P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P375087

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	105		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P374895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138369	Iron	103		P	70 - 130
2138369	Zinc	101		P	70 - 130
2138743	Iron	105	106	P/P	70 - 130
2138743	Zinc	94.2	96.8	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P374895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138369	Arsenic	109		P	70 - 130
2138369	Cadmium	101		P	70 - 130
2138369	Chromium	92.2		P	70 - 130
2138369	Copper	104		P	70 - 130
2138369	Lead	106		P	70 - 130
2138369	Nickel	99.1		P	70 - 130
2138369	Silver	94.8		P	70 - 130
2138743	Arsenic	109	110	P/P	70 - 130
2138743	Cadmium	103	105	P/P	70 - 130
2138743	Chromium	94.2	93.6	P/P	70 - 130
2138743	Copper	101	99.8	P/P	70 - 130
2138743	Lead	106	106	P/P	70 - 130
2138743	Nickel	98.0	98.0	P/P	70 - 130
2138743	Silver	95.4	95.1	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P374935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138668	Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P375092

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139227	Ammonia-N	102	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P374917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138392	Kjeldahl Nitrogen	99.8	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P375060

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138937	Kjeldahl Nitrogen	111	102	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P374869

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374869

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138388	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374870

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138686	NO2NO3-N	98.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375197

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138348	Total-P	106	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375200

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138670	Total-P	105	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374715

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138671	O-Phosphate-P	99.7	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374716

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138697	O-Phosphate-P	98.5	98.5	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P375181

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2136116	Fluoride	97.1	97.8	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P374799

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138286	Organic Carbon	88.6	98.1	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P375005

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137612	Organic Carbon	103	103	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P375087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139380	Organic Carbon	99.5	102	P/P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P374799

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138286	Organic Carbon	88.6	98.1	P/P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P375005

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137612	Organic Carbon	103	103	P/P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P375087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139380	Organic Carbon	99.5	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P374895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138743	Calcium	3.00	Spike	P	0 - 20
2138743	Iron	1.23	Spike	P	0 - 20
2138743	Magnesium	3.00	Spike	P	0 - 20
2138743	Potassium	2.39	Spike	P	0 - 20
2138743	Sodium	1.85	Spike	P	0 - 20
2138743	Zinc	2.74	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P374895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138743	Arsenic	0.569	Spike	P	0 - 20
2138743	Cadmium	1.87	Spike	P	0 - 20
2138743	Chromium	0.563	Spike	P	0 - 20
2138743	Copper	1.16	Spike	P	0 - 20
2138743	Lead	0.0293	Spike	P	0 - 20
2138743	Nickel	0.0225	Spike	P	0 - 20
2138743	Silver	0.357	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138668	Ammonia-N	1.72	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P375092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139227	Ammonia-N	1.62	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138392	Kjeldahl Nitrogen	1.08	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138937	Kjeldahl Nitrogen	6.47	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374869

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138388	NO2NO3-N	0.491	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374870

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138686	NO2NO3-N	2.54	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375197

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138348	Total-P	0.603	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138670	Total-P	0.0962	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374715

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138671	O-Phosphate-P	0.0675	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374716

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138697	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P375174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138659	Total Alkalinity	0.192	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-97
Batch ID: P375181

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136116	Fluoride	0.476	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
 Batch ID: P374799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138286	Organic Carbon	9.39	Spike	P	0 - 20

Reference Method: SM 5310 B-00
 Batch ID: P375005

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137612	Organic Carbon	0.423	Spike	P	0 - 20

Reference Method: SM 5310 B-00
 Batch ID: P375087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139380	Organic Carbon	2.19	Spike	P	0 - 20

Reference Method: SM 5310 B-00 dissolved
 Batch ID: P374799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138286	Organic Carbon	9.39	Spike	P	0 - 20

Reference Method: SM 5310 B-00 dissolved
 Batch ID: P375005

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137612	Organic Carbon	0.423	Spike	P	0 - 20

Reference Method: SM 5310 B-00 dissolved
 Batch ID: P375087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139380	Organic Carbon	2.19	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95916

Included Lab Sample IDs: 2138671, 2138672, 2138673, 2138674, 2138691, 2138692, 2138693, 2138694, 2138695, 2138696, 2138697, 2138698

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	93.1	94.0	P/P	90 - 110
O-Phosphate-P	93.3	94.9	P/P	90 - 110
O-Phosphate-P	94.0	93.1	P/P	90 - 110
O-Phosphate-P	94.9	93.1	P/P	90 - 110
O-Phosphate-P	95.0	94.0	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A95950

Included Lab Sample IDs: 2138667, 2138668, 2138669, 2138670

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

Reference Method: SM 5310 B-00 dissolved

Run ID: A95950

Included Lab Sample IDs: 2138663, 2138664, 2138665, 2138666

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95966

Included Lab Sample IDs: 2138667, 2138668, 2138669, 2138670, 2138683, 2138684, 2138685, 2138686, 2138687, 2138688, 2138689, 2138690

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95997

Included Lab Sample IDs: 2138667, 2138668, 2138669, 2138670, 2138683, 2138684, 2138685

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A96024

Included Lab Sample IDs: 2138733, 2138734, 2138735, 2138736, 2138737, 2138738, 2138739, 2138740, 2138741, 2138742, 2138743, 2138744

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	99.8	P/P	90 - 110
Calcium	96.8	100	P/P	90 - 110
Calcium	99.4	96.8	P/P	90 - 110
Calcium	99.8	99.4	P/P	90 - 110
Iron	102	104	P/P	90 - 110
Iron	103	107	P/P	90 - 110
Iron	104	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A96024

Included Lab Sample IDs: 2138733, 2138734, 2138735, 2138736, 2138737, 2138738, 2138739, 2138740, 2138741, 2138742, 2138743, 2138744

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	105	103	P/P	90 - 110
Magnesium	101	102	P/P	90 - 110
Magnesium	101	105	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Magnesium	102	101	P/P	90 - 110
Potassium	106	108	P/P	90 - 110
Potassium	108	108	P/P	90 - 110
Potassium	108	107	P/P	90 - 110
Sodium	105	107	P/P	90 - 110
Sodium	107	110	P/P	90 - 110
Sodium	107	107	P/P	90 - 110
Sodium	107	107	P/P	90 - 110
Zinc	100	99.8	P/P	90 - 110
Zinc	97.4	95.5	P/P	90 - 110
Zinc	98.2	97.4	P/P	90 - 110
Zinc	99.8	98.2	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A96031

Included Lab Sample IDs: 2138685, 2138686, 2138687, 2138688, 2138689, 2138690

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

Reference Method: SM 5310 B-00 dissolved

Run ID: A96031

Included Lab Sample IDs: 2138677, 2138678, 2138679, 2138680, 2138681, 2138682

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A96035

Included Lab Sample IDs: 2138744

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Potassium	97.7	99.3	P/P	95 - 105

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96052

Included Lab Sample IDs: 2138667, 2138668, 2138669, 2138670

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	98.4	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A96056

Included Lab Sample IDs: 2138683, 2138684

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A96056

Included Lab Sample IDs: 2138683, 2138684

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.8	97.9	P/P	90 - 110

Reference Method: SM 5310 B-00 dissolved

Run ID: A96056

Included Lab Sample IDs: 2138675, 2138676

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.8	97.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A96062

Included Lab Sample IDs: 2138686, 2138687, 2138688, 2138689, 2138690

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.9	99.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A96084

Included Lab Sample IDs: 2138659, 2138660, 2138661, 2138662

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

Reference Method: SM 4500 F-C-97

Run ID: A96084

Included Lab Sample IDs: 2138659, 2138660, 2138661, 2138662

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96126

Included Lab Sample IDs: 2138683, 2138684, 2138685, 2138686, 2138687, 2138688, 2138689, 2138690

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	105	P/P	90 - 110
Kjeldahl Nitrogen	110	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96131

Included Lab Sample IDs: 2138667, 2138668, 2138669

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96134

Included Lab Sample IDs: 2138670, 2138683, 2138684, 2138685, 2138686, 2138687, 2138688, 2138689, 2138690

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96134

Included Lab Sample IDs: 2138670, 2138683, 2138684, 2138685, 2138686, 2138687, 2138688, 2138689, 2138690

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.6	99.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96267

Included Lab Sample IDs: 2138733, 2138734, 2138735, 2138736, 2138737, 2138738, 2138739, 2138740, 2138741, 2138742, 2138743, 2138744

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	96.9	98.8	P/P	90 - 110
Arsenic	98.8	99.7	P/P	90 - 110
Arsenic	99.7	100	P/P	90 - 110
Cadmium	94.3	96.8	P/P	90 - 110
Cadmium	96.8	97.6	P/P	90 - 110
Cadmium	97.6	97.1	P/P	90 - 110
Chromium	95.4	96.6	P/P	90 - 110
Chromium	95.7	95.4	P/P	90 - 110
Chromium	96.6	97.5	P/P	90 - 110
Lead	96.0	98.2	P/P	90 - 110
Lead	98.2	98.4	P/P	90 - 110
Lead	98.4	98.9	P/P	90 - 110
Nickel	97.4	97.4	P/P	90 - 110
Nickel	97.4	98.2	P/P	90 - 110
Nickel	98.2	99.3	P/P	90 - 110
Silver	95.9	98.0	P/P	90 - 110
Silver	98.0	98.3	P/P	90 - 110
Silver	98.3	98.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96330

Included Lab Sample IDs: 2138733, 2138734, 2138735, 2138736, 2138737, 2138738, 2138739, 2138740, 2138741, 2138742, 2138743, 2138744

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	91.6	92.2	P/P	90 - 110
Copper	92.6	92.7	P/P	90 - 110
Copper	92.7	91.6	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 200.7 Rev. 4.4	Calcium	105					3.00
	Iron	106	103	105	106		1.23
	Magnesium	103					3.00
	Potassium	106					2.39
	Sodium	107					1.85
	Zinc	98.5	101	94.2	96.8		2.74
EPA 200.8 Rev. 5.4	Arsenic	97.8	109	109	110		0.569
	Cadmium	96.5	101	103	105		1.87
	Chromium	95.3	92.2	94.2	93.6		0.563
	Copper	95.9	104	101	99.8		1.16
	Lead	100	106	106	106		0.0293
	Nickel	96.1	99.1	98.0	98.0		0.0225
	Silver	98.4	94.8	95.4	95.1		0.357
EPA 350.1 Rev. 2.0	Ammonia-N	98.4	101	103			1.72
	Ammonia-N	97.9	102	99.7			1.62
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.9	99.8	101			1.08
	Kjeldahl Nitrogen	101	111	102			6.47
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	102			0.491
	NO2NO3-N	100	98.0				2.54
EPA 365.1 Rev. 2.0	Total-P	106	106	107			0.603
	Total-P	107	105	105			0.0962
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	105	99.7	99.6			0.0675
	O-Phosphate-P	102	98.5	98.5			0.0
SM 2320 B-97	Total Alkalinity	104				0.192	
SM 4500 F-C-97	Fluoride	97.1	97.1	97.8			0.476
SM 5310 B-00	Organic Carbon	100	88.6	98.1			9.39
	Organic Carbon	105	103	103			0.423
	Organic Carbon	105	99.5	102			2.19
SM 5310 B-00 dissolved	Organic Carbon	100	88.6	98.1			9.39
	Organic Carbon	105	103	103			0.423
	Organic Carbon	105	99.5	102			2.19

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	2138733, 2138734, 2138735, 2138736, 2138737, 2138738, 2138739, 2138740, 2138741, 2138742, 2138743, 2138744
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2138733, 2138734, 2138735, 2138736, 2138737, 2138738, 2138739, 2138740, 2138741, 2138742, 2138743, 2138744
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2138667, 2138668, 2138669, 2138670, 2138683, 2138684, 2138685, 2138686, 2138687, 2138688, 2138689, 2138690
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2138667, 2138668, 2138669, 2138670, 2138683, 2138684, 2138685, 2138686, 2138687, 2138688, 2138689, 2138690
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2138667, 2138668, 2138669, 2138670, 2138683, 2138684, 2138685, 2138686, 2138687, 2138688, 2138689, 2138690
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2138667, 2138668, 2138669, 2138670, 2138683, 2138684, 2138685, 2138686, 2138687, 2138688, 2138689, 2138690

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2138671, 2138672, 2138673, 2138674, 2138691, 2138692, 2138693, 2138694, 2138695, 2138696, 2138697, 2138698
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2138659, 2138660, 2138661, 2138662
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2138659, 2138660, 2138661, 2138662
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2138667, 2138668, 2138669, 2138670, 2138683, 2138684, 2138685, 2138686, 2138687, 2138688, 2138689, 2138690
SM 5310 B-00 dissolved / E31780	Dissolved Nonpurgeable Organic Carbon in filtered, aqueous matrices	2138663, 2138664, 2138665, 2138666, 2138675, 2138676, 2138677, 2138678, 2138679, 2138680, 2138681, 2138682

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	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 20:36	Betina Topolski	2138733
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 20:44	Betina Topolski	2138734
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 20:51	Betina Topolski	2138735
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 20:59	Betina Topolski	2138736
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 21:07	Betina Topolski	2138737
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 21:15	Betina Topolski	2138737
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 21:46	Betina Topolski	2138738
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 21:54	Betina Topolski	2138738
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 22:01	Betina Topolski	2138739
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 22:09	Betina Topolski	2138739
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 22:17	Betina Topolski	2138740
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 22:24	Betina Topolski	2138740
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 22:32	Betina Topolski	2138741
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 22:39	Betina Topolski	2138741
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 22:47	Betina Topolski	2138742
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 22:55	Betina Topolski	2138742
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 23:26	Betina Topolski	2138743
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 23:53	Betina Topolski	2138743
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/28/2019 00:47	Betina Topolski	2138744
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	11/28/2019 00:54	Betina Topolski	2138744
EPA 200.8 Rev. 5.4	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/02/2019 11:07	Betina Topolski	2138744
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/11/2019 20:04	Martin Acosta	2138733
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/11/2019 21:02	Martin Acosta	2138734
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/11/2019 21:11	Martin Acosta	2138735
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/11/2019 21:21	Martin Acosta	2138736
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/11/2019 21:30	Martin Acosta	2138737
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/11/2019 21:40	Martin Acosta	2138738
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/11/2019 21:49	Martin Acosta	2138739
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/11/2019 21:59	Martin Acosta	2138740
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/11/2019 22:08	Martin Acosta	2138741
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/11/2019 22:18	Martin Acosta	2138742
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/11/2019 22:27	Martin Acosta	2138744
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/11/2019 23:15	Martin Acosta	2138743
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/14/2019 09:23	Alexander Thompson	2138733
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/14/2019 10:21	Alexander Thompson	2138734
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/14/2019 10:31	Alexander Thompson	2138735
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/14/2019 10:41	Alexander Thompson	2138736
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/14/2019 10:51	Alexander Thompson	2138737
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/14/2019 11:01	Alexander Thompson	2138738
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/14/2019 11:11	Alexander Thompson	2138739

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 200.8 Rev. 5.4	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/14/2019 11:20	Alexander Thompson	2138740
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/14/2019 11:30	Alexander Thompson	2138741
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/14/2019 11:40	Alexander Thompson	2138742
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/14/2019 11:50	Alexander Thompson	2138744
	11/22/2019	11/26/2019 17:50	Elliott D. Healy	12/14/2019 12:39	Alexander Thompson	2138743
EPA 350.1 Rev. 2.0	11/22/2019			11/26/2019 11:37	Ping Hua	2138668
	11/22/2019			11/26/2019 11:52	Ping Hua	2138667
	11/22/2019			11/26/2019 11:53	Ping Hua	2138669
	11/22/2019			11/26/2019 11:55	Ping Hua	2138670
	11/22/2019			11/26/2019 11:56	Ping Hua	2138683
	11/22/2019			11/26/2019 11:58	Ping Hua	2138684
	11/22/2019			11/26/2019 12:05	Ping Hua	2138685
	11/22/2019			11/27/2019 11:32	Ping Hua	2138686
	11/22/2019			11/27/2019 11:33	Ping Hua	2138687
	11/22/2019			11/27/2019 11:35	Ping Hua	2138688
EPA 351.2 Rev. 2.0	11/22/2019			11/27/2019 11:36	Ping Hua	2138689
	11/22/2019			11/27/2019 11:38	Ping Hua	2138690
	11/22/2019	11/27/2019 11:45	Sima Feizi	12/02/2019 17:53	Jhamieka S. Greenwood	2138667
	11/22/2019	11/27/2019 11:45	Sima Feizi	12/02/2019 17:55	Jhamieka S. Greenwood	2138668
	11/22/2019	11/27/2019 11:45	Sima Feizi	12/02/2019 17:56	Jhamieka S. Greenwood	2138669
	11/22/2019	11/27/2019 11:45	Sima Feizi	12/02/2019 17:58	Jhamieka S. Greenwood	2138670
	11/22/2019	12/02/2019 12:24	Sima Feizi	12/04/2019 18:23	Jhamieka S. Greenwood	2138683
	11/22/2019	12/02/2019 12:24	Sima Feizi	12/04/2019 18:24	Jhamieka S. Greenwood	2138684
	11/22/2019	12/02/2019 12:24	Sima Feizi	12/04/2019 18:26	Jhamieka S. Greenwood	2138685
	11/22/2019	12/02/2019 12:24	Sima Feizi	12/04/2019 18:31	Jhamieka S. Greenwood	2138686
EPA 353.2 Rev. 2.0	11/22/2019	12/02/2019 12:24	Sima Feizi	12/04/2019 18:32	Jhamieka S. Greenwood	2138687
	11/22/2019	12/02/2019 12:24	Sima Feizi	12/04/2019 18:34	Jhamieka S. Greenwood	2138688
	11/22/2019	12/02/2019 12:24	Sima Feizi	12/04/2019 18:35	Jhamieka S. Greenwood	2138689
	11/22/2019	12/02/2019 12:24	Sima Feizi	12/04/2019 18:37	Jhamieka S. Greenwood	2138690
	11/22/2019			11/26/2019 11:35	Beverly Y. Sanders	2138684
	11/22/2019			11/26/2019 11:36	Beverly Y. Sanders	2138685
	11/22/2019			11/26/2019 11:43	Beverly Y. Sanders	2138686
	11/22/2019			11/26/2019 11:49	Beverly Y. Sanders	2138667
	11/22/2019			11/26/2019 11:51	Beverly Y. Sanders	2138668
	11/22/2019			11/26/2019 11:52	Beverly Y. Sanders	2138669
	11/22/2019			11/26/2019 11:53	Beverly Y. Sanders	2138670
	11/22/2019			11/26/2019 11:54	Beverly Y. Sanders	2138683
	11/22/2019			11/26/2019 11:55	Beverly Y. Sanders	2138687
	11/22/2019			11/26/2019 11:56	Beverly Y. Sanders	2138688
	11/22/2019			11/26/2019 11:58	Beverly Y. Sanders	2138689

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 353.2 Rev. 2.0	11/22/2019			11/26/2019 11:59	Beverly Y. Sanders	2138690
EPA 365.1 Rev. 2.0	11/22/2019	12/04/2019 12:29	Yen Ta	12/05/2019 15:40	Benjamin T. Nordmann	2138670
	11/22/2019	12/04/2019 12:29	Yen Ta	12/05/2019 15:43	Benjamin T. Nordmann	2138683
	11/22/2019	12/04/2019 12:29	Yen Ta	12/05/2019 15:44	Benjamin T. Nordmann	2138684
	11/22/2019	12/04/2019 12:29	Yen Ta	12/05/2019 15:45	Benjamin T. Nordmann	2138685
	11/22/2019	12/04/2019 12:29	Yen Ta	12/05/2019 15:46	Benjamin T. Nordmann	2138667
	11/22/2019	12/04/2019 12:29	Yen Ta	12/05/2019 15:47	Benjamin T. Nordmann	2138668, 2138686
	11/22/2019	12/04/2019 12:29	Yen Ta	12/05/2019 15:48	Benjamin T. Nordmann	2138669, 2138687
	11/22/2019	12/04/2019 12:29	Yen Ta	12/05/2019 15:49	Benjamin T. Nordmann	2138688
	11/22/2019	12/04/2019 12:29	Yen Ta	12/05/2019 15:50	Benjamin T. Nordmann	2138689
	11/22/2019	12/04/2019 12:29	Yen Ta	12/05/2019 15:54	Benjamin T. Nordmann	2138690
EPA 365.1 Rev. 2.0 dissolved	11/22/2019			11/22/2019 16:20	Samantha Davila	2138671
	11/22/2019			11/22/2019 16:28	Samantha Davila	2138697
	11/22/2019			11/22/2019 16:55	Samantha Davila	2138672
	11/22/2019			11/22/2019 16:57	Samantha Davila	2138674
	11/22/2019			11/22/2019 16:58	Samantha Davila	2138691
	11/22/2019			11/22/2019 16:59	Samantha Davila	2138692
	11/22/2019			11/22/2019 17:00	Samantha Davila	2138693
	11/22/2019			11/22/2019 17:05	Samantha Davila	2138694
	11/22/2019			11/22/2019 17:06	Samantha Davila	2138695, 2138696
	11/22/2019			11/22/2019 17:07	Samantha Davila	2138698
	11/22/2019			11/22/2019 17:33	Samantha Davila	2138673
SM 2320 B-97	11/22/2019			12/03/2019 12:10	Dale L. Simmons	2138659
	11/22/2019			12/03/2019 12:23	Dale L. Simmons	2138660
	11/22/2019			12/03/2019 12:35	Dale L. Simmons	2138661
	11/22/2019			12/03/2019 12:48	Dale L. Simmons	2138662
SM 4500 F-C-97	11/22/2019			12/03/2019 10:16	Dale L. Simmons	2138659
	11/22/2019			12/03/2019 10:21	Dale L. Simmons	2138660
	11/22/2019			12/03/2019 10:25	Dale L. Simmons	2138661
	11/22/2019			12/03/2019 10:29	Dale L. Simmons	2138662
SM 5310 B-00	11/22/2019			11/26/2019 01:10	Lauren Lees	2138667
	11/22/2019			11/26/2019 02:21	Lauren Lees	2138668
	11/22/2019			11/26/2019 02:48	Lauren Lees	2138669
	11/22/2019			11/26/2019 03:14	Lauren Lees	2138670
	11/22/2019			11/27/2019 00:08	Lauren Lees	2138685
	11/22/2019			11/27/2019 00:54	Lauren Lees	2138686
	11/22/2019			11/27/2019 01:10	Lauren Lees	2138687
	11/22/2019			11/27/2019 01:27	Lauren Lees	2138688
	11/22/2019			11/27/2019 01:43	Lauren Lees	2138689
	11/22/2019			11/27/2019 02:02	Lauren Lees	2138690

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	11/22/2019			12/03/2019 02:08	Lauren Lees	2138683
	11/22/2019			12/03/2019 02:29	Lauren Lees	2138684
SM 5310 B-00 dissolved	11/22/2019			11/26/2019 01:26	Lauren Lees	2138663
	11/22/2019			11/26/2019 02:34	Lauren Lees	2138664
	11/22/2019			11/26/2019 03:01	Lauren Lees	2138665
	11/22/2019			11/26/2019 03:40	Lauren Lees	2138666
	11/22/2019			11/26/2019 22:35	Lauren Lees	2138677
	11/22/2019			11/26/2019 22:49	Lauren Lees	2138678
	11/22/2019			11/26/2019 23:05	Lauren Lees	2138679
	11/22/2019			11/26/2019 23:21	Lauren Lees	2138680
	11/22/2019			11/26/2019 23:36	Lauren Lees	2138681
	11/22/2019			11/26/2019 23:52	Lauren Lees	2138682
	11/22/2019			12/03/2019 01:27	Lauren Lees	2138675
	11/22/2019			12/03/2019 01:40	Lauren Lees	2138676