

Chemical Analysis Report

SO-DIST-2019-12-13-01

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-2019-12-09-03**
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
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: 10-JAN-2020 16:26

A handwritten signature in black ink, appearing to read "Colin Wright", is shown 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: 12/12/2019 09:15

Field ID: G3SD0108

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143876	SM 2320 B-97	Total Alkalinity	129		mg CaCO3/L	P376367	
	SM 4500 F-C-97	Fluoride	0.95		mg F/L	P376255	
2143880	SM 5310 B-00 dissolved	Organic Carbon	8.0		mg C/L	P375947	
2143884	EPA 350.1 Rev. 2.0	Ammonia-N	0.039		mg N/L	P376274	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P375839	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P376151	
	EPA 365.1 Rev. 2.0	Total-P	0.076		mg P/L	P376005	
	SM 5310 B-00	Organic Carbon	8.0		mg C/L	P375947	
2143888	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.052		mg P/L	P375857	
2143961	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P376068	
		Zinc	15	U	ug/L	P376068	
	EPA 200.8 Rev. 5.4	Arsenic	2.2		ug/L	P376068	
		Cadmium	0.20	U	ug/L	P376068	
		Chromium	4.0	U	ug/L	P376068	
		Copper	1.6	U	ug/L	P376068	
		Lead	2.0	U	ug/L	P376068	
		Nickel	2.0	U	ug/L	P376068	
		Silver	0.10	U	ug/L	P376068	

Sample Location: USGS Station-ShellPoint

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

Field ID: G3SD0109

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143877	SM 2320 B-97	Total Alkalinity	128		mg CaCO3/L	P376367	
	SM 4500 F-C-97	Fluoride	0.89		mg F/L	P376255	
2143881	SM 5310 B-00 dissolved	Organic Carbon	9.1		mg C/L	P375947	
2143885	EPA 350.1 Rev. 2.0	Ammonia-N	0.042		mg N/L	P376274	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P375839	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.021		mg N/L	P376151	
	EPA 365.1 Rev. 2.0	Total-P	0.087		mg P/L	P376005	
	SM 5310 B-00	Organic Carbon	9.4		mg C/L	P375947	
2143889	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.058		mg P/L	P375857	
2143962	EPA 200.7 Rev. 4.4	Iron	100	I	ug/L	P376068	
		Zinc	15	U	ug/L	P376068	
	EPA 200.8 Rev. 5.4	Arsenic	2.1		ug/L	P376068	
		Cadmium	0.20	U	ug/L	P376068	
		Chromium	4.0	U	ug/L	P376068	
		Copper	1.6	U	ug/L	P376068	
		Lead	2.0	U	ug/L	P376068	
		Nickel	2.0	U	ug/L	P376068	
		Silver	0.10	U	ug/L	P376068	

Sample Location: Marker # 76

Collection Date/Time: 12/12/2019 10:15

Field ID: G3SD0110

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143878	SM 2320 B-97	Total Alkalinity	130		mg CaCO3/L	P376367	
	SM 4500 F-C-97	Fluoride	0.72		mg F/L	P376255	
2143882	SM 5310 B-00 dissolved	Organic Carbon	11		mg C/L	P375947	
2143886	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P376279	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P375839	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376151	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P376005	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P375947	
2143890	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.069		mg P/L	P375857	
2143963	EPA 200.7 Rev. 4.4	Iron	91	I	ug/L	P376068	
		Zinc	15	U	ug/L	P376068	
	EPA 200.8 Rev. 5.4	Arsenic	2.0		ug/L	P376068	
		Cadmium	0.20	U	ug/L	P376068	
		Chromium	4.0	U	ug/L	P376068	
		Copper	1.6	U	ug/L	P376068	
		Lead	2.0	U	ug/L	P376068	
		Nickel	2.0	U	ug/L	P376068	
		Silver	0.10	U	ug/L	P376068	

Sample Location: Marker # 52

Collection Date/Time: 12/12/2019 10:50

Field ID: G3SD0111

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143879	SM 2320 B-97	Total Alkalinity	133		mg CaCO3/L	P376367	
	SM 4500 F-C-97	Fluoride	0.55		mg F/L	P376255	
2143883	SM 5310 B-00 dissolved	Organic Carbon	14		mg C/L	P375947	
2143887	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P376279	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P375949	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376151	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P376005	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P375947	
2143891	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.071		mg P/L	P375857	
2143964	EPA 200.7 Rev. 4.4	Iron	130	I	ug/L	P376068	
		Zinc	15	U	ug/L	P376068	
	EPA 200.8 Rev. 5.4	Arsenic	1.8	I	ug/L	P376068	
		Cadmium	0.20	U	ug/L	P376068	
		Chromium	4.0	U	ug/L	P376068	
		Copper	1.6	U	ug/L	P376068	
		Lead	2.0	U	ug/L	P376068	
		Nickel	2.0	U	ug/L	P376068	
		Silver	0.10	U	ug/L	P376068	

Sample Location: US 41, Marker # 38

Collection Date/Time: 12/12/2019 11:15

Field ID: G3SD0112

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143892	SM 5310 B-00 dissolved	Organic Carbon	15		mg C/L	P375947	
2143900	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P376279	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.99		mg N/L	P375949	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376151	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P376005	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P375947	
2143908	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.070		mg P/L	P375857	
2143965	EPA 200.7 Rev. 4.4	Calcium	168		mg/L	P376068	
		Iron	160	I	ug/L	P376068	
		Magnesium	406		mg/L	P376068	
		Potassium	124		mg/L	P376068	
		Sodium	3.44E+03		mg/L	P376068	
		Zinc	15	U	ug/L	P376068	
	EPA 200.8 Rev. 5.4	Arsenic	1.8	I	ug/L	P376068	
		Cadmium	0.20	U	ug/L	P376068	
		Chromium	4.0	U	ug/L	P376068	
		Copper	1.6	U	ug/L	P376068	
		Lead	2.0	U	ug/L	P376068	
		Nickel	5.0	U	ug/L	P376068	
		Silver	0.10	U	ug/L	P376068	

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: 12/12/2019 11:30

Field ID: G3SD0113

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143893	SM 5310 B-00 dissolved	Organic Carbon	16		mg C/L	P375979	
2143901	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P376279	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P375949	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.026		mg N/L	P376151	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P376005	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P375979	
2143909	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.079		mg P/L	P375857	
2143966	EPA 200.7 Rev. 4.4	Calcium	139		mg/L	P376068	
		Iron	140	I	ug/L	P376068	
		Magnesium	305		mg/L	P376068	
		Potassium	95		mg/L	P376068	
		Sodium	2.54E+03		mg/L	P376068	
		Zinc	15	U	ug/L	P376068	
	EPA 200.8 Rev. 5.4	Arsenic	1.8	I	ug/L	P376068	
		Cadmium	0.20	U	ug/L	P376068	
		Chromium	4.0	U	ug/L	P376068	
		Copper	1.6	U	ug/L	P376068	
		Lead	2.0	U	ug/L	P376068	
		Nickel	2.0	U	ug/L	P376068	
		Silver	0.10	U	ug/L	P376068	

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: 12/12/2019 11:40

Field ID: G3SD0114

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143894	SM 5310 B-00 dissolved	Organic Carbon	16		mg C/L	P375979	
2143902	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P376279	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.99		mg N/L	P375949	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.080		mg N/L	P376151	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P376005	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P375979	
2143910	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.078		mg P/L	P375857	
2143967	EPA 200.7 Rev. 4.4	Calcium	129		mg/L	P376068	
		Iron	90	U	ug/L	P376068	
		Magnesium	262		mg/L	P376068	
		Potassium	82		mg/L	P376068	
		Sodium	2.18E+03		mg/L	P376068	
		Zinc	15	U	ug/L	P376068	
	EPA 200.8 Rev. 5.4	Arsenic	1.7	I	ug/L	P376068	
		Cadmium	0.20	U	ug/L	P376068	
		Chromium	4.0	U	ug/L	P376068	
		Copper	1.6	U	ug/L	P376068	
		Lead	2.0	U	ug/L	P376068	
		Nickel	2.0	U	ug/L	P376068	
		Silver	0.10	U	ug/L	P376068	

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: 12/12/2019 11:55

Field ID: G3SD0115

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143895	SM 5310 B-00 dissolved	Organic Carbon	16		mg C/L	P375979	
2143903	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P376279	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P375949	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.080		mg N/L	P376151	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P376005	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P375979	
2143911	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.079		mg P/L	P375857	
2143968	EPA 200.7 Rev. 4.4	Calcium	126		mg/L	P376068	
		Iron	100	I	ug/L	P376068	
		Magnesium	256		mg/L	P376068	
		Potassium	80		mg/L	P376068	
		Sodium	2.13E+03		mg/L	P376068	
		Zinc	15	U	ug/L	P376068	
	EPA 200.8 Rev. 5.4	Arsenic	2.4		ug/L	P376068	
		Cadmium	0.20	U	ug/L	P376068	
		Chromium	4.0	U	ug/L	P376068	
		Copper	1.6	U	ug/L	P376068	
		Lead	2.0	U	ug/L	P376068	
		Nickel	2.0	U	ug/L	P376068	
		Silver	0.10	U	ug/L	P376068	

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: 12/12/2019 12:15

Field ID: G3SD0116

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143896	SM 5310 B-00 dissolved	Organic Carbon	16		mg C/L	P375979	
2143904	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P376279	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.86		mg N/L	P375949	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.081		mg N/L	P376152	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P376005	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P375979	
2143912	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.076		mg P/L	P375857	
2143969	EPA 200.7 Rev. 4.4	Calcium	123		mg/L	P376068	
		Iron	120	I	ug/L	P376068	
		Magnesium	243		mg/L	P376068	
		Potassium	75		mg/L	P376068	
		Sodium	2.02E+03		mg/L	P376068	
		Zinc	15	U	ug/L	P376068	
	EPA 200.8 Rev. 5.4	Arsenic	1.7	I	ug/L	P376068	
		Cadmium	0.20	U	ug/L	P376068	
		Chromium	4.0	U	ug/L	P376068	
		Copper	1.6	U	ug/L	P376068	
		Lead	2.0	U	ug/L	P376068	
		Nickel	2.0	U	ug/L	P376068	
		Silver	0.10	U	ug/L	P376068	

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: 12/12/2019 12:30

Field ID: G3SD0117

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143897	SM 5310 B-00 dissolved	Organic Carbon	15		mg C/L	P375979	
2143905	EPA 350.1 Rev. 2.0	Ammonia-N	0.038		mg N/L	P376279	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.89		mg N/L	P375949	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.078		mg N/L	P376152	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P376005	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P375979	
2143913	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.075		mg P/L	P375857	
2143970	EPA 200.7 Rev. 4.4	Calcium	122		mg/L	P376068	
		Iron	190	I	ug/L	P376068	
		Magnesium	242		mg/L	P376068	
		Potassium	77		mg/L	P376068	
		Sodium	2.04E+03		mg/L	P376068	
		Zinc	15	U	ug/L	P376068	
	EPA 200.8 Rev. 5.4	Arsenic	1.8	I	ug/L	P376068	
		Cadmium	0.20	U	ug/L	P376068	
		Chromium	4.0	U	ug/L	P376068	
		Copper	1.9	I	ug/L	P376068	
		Lead	2.0	U	ug/L	P376068	
		Nickel	2.0	U	ug/L	P376068	
		Silver	0.10	U	ug/L	P376068	

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: 12/12/2019 12:45

Field ID: G3SD0118

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143898	SM 5310 B-00 dissolved	Organic Carbon	15		mg C/L	P376028	
2143906	EPA 350.1 Rev. 2.0	Ammonia-N	0.049		mg N/L	P376279	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.94		mg N/L	P375949	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.068		mg N/L	P376152	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P376010	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P376028	
2143914	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.070		mg P/L	P375858	
2143971	EPA 200.7 Rev. 4.4	Calcium	118		mg/L	P376068	
		Iron	90	U	ug/L	P376068	
		Magnesium	237		mg/L	P376068	
		Potassium	75		mg/L	P376068	
		Sodium	1.99E+03		mg/L	P376068	
		Zinc	15	U	ug/L	P376068	
	EPA 200.8 Rev. 5.4	Arsenic	1.6	I	ug/L	P376068	
		Cadmium	0.20	U	ug/L	P376068	
		Chromium	4.0	U	ug/L	P376068	
		Copper	1.6	I	ug/L	P376068	
		Lead	2.0	U	ug/L	P376068	
		Nickel	2.0	U	ug/L	P376068	
		Silver	0.10	U	ug/L	P376068	

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: 12/12/2019 12:55

Field ID: G3SD0119

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143899	SM 5310 B-00 dissolved	Organic Carbon	15		mg C/L	P376028	
2143907	EPA 350.1 Rev. 2.0	Ammonia-N	0.046		mg N/L	P376279	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.94		mg N/L	P375949	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.053		mg N/L	P376152	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P376010	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P376028	
2143915	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.070		mg P/L	P375858	
2143972	EPA 200.7 Rev. 4.4	Calcium	126		mg/L	P376068	
		Iron	90	U	ug/L	P376068	
		Magnesium	256		mg/L	P376068	
		Potassium	81		mg/L	P376068	
		Sodium	2.18E+03		mg/L	P376068	
		Zinc	15	U	ug/L	P376068	
	EPA 200.8 Rev. 5.4	Arsenic	1.5	I	ug/L	P376068	
		Cadmium	0.20	U	ug/L	P376068	
		Chromium	4.0	U	ug/L	P376068	
		Copper	1.6	U	ug/L	P376068	
		Lead	2.0	U	ug/L	P376068	
		Nickel	2.0	U	ug/L	P376068	
		Silver	0.10	U	ug/L	P376068	

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: P376068

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: P376068

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: P376274

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376279

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375839

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375949

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376151

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: P376152

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376005

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376010

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375857

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375858

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

Reference Method: SM 2320 B-97
Batch ID: P376367

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

Reference Method: SM 4500 F-C-97
Batch ID: P376255

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P375947

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

Reference Method: SM 5310 B-00
Batch ID: P375979

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: P376028

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P375947

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P375979

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P376028

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: P376068

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	105		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	103		P	85 - 115
Sodium	106		P	85 - 115
Zinc	91.0		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P376068

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	99.6		P	85 - 115
Cadmium	98.5		P	85 - 115
Chromium	98.1		P	85 - 115
Copper	98.9		P	85 - 115
Lead	99.3		P	85 - 115
Nickel	101		P	85 - 115
Silver	103		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376274

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376279

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375839

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: P375949

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376151

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: P376152

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376005

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: P376010

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	108		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375857

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375858

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.8		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P376367

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P376255

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P375947

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

Reference Method: SM 5310 B-00
Batch ID: P375979

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.3		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P376028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.4		P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P375947

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

Reference Method: SM 5310 B-00 dissolved
Batch ID: P375979

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.3		P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P376028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P376068

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143969	Iron	107		P	70 - 130
2143969	Zinc	90.6		P	70 - 130
2143972	Iron	109	110	P/P	70 - 130
2143972	Zinc	94.7	95.1	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P376068

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143969	Arsenic	101		P	70 - 130
2143969	Cadmium	94.8		P	70 - 130
2143969	Chromium	86.0		P	70 - 130
2143969	Copper	94.8		P	80 - 120
2143969	Lead	103		P	70 - 130
2143969	Nickel	99.6		P	70 - 130
2143969	Silver	99.0		P	70 - 130
2143972	Arsenic	103	102	P/P	70 - 130
2143972	Cadmium	94.8	97.7	P/P	70 - 130
2143972	Chromium	85.7	84.9	P/P	70 - 130
2143972	Copper	92.2	94.0	P/P	80 - 120
2143972	Lead	103	104	P/P	70 - 130
2143972	Nickel	95.6	90.2	P/P	70 - 130
2143972	Silver	100	102	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376274

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143885	Ammonia-N	99.4	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376279

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143886	Ammonia-N	104	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375839

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143199	Kjeldahl Nitrogen	103	95.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375949

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143904	Kjeldahl Nitrogen	101	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376151

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: P376151

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143884	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P376152

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143904	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P376005

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143884	Total-P	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P376010

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143906	Total-P	107	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P375857

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143888	O-Phosphate-P	98.9	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P375858

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143914	O-Phosphate-P	97.9	98.9	P/P	90 - 110

Reference Method: SM 4500 F-C-97
 Batch ID: P376255

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2141767	Fluoride	99.5	102	P/P	89 - 106

Reference Method: SM 5310 B-00
 Batch ID: P375947

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142619	Organic Carbon	100	102	P/P	85 - 115

Reference Method: SM 5310 B-00
 Batch ID: P375979

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143902	Organic Carbon	94.4	94.6	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P376028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143400	Organic Carbon	98.0	96.4	P/P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P375947

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142619	Organic Carbon	100	102	P/P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P375979

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143902	Organic Carbon	94.4	94.6	P/P	85 - 115

Reference Method: SM 5310 B-00 dissolved
Batch ID: P376028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143400	Organic Carbon	98.0	96.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P376068

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143972	Calcium	0.998	Spike	P	0 - 20
2143972	Iron	0.814	Spike	P	0 - 20
2143972	Magnesium	0.728	Spike	P	0 - 20
2143972	Potassium	1.35	Spike	P	0 - 20
2143972	Sodium	0.923	Spike	P	0 - 20
2143972	Zinc	0.444	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P376068

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143972	Arsenic	0.337	Spike	P	0 - 20
2143972	Cadmium	2.98	Spike	P	0 - 20
2143972	Chromium	0.956	Spike	P	0 - 20
2143972	Copper	2.02	Spike	P	0 - 20
2143972	Lead	1.06	Spike	P	0 - 20
2143972	Nickel	5.79	Spike	P	0 - 20
2143972	Silver	1.41	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376274

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143885	Ammonia-N	0.482	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376279

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143886	Ammonia-N	0.624	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143199	Kjeldahl Nitrogen	6.19	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375949

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143904	Kjeldahl Nitrogen	2.28	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376151

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143884	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376152

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143904	NO2NO3-N	0.705	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376005

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143884	Total-P	0.781	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143906	Total-P	0.229	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143888	O-Phosphate-P	0.332	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143914	O-Phosphate-P	0.594	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P376367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142558	Total Alkalinity	0.00765	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-97
Batch ID: P376255

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2141767	Fluoride	2.00	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P375947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142619	Organic Carbon	1.39	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P375979

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143902	Organic Carbon	0.117	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P376028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143400	Organic Carbon	0.964	Spike	P	0 - 20

Reference Method: SM 5310 B-00 dissolved
Batch ID: P375947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142619	Organic Carbon	1.39	Spike	P	0 - 20

Reference Method: SM 5310 B-00 dissolved
Batch ID: P375979

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143902	Organic Carbon	0.117	Spike	P	0 - 20

Reference Method: SM 5310 B-00 dissolved
Batch ID: P376028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143400	Organic Carbon	0.964	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: A96350

Included Lab Sample IDs: 2143888, 2143889, 2143890, 2143891, 2143908, 2143909, 2143910, 2143911, 2143912, 2143913, 2143914, 2143915

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.3	98.0	P/P	90 - 110
O-Phosphate-P	97.6	98.3	P/P	90 - 110
O-Phosphate-P	98.3	97.8	P/P	90 - 110
O-Phosphate-P	99.1	97.3	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A96375

Included Lab Sample IDs: 2143884, 2143885, 2143886, 2143887, 2143900

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	102	P/P	90 - 110
Organic Carbon	97.4	102	P/P	90 - 110

Reference Method: SM 5310 B-00 dissolved

Run ID: A96375

Included Lab Sample IDs: 2143880, 2143881, 2143882, 2143883, 2143892

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	97.4	P/P	90 - 110
Organic Carbon	97.4	102	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A96393

Included Lab Sample IDs: 2143901, 2143902, 2143903, 2143904, 2143905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.8	97.2	P/P	90 - 110
Organic Carbon	97.3	95.6	P/P	90 - 110
Organic Carbon	97.4	94.8	P/P	90 - 110

Reference Method: SM 5310 B-00 dissolved

Run ID: A96393

Included Lab Sample IDs: 2143893, 2143894, 2143895, 2143896, 2143897

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	94.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96395

Included Lab Sample IDs: 2143884, 2143885, 2143886

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.9	104	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A96415

Included Lab Sample IDs: 2143906, 2143907

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.1	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00 dissolved
Run ID: A96415
Included Lab Sample IDs: 2143898, 2143899

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.1	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A96434
Included Lab Sample IDs: 2143887, 2143900, 2143901, 2143902, 2143903

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	103	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A96441
Included Lab Sample IDs: 2143884, 2143885, 2143886, 2143904, 2143905, 2143906, 2143907

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	99.2	P/P	90 - 110
Total-P	98.0	98.5	P/P	90 - 110
Total-P	99.2	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A96455
Included Lab Sample IDs: 2143887, 2143900, 2143901, 2143902, 2143903, 2143904, 2143905, 2143906, 2143907

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	99.8	P/P	90 - 110
Kjeldahl Nitrogen	98.8	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A96466
Included Lab Sample IDs: 2143884, 2143885, 2143886, 2143887, 2143900, 2143901, 2143902, 2143903, 2143904, 2143905, 2143906, 2143907

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

Reference Method: SM 4500 F-C-97
Run ID: A96509
Included Lab Sample IDs: 2143876, 2143877, 2143878, 2143879

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	104	P/P	90 - 110
Fluoride	103	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A96515
Included Lab Sample IDs: 2143884, 2143885, 2143886, 2143887, 2143900, 2143901, 2143902, 2143903, 2143904, 2143905, 2143906, 2143907

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.4	P/P	90 - 110
Ammonia-N	99.3	98.0	P/P	90 - 110
Ammonia-N	99.8	99.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A96556

Included Lab Sample IDs: 2143876, 2143877, 2143878, 2143879

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A96609

Included Lab Sample IDs: 2143961, 2143962, 2143963, 2143964, 2143965, 2143966, 2143967, 2143968, 2143969, 2143970, 2143971, 2143972

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	102	P/P	95 - 105
Calcium	102	103	P/P	90 - 110
Calcium	103	104	P/P	90 - 110
Calcium	104	101	P/P	90 - 110
Iron	102	104	P/P	95 - 105
Iron	104	104	P/P	90 - 110
Iron	104	104	P/P	90 - 110
Iron	104	103	P/P	90 - 110
Magnesium	101	102	P/P	90 - 110
Magnesium	102	101	P/P	90 - 110
Magnesium	102	101	P/P	90 - 110
Potassium	103	104	P/P	90 - 110
Potassium	103	103	P/P	90 - 110
Potassium	104	103	P/P	90 - 110
Sodium	106	106	P/P	90 - 110
Sodium	106	107	P/P	90 - 110
Sodium	107	105	P/P	90 - 110
Zinc	93.1	96.1	P/P	90 - 110
Zinc	96.1	96.3	P/P	90 - 110
Zinc	96.3	95.0	P/P	90 - 110
Zinc	96.3	93.1	P/P	95 - 105

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96720

Included Lab Sample IDs: 2143961, 2143962, 2143963, 2143964, 2143965, 2143966, 2143967, 2143968, 2143969, 2143970, 2143971, 2143972

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	101	99.1	P/P	90 - 110
Copper	99.1	96.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96767

Included Lab Sample IDs: 2143961, 2143962, 2143963, 2143964, 2143965, 2143966, 2143967, 2143968, 2143969, 2143970, 2143971, 2143972

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	102	102	P/P	90 - 110
Arsenic	102	102	P/P	90 - 110
Arsenic	102	102	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Cadmium	99.3	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96794

Included Lab Sample IDs: 2143961, 2143962, 2143963, 2143964, 2143965, 2143966, 2143967, 2143968, 2143969, 2143970, 2143971, 2143972

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	100	98.4	P/P	90 - 110
Chromium	98.4	98.3	P/P	90 - 110
Lead	97.7	97.6	P/P	90 - 110
Lead	98.6	97.7	P/P	90 - 110
Nickel	100	99.3	P/P	90 - 110
Nickel	101	98.5	P/P	90 - 110
Nickel	102	101	P/P	90 - 110
Silver	102	104	P/P	90 - 110
Silver	104	102	P/P	90 - 110

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

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision
			LCS	SMP	MS	
EPA 200.7 Rev. 4.4	Calcium	105				0.998
	Iron	105	107	109	110	0.814
	Magnesium	103				0.728
	Potassium	103				1.35
	Sodium	106				0.923
	Zinc	91.0	90.6	94.7	95.1	0.444
EPA 200.8 Rev. 5.4	Arsenic	99.6	101	103	102	0.337
	Cadmium	98.5	94.8	94.8	97.7	2.98
	Chromium	98.1	86.0	85.7	84.9	0.956
	Copper	98.9	94.8	92.2	94.0	2.02
	Lead	99.3	103	103	104	1.06
	Nickel	101	99.6	95.6	90.2	5.79
	Silver	103	99.0	100	102	1.41
EPA 350.1 Rev. 2.0	Ammonia-N	98.6	99.4	98.5		0.482
	Ammonia-N	97.1	104	103		0.624
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.9	103	95.4		6.19
	Kjeldahl Nitrogen	104	101	104		2.28
EPA 353.2 Rev. 2.0	NO2NO3-N	102	101	101		0.0
	NO2NO3-N	102	101	102		0.705
EPA 365.1 Rev. 2.0	Total-P	106	103	104		0.781
	Total-P	108	107	108		0.229
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	98.9	99.4		0.332
	O-Phosphate-P	99.8	97.9	98.9		0.594
SM 2320 B-97	Total Alkalinity	103				0.0076
SM 4500 F-C-97	Fluoride	97.9	99.5	102		2.00
SM 5310 B-00	Organic Carbon	103	100	102		1.39
	Organic Carbon	94.3	94.4	94.6		0.117
	Organic Carbon	98.4	98.0	96.4		0.964
SM 5310 B-00 dissolved	Organic Carbon	103	100	102		1.39
	Organic Carbon	94.3	94.4	94.6		0.117
	Organic Carbon	98.4	98.0	96.4		0.964

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	2143961, 2143962, 2143963, 2143964, 2143965, 2143966, 2143967, 2143968, 2143969, 2143970, 2143971, 2143972
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2143961, 2143962, 2143963, 2143964, 2143965, 2143966, 2143967, 2143968, 2143969, 2143970, 2143971, 2143972
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2143884, 2143885, 2143886, 2143887, 2143900, 2143901, 2143902, 2143903, 2143904, 2143905, 2143906, 2143907
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2143884, 2143885, 2143886, 2143887, 2143900, 2143901, 2143902, 2143903, 2143904, 2143905, 2143906, 2143907
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2143884, 2143885, 2143886, 2143887, 2143900, 2143901, 2143902, 2143903, 2143904, 2143905, 2143906, 2143907
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2143884, 2143885, 2143886, 2143887, 2143900, 2143901, 2143902, 2143903, 2143904, 2143905, 2143906, 2143907

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	2143888, 2143889, 2143890, 2143891, 2143908, 2143909, 2143910, 2143911, 2143912, 2143913, 2143914, 2143915
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2143876, 2143877, 2143878, 2143879
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2143876, 2143877, 2143878, 2143879
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2143884, 2143885, 2143886, 2143887, 2143900, 2143901, 2143902, 2143903, 2143904, 2143905, 2143906, 2143907
SM 5310 B-00 dissolved / E31780	Dissolved Nonpurgeable Organic Carbon in filtered, aqueous matrices	2143880, 2143881, 2143882, 2143883, 2143892, 2143893, 2143894, 2143895, 2143896, 2143897, 2143898, 2143899

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	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 10:15	Betina Topolski	2143961
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 10:23	Betina Topolski	2143962
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 10:31	Betina Topolski	2143963
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 10:39	Betina Topolski	2143964
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 10:46	Betina Topolski	2143965
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 11:18	Betina Topolski	2143965
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 11:24	Betina Topolski	2143966
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 11:32	Betina Topolski	2143966
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 11:37	Betina Topolski	2143967
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 11:44	Betina Topolski	2143967
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 11:53	Betina Topolski	2143968
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 12:00	Betina Topolski	2143968
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 12:08	Betina Topolski	2143969
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 12:51	Betina Topolski	2143969
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 13:14	Betina Topolski	2143970
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 13:22	Betina Topolski	2143970
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 13:29	Betina Topolski	2143971
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 13:37	Betina Topolski	2143971
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 14:17	Betina Topolski	2143972
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	12/20/2019 14:44	Betina Topolski	2143972
EPA 200.8 Rev. 5.4	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/06/2020 15:33	Justin Cutchin	2143961
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/06/2020 15:40	Justin Cutchin	2143962
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/06/2020 15:47	Justin Cutchin	2143963
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/06/2020 15:54	Justin Cutchin	2143964
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/06/2020 16:01	Justin Cutchin	2143965
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/06/2020 16:08	Justin Cutchin	2143966
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/06/2020 16:29	Justin Cutchin	2143967
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/06/2020 16:36	Justin Cutchin	2143968
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/06/2020 16:43	Justin Cutchin	2143969
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/06/2020 16:57	Justin Cutchin	2143970
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/06/2020 17:04	Justin Cutchin	2143971
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/06/2020 17:11	Justin Cutchin	2143972
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/08/2020 18:15	Alexander Thompson	2143961
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/08/2020 18:25	Alexander Thompson	2143969
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/08/2020 19:13	Alexander Thompson	2143962
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/08/2020 19:23	Alexander Thompson	2143963
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/08/2020 19:32	Alexander Thompson	2143964
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/08/2020 19:42	Alexander Thompson	2143965
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/08/2020 19:52	Alexander Thompson	2143966
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/08/2020 20:01	Alexander Thompson	2143967

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	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/08/2020 20:11	Alexander Thompson	2143968
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/08/2020 20:21	Alexander Thompson	2143972
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/08/2020 21:19	Alexander Thompson	2143970
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/08/2020 21:29	Alexander Thompson	2143971
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/09/2020 17:40	Alexander Thompson	2143970
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/09/2020 17:49	Alexander Thompson	2143971
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/09/2020 18:18	Alexander Thompson	2143961
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/09/2020 18:29	Alexander Thompson	2143969
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/09/2020 19:17	Alexander Thompson	2143962
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/09/2020 19:26	Alexander Thompson	2143963
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/09/2020 19:36	Alexander Thompson	2143964
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/09/2020 19:46	Alexander Thompson	2143965
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/09/2020 19:55	Alexander Thompson	2143966
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/09/2020 20:05	Alexander Thompson	2143967
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/09/2020 20:15	Alexander Thompson	2143968
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/09/2020 20:24	Alexander Thompson	2143972
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/10/2020 04:46	Alexander Thompson	2143961
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/10/2020 04:56	Alexander Thompson	2143962
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/10/2020 05:06	Alexander Thompson	2143963
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/10/2020 05:15	Alexander Thompson	2143964
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/10/2020 05:35	Alexander Thompson	2143969
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/10/2020 06:23	Alexander Thompson	2143966
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/10/2020 06:33	Alexander Thompson	2143967
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/10/2020 06:42	Alexander Thompson	2143968
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/10/2020 06:52	Alexander Thompson	2143970
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/10/2020 07:02	Alexander Thompson	2143971
	12/13/2019	12/18/2019 14:30	Elliott D. Healy	01/10/2020 07:11	Alexander Thompson	2143972
EPA 350.1 Rev. 2.0	12/13/2019			12/18/2019 10:33	Ping Hua	2143885
	12/13/2019			12/18/2019 10:37	Ping Hua	2143884
	12/13/2019			12/18/2019 13:06	Ping Hua	2143886
	12/13/2019			12/18/2019 13:11	Ping Hua	2143887
	12/13/2019			12/18/2019 13:12	Ping Hua	2143900
	12/13/2019			12/18/2019 13:14	Ping Hua	2143901
	12/13/2019			12/18/2019 13:21	Ping Hua	2143902
	12/13/2019			12/18/2019 13:23	Ping Hua	2143903
	12/13/2019			12/18/2019 13:24	Ping Hua	2143904
	12/13/2019			12/18/2019 13:26	Ping Hua	2143905
	12/13/2019			12/18/2019 13:27	Ping Hua	2143906
	12/13/2019			12/18/2019 13:29	Ping Hua	2143907
	12/13/2019			12/17/2019 12:26	Jhamieka S. Greenwood	2143884
EPA 351.2 Rev. 2.0	12/13/2019	12/16/2019 12:35	Sima Feizi	12/17/2019 12:26	Jhamieka S. Greenwood	2143884

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 351.2 Rev. 2.0	12/13/2019	12/16/2019 12:35	Sima Feizi	12/17/2019 12:28	Jhamieka S. Greenwood	2143885
	12/13/2019	12/16/2019 12:35	Sima Feizi	12/17/2019 12:29	Jhamieka S. Greenwood	2143886
	12/13/2019	12/17/2019 12:25	Sima Feizi	12/18/2019 16:11	Jhamieka S. Greenwood	2143904
	12/13/2019	12/17/2019 12:25	Sima Feizi	12/18/2019 16:17	Jhamieka S. Greenwood	2143887
	12/13/2019	12/17/2019 12:25	Sima Feizi	12/18/2019 16:19	Jhamieka S. Greenwood	2143900
	12/13/2019	12/17/2019 12:25	Sima Feizi	12/18/2019 16:24	Jhamieka S. Greenwood	2143901
	12/13/2019	12/17/2019 12:25	Sima Feizi	12/18/2019 16:25	Jhamieka S. Greenwood	2143902
	12/13/2019	12/17/2019 12:25	Sima Feizi	12/18/2019 16:27	Jhamieka S. Greenwood	2143903
	12/13/2019	12/17/2019 12:25	Sima Feizi	12/18/2019 16:28	Jhamieka S. Greenwood	2143905
	12/13/2019	12/17/2019 12:25	Sima Feizi	12/18/2019 16:30	Jhamieka S. Greenwood	2143906
	12/13/2019	12/17/2019 12:25	Sima Feizi	12/18/2019 16:31	Jhamieka S. Greenwood	2143907
EPA 353.2 Rev. 2.0	12/13/2019			12/19/2019 10:54	Beverly Y. Sanders	2143884
	12/13/2019			12/19/2019 11:02	Beverly Y. Sanders	2143885
	12/13/2019			12/19/2019 11:03	Beverly Y. Sanders	2143886
	12/13/2019			12/19/2019 11:05	Beverly Y. Sanders	2143887
	12/13/2019			12/19/2019 11:06	Beverly Y. Sanders	2143900
	12/13/2019			12/19/2019 11:07	Beverly Y. Sanders	2143901
	12/13/2019			12/19/2019 11:08	Beverly Y. Sanders	2143902
	12/13/2019			12/19/2019 11:09	Beverly Y. Sanders	2143903
	12/13/2019			12/19/2019 11:16	Beverly Y. Sanders	2143904
	12/13/2019			12/19/2019 11:22	Beverly Y. Sanders	2143905
	12/13/2019			12/19/2019 11:23	Beverly Y. Sanders	2143906
EPA 365.1 Rev. 2.0	12/13/2019			12/19/2019 11:25	Beverly Y. Sanders	2143907
	12/13/2019	12/17/2019 15:15	Lipi Saha	12/18/2019 12:18	Benjamin T. Nordmann	2143887
	12/13/2019	12/17/2019 15:15	Lipi Saha	12/18/2019 12:19	Benjamin T. Nordmann	2143900
	12/13/2019	12/17/2019 15:15	Lipi Saha	12/18/2019 12:20	Benjamin T. Nordmann	2143901
	12/13/2019	12/17/2019 15:15	Lipi Saha	12/18/2019 12:21	Benjamin T. Nordmann	2143902
	12/13/2019	12/17/2019 15:15	Lipi Saha	12/18/2019 12:22	Benjamin T. Nordmann	2143903
	12/13/2019	12/17/2019 15:15	Lipi Saha	12/18/2019 16:10	Benjamin T. Nordmann	2143884, 2143885
	12/13/2019	12/17/2019 15:15	Lipi Saha	12/18/2019 16:18	Benjamin T. Nordmann	2143886
	12/13/2019	12/17/2019 15:15	Lipi Saha	12/18/2019 16:19	Benjamin T. Nordmann	2143904
	12/13/2019	12/17/2019 15:15	Lipi Saha	12/18/2019 16:20	Benjamin T. Nordmann	2143905
	12/13/2019	12/17/2019 15:15	Lipi Saha	12/18/2019 16:38	Benjamin T. Nordmann	2143906
EPA 365.1 Rev. 2.0 dissolved	12/13/2019	12/17/2019 15:15	Lipi Saha	12/18/2019 16:39	Benjamin T. Nordmann	2143907
	12/13/2019			12/13/2019 17:48	Samantha Davila	2143888
	12/13/2019			12/13/2019 17:56	Samantha Davila	2143914
	12/13/2019			12/13/2019 18:28	Samantha Davila	2143889
	12/13/2019			12/13/2019 18:33	Samantha Davila	2143890
	12/13/2019			12/13/2019 18:34	Samantha Davila	2143891, 2143908
	12/13/2019			12/13/2019 18:35	Samantha Davila	2143909

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	12/13/2019			12/13/2019 18:36	Samantha Davila	2143910
	12/13/2019			12/13/2019 18:37	Samantha Davila	2143911
	12/13/2019			12/13/2019 18:38	Samantha Davila	2143912
	12/13/2019			12/13/2019 18:39	Samantha Davila	2143913, 2143915
SM 2320 B-97	12/13/2019			12/21/2019 12:25	Dale L. Simmons	2143876
	12/13/2019			12/21/2019 12:35	Dale L. Simmons	2143877
	12/13/2019			12/21/2019 12:45	Dale L. Simmons	2143878
	12/13/2019			12/21/2019 12:55	Dale L. Simmons	2143879
SM 4500 F-C-97	12/13/2019			12/17/2019 23:24	Dale L. Simmons	2143879
	12/13/2019			12/18/2019 00:55	Dale L. Simmons	2143876
	12/13/2019			12/18/2019 00:59	Dale L. Simmons	2143877
	12/13/2019			12/18/2019 01:03	Dale L. Simmons	2143878
SM 5310 B-00	12/13/2019			12/16/2019 22:00	Madeline Funaro	2143884
	12/13/2019			12/16/2019 22:14	Madeline Funaro	2143885
	12/13/2019			12/16/2019 23:13	Madeline Funaro	2143886
	12/13/2019			12/16/2019 23:26	Madeline Funaro	2143887
	12/13/2019			12/16/2019 23:40	Madeline Funaro	2143900
	12/13/2019			12/17/2019 04:04	Madeline Funaro	2143902
	12/13/2019			12/17/2019 09:26	Madeline Funaro	2143901
	12/13/2019			12/17/2019 09:44	Madeline Funaro	2143903
	12/13/2019			12/17/2019 10:02	Madeline Funaro	2143904
	12/13/2019			12/17/2019 10:49	Madeline Funaro	2143905
	12/13/2019			12/17/2019 19:13	Madeline Funaro	2143906
	12/13/2019			12/17/2019 19:27	Madeline Funaro	2143907
	12/13/2019			12/16/2019 19:26	Madeline Funaro	2143880
	12/13/2019			12/16/2019 19:40	Madeline Funaro	2143881
SM 5310 B-00 dissolved	12/13/2019			12/16/2019 20:23	Madeline Funaro	2143882
	12/13/2019			12/16/2019 20:37	Madeline Funaro	2143883
	12/13/2019			12/16/2019 20:51	Madeline Funaro	2143892
	12/13/2019			12/17/2019 08:09	Madeline Funaro	2143893
	12/13/2019			12/17/2019 08:22	Madeline Funaro	2143894
	12/13/2019			12/17/2019 08:35	Madeline Funaro	2143895
	12/13/2019			12/17/2019 08:48	Madeline Funaro	2143896
	12/13/2019			12/17/2019 09:06	Madeline Funaro	2143897
	12/13/2019			12/17/2019 18:44	Madeline Funaro	2143898
	12/13/2019			12/17/2019 18:58	Madeline Funaro	2143899