

Chemical Analysis Report

NW-DIST-2019-02-01-01

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

Event Description: **Bay Walton County Run**
Request ID: **RQ-2019-01-21-16**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 15-FEB-2019 15:09

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: PANTHER CREEK UPSTREAM OF SR280

Collection Date/Time: 01/31/2019 10:00

Field ID: G3NW0061

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058998	EPA 180.1 Rev. 2.0	Turbidity	3.9		NTU	P358223	
	EPA 300.0 Rev. 2.1	Chloride	3.3		mg Cl/L	P358734	
		Sulfate	1.5		mg SO4/L	P358736	
	SM 2120 B	Color (true)	37		PCU	P358212	
	SM 2320 B-97	Total Alkalinity	2.0	I	mg CaCO3/L	P358653	
	SM 2540 C-97	TDS	16	I	mg/L	P358785	
	SM 2540 D-97	TSS	2	I	mg/L	P358778	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P358658	
2059004	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P358568	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P358579	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.028		mg N/L	P358419	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P358297	
	SM 5310 B-00	Organic Carbon	3.0		mg C/L	P358528	
2059010	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358229	
2059028	EPA 200.7 Rev. 4.4	Barium	9.0		ug/L	P358446	
		Calcium	1.03		mg/L	P358446	
		Iron	330		ug/L	P358446	
		Magnesium	0.54		mg/L	P358446	
		Potassium	0.30	U	mg/L	P358446	
		Sodium	2.0	I	mg/L	P358446	
		Zinc	5.0	U	ug/L	P358446	
		Aluminum	202		ug/L	P358446	
		Antimony	0.050	U	ug/L	P358446	
		Arsenic	0.17	I	ug/L	P358446	
		Boron**	5.1	I	ug/L	P358446	
		Cadmium	0.020	U	ug/L	P358446	
		Chromium	0.40	U	ug/L	P358446	
		Copper	0.40	U	ug/L	P358446	
		Lead	0.20	U	ug/L	P358446	
		Nickel	0.50	U	ug/L	P358446	
	EPA 200.8 Rev. 5.4	Selenium	0.20	U	ug/L	P358446	MS
		Silver	0.010	U	ug/L	P358446	
		Thallium	0.10	U	ug/L	P358446	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for magnesium and sodium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: SEVEN RUNS UPSTREAM OF HWY 81

Collection Date/Time: 01/31/2019 10:35

Field ID: G3NW0116

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058999	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P358223	
	EPA 300.0 Rev. 2.1	Chloride	2.4		mg Cl/L	P358734	
		Sulfate	2.2		mg SO4/L	P358736	
	SM 2120 B	Color (true)	42	A	PCU	P358212	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P358653	
	SM 2540 C-97	TDS	21	I	mg/L	P358785	
	SM 2540 D-97	TSS	2	I	mg/L	P358778	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P358658	
2059005	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P358569	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.17	I	mg N/L	P358579	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.084		mg N/L	P358419	
	EPA 365.1 Rev. 2.0	Total-P	0.005	I	mg P/L	P358297	
	SM 5310 B-00	Organic Carbon	3.3		mg C/L	P358528	
2059011	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358229	
2059029	EPA 200.7 Rev. 4.4	Barium	5.5		ug/L	P358446	
		Calcium	1.09		mg/L	P358446	
		Iron	140		ug/L	P358446	
		Magnesium	0.43		mg/L	P358446	
		Potassium	0.35	I	mg/L	P358446	
		Sodium	1.4	I	mg/L	P358446	
		Zinc	5.0	U	ug/L	P358446	
		Aluminum	155		ug/L	P358446	
		Antimony	0.050	U	ug/L	P358446	
		Arsenic	0.085	I	ug/L	P358446	
		Boron**	6.3	I	ug/L	P358446	
		Cadmium	0.020	U	ug/L	P358446	
	EPA 200.8 Rev. 5.4	Chromium	0.40	U	ug/L	P358446	
		Copper	0.40	U	ug/L	P358446	
		Lead	0.20	U	ug/L	P358446	
		Nickel	0.50	U	ug/L	P358446	
		Selenium	0.20	U	ug/L	P358446	MS
		Silver	0.010	U	ug/L	P358446	
		Thallium	0.10	U	ug/L	P358446	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for magnesium and sodium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: OTTER CREEK UPSTREAM OF OTTER CREEK BRIDGE RD **Collection Date/Time: 01/31/2019 11:15**

Field ID: G3NW0133

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2059000	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P358223	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P358734	
		Sulfate	6.7		mg SO4/L	P358736	
	SM 2120 B	Color (true)	140		PCU	P358212	
	SM 2320 B-97	Total Alkalinity	8.3		mg CaCO3/L	P358653	
	SM 2540 C-97	TDS	68		mg/L	P358785	
	SM 2540 D-97	TSS	2	I	mg/L	P358778	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P358658	
2059006	EPA 350.1 Rev. 2.0	Ammonia-N	0.86		mg N/L	P358569	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P358579	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.092		mg N/L	P358419	
	EPA 365.1 Rev. 2.0	Total-P	0.005		mg P/L	P358297	
	SM 5310 B-00	Organic Carbon	8.5		mg C/L	P358528	
2059012	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358229	
2059030	EPA 200.7 Rev. 4.4	Barium	9.4		ug/L	P358446	
		Calcium	5.60		mg/L	P358446	
		Iron	420		ug/L	P358446	
		Magnesium	1.37		mg/L	P358446	
		Potassium	2.7		mg/L	P358446	
		Sodium	11.3		mg/L	P358446	
		Zinc	5.0	U	ug/L	P358446	
	EPA 200.8 Rev. 5.4	Aluminum	165		ug/L	P358446	
		Antimony	0.050	U	ug/L	P358446	
		Arsenic	0.27		ug/L	P358446	
		Boron**	54.2		ug/L	P358446	
		Cadmium	0.020	U	ug/L	P358446	
		Chromium	0.40	U	ug/L	P358446	
		Copper	0.40	U	ug/L	P358446	
		Lead	0.20	U	ug/L	P358446	
		Nickel	0.50	U	ug/L	P358446	
		Selenium	0.20	U	ug/L	P358446	MS
		Silver	0.010	U	ug/L	P358446	
		Thallium	0.10	U	ug/L	P358446	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for magnesium and sodium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: LITTLE BLACK CREEK UPSTREAM OF BLACK CREEK **Collection Date/Time: 01/31/2019 12:05**

Field ID: G3NW0172

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2059001	EPA 180.1 Rev. 2.0	Turbidity	5.1		NTU	P358223	
	EPA 300.0 Rev. 2.1	Chloride	3.2		mg Cl/L	P358734	
		Sulfate	1.3		mg SO4/L	P358736	
	SM 2120 B	Color (true)	110		PCU	P358212	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P358653	
	SM 2540 C-97	TDS	22	I	mg/L	P358785	
	SM 2540 D-97	TSS	2	I	mg/L	P358778	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P358658	
2059007	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P358569	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32		mg N/L	P358579	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.056		mg N/L	P358419	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P358297	
	SM 5310 B-00	Organic Carbon	7.6		mg C/L	P358528	
2059013	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358229	
2059031	EPA 200.7 Rev. 4.4	Barium	5.2		ug/L	P358446	
		Calcium	1.21		mg/L	P358446	
		Iron	240		ug/L	P358446	
		Magnesium	0.48		mg/L	P358446	
		Potassium	0.30	U	mg/L	P358446	
		Sodium	1.8	I	mg/L	P358446	
		Zinc	5.0	U	ug/L	P358446	
	EPA 200.8 Rev. 5.4	Aluminum	372		ug/L	P358446	
		Antimony	0.050	U	ug/L	P358446	
		Arsenic	0.16	I	ug/L	P358446	
		Boron**	7.2	I	ug/L	P358446	
		Cadmium	0.020	U	ug/L	P358446	
		Chromium	0.48	I	ug/L	P358446	
		Copper	0.40	U	ug/L	P358446	
		Lead	0.23	I	ug/L	P358446	
		Nickel	0.50	U	ug/L	P358446	
		Selenium	0.20	U	ug/L	P358446	
		Silver	0.010	U	ug/L	P358446	
		Thallium	0.10	U	ug/L	P358446	
							MS

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for magnesium and sodium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: BLACK CREEK UPSTREAM OF HWY 20

Collection Date/Time: 01/31/2019 12:30

Field ID: G3NW0148

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2059002	EPA 180.1 Rev. 2.0	Turbidity	4.3		NTU	P358223	
	EPA 300.0 Rev. 2.1	Chloride	3.1		mg Cl/L	P358734	
		Sulfate	1.1		mg SO4/L	P358736	
	SM 2120 B	Color (true)	98		PCU	P358212	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P358653	
	SM 2540 C-97	TDS	19	I	mg/L	P358785	
	SM 2540 D-97	TSS	3	I	mg/L	P358778	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P358658	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P358569	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22		mg N/L	P358579	
2059008	EPA 353.2 Rev. 2.0	NO2NO3-N	0.058		mg N/L	P358419	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P358297	
	SM 5310 B-00	Organic Carbon	7.0		mg C/L	P358528	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P358229	
	dissolved						
2059014	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P358229	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: BAY BRANCH UPSTREAM OF HWY 331

Collection Date/Time: 01/31/2019 13:00

Field ID: G3NW0171

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2059003	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P358224	
	EPA 300.0 Rev. 2.1	Chloride	3.4		mg Cl/L	P358734	
		Sulfate	1.8		mg SO4/L	P358736	
	SM 2120 B	Color (true)	73		PCU	P358212	
	SM 2320 B-97	Total Alkalinity	5.5		mg CaCO3/L	P358653	
	SM 2540 C-97	TDS	28		mg/L	P358785	
	SM 2540 D-97	TSS	2	U	mg/L	P358778	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P358658	
2059009	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P358569	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P358579	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.021		mg N/L	P358419	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P358297	
	SM 5310 B-00	Organic Carbon	4.7		mg C/L	P358528	
2059015	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358229	
2059032	EPA 200.7 Rev. 4.4	Barium	7.8		ug/L	P358446	
		Calcium	2.64		mg/L	P358446	
		Iron	300		ug/L	P358446	
		Magnesium	0.72		mg/L	P358446	
		Potassium	0.30	U	mg/L	P358446	
		Sodium	2.7		mg/L	P358446	
		Zinc	5.0	U	ug/L	P358446	
		Aluminum	170		ug/L	P358446	
	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P358446	
		Arsenic	0.16	I	ug/L	P358446	
		Boron**	8.0	I	ug/L	P358446	
		Cadmium	0.020	U	ug/L	P358446	
		Chromium	0.40	U	ug/L	P358446	
		Copper	0.40	U	ug/L	P358446	
		Lead	0.20	U	ug/L	P358446	
		Nickel	0.50	U	ug/L	P358446	
		Selenium	0.20	U	ug/L	P358446	MS
		Silver	0.010	U	ug/L	P358446	
		Thallium	0.10	U	ug/L	P358446	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for magnesium and sodium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358223

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358224

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P358446

Component	Result	Code	Units
Barium	1.0	U	ug/L
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: P358446

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	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
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358734

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358736

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358568

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358569

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358579

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358419

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358297

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358229

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

Reference Method: SM 2120 B
Batch ID: P358212

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P358653

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

Reference Method: SM 2540 C-97
Batch ID: P358785

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P358778

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P358658

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P358528

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: P358446

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	85 - 115
Calcium	103		P	85 - 115
Iron	103		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	99.2		P	85 - 115
Sodium	104		P	85 - 115
Zinc	97.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P358446

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.8		P	85 - 115
Antimony	98.7		P	85 - 115
Arsenic	106		P	85 - 115
Boron	94.3		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	97.6		P	85 - 115
Copper	98.9		P	85 - 115
Lead	96.3		P	85 - 115
Nickel	101		P	85 - 115
Selenium	101		P	85 - 115
Silver	99.8		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358734

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358736

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358568

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358569

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358579

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358419

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: P358297

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358229

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.3		P	90 - 110

Reference Method: SM 2120 B
Batch ID: P358212

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P358653

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P358658

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.3		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P358528

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: P358446

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059585	Barium	99.1		P	80 - 120
2059585	Calcium	94.3		P	80 - 120
2059585	Iron	105		P	80 - 120
2059585	Potassium	97.9		P	80 - 120
2059585	Zinc	98.6		P	80 - 120
2059672	Barium	95.0	100	P/P	80 - 120
2059672	Calcium	93.3	101	P/P	80 - 120
2059672	Iron	95.3	102	P/P	80 - 120
2059672	Magnesium	96.5	105	P/P	80 - 120
2059672	Potassium	89.9	96.2	P/P	80 - 120
2059672	Sodium	92.3	101	P/P	80 - 120
2059672	Zinc	93.4	97.7	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P358446

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059585	Aluminum	97.8		P	80 - 120
2059585	Antimony	103		P	80 - 120
2059585	Arsenic	110		P	80 - 120
2059585	Boron	98.6		P	80 - 120
2059585	Cadmium	103		P	80 - 120
2059585	Chromium	97.3		P	80 - 120
2059585	Copper	102		P	80 - 120
2059585	Lead	99.1		P	80 - 120
2059585	Nickel	94.2		P	80 - 120
2059585	Selenium	77.2		F	80 - 120
2059585	Silver	98.7		P	80 - 120
2059585	Thallium	106		P	80 - 120
2059672	Aluminum	101	101	P/P	80 - 120
2059672	Antimony	99.0	100	P/P	80 - 120
2059672	Arsenic	104	106	P/P	80 - 120
2059672	Boron	101	103	P/P	80 - 120
2059672	Cadmium	102	103	P/P	80 - 120
2059672	Chromium	101	103	P/P	80 - 120
2059672	Copper	101	102	P/P	80 - 120
2059672	Lead	99.7	100	P/P	80 - 120
2059672	Nickel	103	104	P/P	80 - 120
2059672	Selenium	104	104	P/P	80 - 120
2059672	Silver	101	102	P/P	80 - 120
2059672	Thallium	106	109	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358734

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058908	Chloride	95.6		P	90 - 110
2058999	Chloride	98.8		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P358736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058908	Sulfate	97.8		P	90 - 110
2058999	Sulfate	99.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P358568

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058538	Ammonia-N	98.6	95.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P358569

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059008	Ammonia-N	97.6	96.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P358579

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059004	Kjeldahl Nitrogen	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P358419

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058969	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P358297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058970	Total-P	100	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P358229

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059011	O-Phosphate-P	97.8	99.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
 Batch ID: P358658

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059069	Fluoride	97.5	96.9	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P358528

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2059004	Organic Carbon	98.4	98.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358223

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058967	Turbidity	6.99	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358224

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059127	Turbidity	1.24	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P358446

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059672	Barium	4.62	Spike	P	0 - 20
2059672	Calcium	5.75	Spike	P	0 - 20
2059672	Iron	6.33	Spike	P	0 - 20
2059672	Magnesium	6.38	Spike	P	0 - 20
2059672	Potassium	5.31	Spike	P	0 - 20
2059672	Sodium	5.55	Spike	P	0 - 20
2059672	Zinc	4.49	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P358446

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059672	Aluminum	0.00600	Spike	P	0 - 20
2059672	Antimony	1.08	Spike	P	0 - 20
2059672	Arsenic	1.52	Spike	P	0 - 20
2059672	Boron	1.92	Spike	P	0 - 20
2059672	Cadmium	1.08	Spike	P	0 - 20
2059672	Chromium	2.26	Spike	P	0 - 20
2059672	Copper	1.76	Spike	P	0 - 20
2059672	Lead	0.834	Spike	P	0 - 20
2059672	Nickel	1.24	Spike	P	0 - 20
2059672	Selenium	0.0618	Spike	P	0 - 20
2059672	Silver	0.815	Spike	P	0 - 20
2059672	Thallium	2.39	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058908	Chloride	0.202	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358736

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058908	Sulfate	0.0840	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058538	Ammonia-N	2.67	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358569

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059008	Ammonia-N	1.29	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358579

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059004	Kjeldahl Nitrogen	1.11	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058969	NO2NO3-N	0.489	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058970	Total-P	1.67	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358229

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059011	O-Phosphate-P	1.62	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P358212

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058999	Color (true)	0.475	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P358653

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059069	Total Alkalinity	0.0253	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P358785

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058967	TDS	0.976	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P358658

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059069	Fluoride	0.480	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P358528

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059004	Organic Carbon	0.132	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A89147

Included Lab Sample IDs: 2058998, 2058999, 2059000, 2059001, 2059002, 2059003

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A89150

Included Lab Sample IDs: 2058998, 2058999, 2059000, 2059001, 2059002, 2059003

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A89152

Included Lab Sample IDs: 2059010, 2059011, 2059012, 2059013, 2059014, 2059015

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.4	99.0	P/P	90 - 110
O-Phosphate-P	99.8	98.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A89209

Included Lab Sample IDs: 2059004, 2059005, 2059006, 2059007, 2059008, 2059009

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89215

Included Lab Sample IDs: 2059004, 2059005, 2059006, 2059007, 2059008, 2059009

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	99.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A89267

Included Lab Sample IDs: 2059004, 2059005, 2059006, 2059007, 2059008, 2059009

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.9	98.1	P/P	90 - 110
Organic Carbon	98.1	96.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A89275

Included Lab Sample IDs: 2059028, 2059029, 2059030, 2059031, 2059032

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.0	98.7	P/P	90 - 110
Antimony	99.2	99.2	P/P	90 - 110
Arsenic	103	103	P/P	90 - 110
Boron	98.2	98.8	P/P	90 - 110
Cadmium	99.0	99.8	P/P	90 - 110
Chromium	100	101	P/P	90 - 110
Copper	102	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A89275

Included Lab Sample IDs: 2059028, 2059029, 2059030, 2059031, 2059032

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	100	100	P/P	90 - 110
Nickel	103	102	P/P	90 - 110
Selenium	101	102	P/P	90 - 110
Silver	100	101	P/P	90 - 110
Thallium	97.9	98.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A89276

Included Lab Sample IDs: 2059004, 2059005, 2059006, 2059007, 2059008, 2059009

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	98.6	P/P	90 - 110
Ammonia-N	102	102	P/P	90 - 110
Ammonia-N	102	100	P/P	90 - 110
Ammonia-N	98.6	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A89280

Included Lab Sample IDs: 2059028, 2059029, 2059030, 2059031, 2059032

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	100	P/P	90 - 110
Calcium	99.5	102	P/P	90 - 110
Iron	100	102	P/P	90 - 110
Magnesium	101	103	P/P	90 - 110
Potassium	98.5	99.7	P/P	90 - 110
Sodium	101	104	P/P	90 - 110
Zinc	99.8	98.3	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A89314

Included Lab Sample IDs: 2058998, 2058999, 2059000, 2059001, 2059002, 2059003

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	106	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A89314

Included Lab Sample IDs: 2058998, 2058999, 2059000, 2059001, 2059002, 2059003

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89336

Included Lab Sample IDs: 2059004, 2059005, 2059006, 2059007, 2059008, 2059009

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	96.8	P/P	90 - 110
Kjeldahl Nitrogen	96.8	97.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A89353

Included Lab Sample IDs: 2058998, 2058999, 2059000, 2059001, 2059002, 2059003

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Chloride	101	101	P/P	90 - 110
Chloride	101	101	P/P	90 - 110
Sulfate	100	100	P/P	90 - 110
Sulfate	100	101	P/P	90 - 110
Sulfate	101	101	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	MS
EPA 180.1 Rev. 2.0	Turbidity							6.99	
	Turbidity							1.24	
EPA 200.7 Rev. 4.4	Barium	100			99.1	95.0	100		4.62
	Calcium	103			94.3	93.3	101		5.75
	Iron	103			105	95.3	102		6.33
	Magnesium	107			96.5	105			6.38
	Potassium	99.2			97.9	89.9	96.2		5.31
	Sodium	104			92.3	101			5.55
	Zinc	97.9			98.6	93.4	97.7		4.49
EPA 200.8 Rev. 5.4	Aluminum	97.8			97.8	101	101		0.0060
	Antimony	98.7			103	99.0	100		1.08
	Arsenic	106			110	104	106		1.52
	Boron	94.3			98.6	101	103		1.92
	Cadmium	101			103	102	103		1.08
	Chromium	97.6			97.3	101	103		2.26
	Copper	98.9			102	101	102		1.76
	Lead	96.3			99.1	99.7	100		0.834
	Nickel	101			94.2	103	104		1.24
	Selenium	101			77.2	104	104		0.0618
	Silver	99.8			98.7	101	102		0.815
	Thallium	101			106	106	109		2.39
	Chloride	99.3			95.6	98.8		0.202	
	Sulfate	98.9			97.8	99.2		0.0840	
EPA 350.1 Rev. 2.0	Ammonia-N	100			98.6	95.2			2.67
	Ammonia-N	96.3			97.6	96.1			1.29
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102			102	101			1.11
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100			102	102			0.489
EPA 365.1 Rev. 2.0	Total-P	100			100	103			1.67
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.3			97.8	99.4			1.62
SM 2120 B	Color (true)	101						0.475	
SM 2320 B-97	Total Alkalinity	104						0.0253	
SM 2540 C-97	TDS							0.976	
SM 4500 F-C-97	Fluoride	97.3			97.5	96.9			0.480
SM 5310 B-00	Organic Carbon	98.4			98.4	98.3			0.132

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2058998, 2058999, 2059000, 2059001, 2059002, 2059003
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2059028, 2059029, 2059030, 2059031, 2059032
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2059028, 2059029, 2059030, 2059031, 2059032
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2058998, 2058999, 2059000, 2059001, 2059002, 2059003
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2058998, 2058999, 2059000, 2059001, 2059002, 2059003
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2059004, 2059005, 2059006, 2059007, 2059008, 2059009
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2059004, 2059005, 2059006, 2059007, 2059008, 2059009
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2059004, 2059005, 2059006, 2059007, 2059008, 2059009

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2059004, 2059005, 2059006, 2059007, 2059008, 2059009
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2059010, 2059011, 2059012, 2059013, 2059014, 2059015
SM 2120 B / E31780	True Color measured at 450 nm	2058998, 2058999, 2059000, 2059001, 2059002, 2059003
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2058998, 2058999, 2059000, 2059001, 2059002, 2059003
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2058998, 2058999, 2059000, 2059001, 2059002, 2059003
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2058998, 2058999, 2059000, 2059001, 2059002, 2059003
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2058998, 2058999, 2059000, 2059001, 2059002, 2059003
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2059004, 2059005, 2059006, 2059007, 2059008, 2059009

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	02/01/2019			02/01/2019 15:49	Julia Storbeck	2058998, 2058999, 2059000, 2059001, 2059002, 2059003
EPA 200.7 Rev. 4.4	02/01/2019	02/06/2019 16:45	Elliott D. Healy	02/07/2019 14:18	Martin Acosta	2059028
	02/01/2019	02/06/2019 16:45	Elliott D. Healy	02/07/2019 14:24	Martin Acosta	2059029
	02/01/2019	02/06/2019 16:45	Elliott D. Healy	02/07/2019 14:29	Martin Acosta	2059030
	02/01/2019	02/06/2019 16:45	Elliott D. Healy	02/07/2019 14:36	Martin Acosta	2059031
	02/01/2019	02/06/2019 16:45	Elliott D. Healy	02/07/2019 14:41	Martin Acosta	2059032
EPA 200.8 Rev. 5.4	02/01/2019	02/06/2019 16:45	Elliott D. Healy	02/07/2019 19:54	Robert K Palmer	2059028
	02/01/2019	02/06/2019 16:45	Elliott D. Healy	02/07/2019 20:04	Robert K Palmer	2059029
	02/01/2019	02/06/2019 16:45	Elliott D. Healy	02/07/2019 20:13	Robert K Palmer	2059030
	02/01/2019	02/06/2019 16:45	Elliott D. Healy	02/07/2019 20:23	Robert K Palmer	2059031
	02/01/2019	02/06/2019 16:45	Elliott D. Healy	02/07/2019 20:32	Robert K Palmer	2059032
EPA 300.0 Rev. 2.1	02/01/2019			02/11/2019 21:28	Lipi Saha	2058999
	02/01/2019			02/12/2019 00:54	Lipi Saha	2058998
	02/01/2019			02/12/2019 01:09	Lipi Saha	2059000
	02/01/2019			02/12/2019 01:24	Lipi Saha	2059001
	02/01/2019			02/12/2019 01:39	Lipi Saha	2059002
	02/01/2019			02/12/2019 02:23	Lipi Saha	2059003
EPA 350.1 Rev. 2.0	02/01/2019			02/07/2019 13:41	Ping Hua	2059004
	02/01/2019			02/07/2019 13:57	Ping Hua	2059009
	02/01/2019			02/07/2019 14:11	Ping Hua	2059005
	02/01/2019			02/07/2019 14:14	Ping Hua	2059007
	02/01/2019			02/07/2019 14:20	Ping Hua	2059008
	02/01/2019			02/07/2019 14:30	Ping Hua	2059006
EPA 351.2 Rev. 2.0	02/01/2019	02/08/2019 11:55	Adrian Shelby	02/11/2019 10:23	Joseph Suarez	2059004
	02/01/2019	02/08/2019 11:55	Adrian Shelby	02/11/2019 10:28	Joseph Suarez	2059005
	02/01/2019	02/08/2019 11:55	Adrian Shelby	02/11/2019 10:29	Joseph Suarez	2059006
	02/01/2019	02/08/2019 11:55	Adrian Shelby	02/11/2019 10:31	Joseph Suarez	2059007
	02/01/2019	02/08/2019 11:55	Adrian Shelby	02/11/2019 10:35	Joseph Suarez	2059008
	02/01/2019	02/08/2019 11:55	Adrian Shelby	02/11/2019 10:37	Joseph Suarez	2059009
EPA 353.2 Rev. 2.0	02/01/2019			02/06/2019 09:39	Beverly Y. Sanders	2059004
	02/01/2019			02/06/2019 09:40	Beverly Y. Sanders	2059005
	02/01/2019			02/06/2019 09:41	Beverly Y. Sanders	2059006
	02/01/2019			02/06/2019 09:43	Beverly Y. Sanders	2059007
	02/01/2019			02/06/2019 09:44	Beverly Y. Sanders	2059008
	02/01/2019			02/06/2019 09:45	Beverly Y. Sanders	2059009
EPA 365.1 Rev. 2.0	02/01/2019	02/04/2019 13:15	Sima Feizi	02/05/2019 17:24	Rosalyn Ballman	2059004
	02/01/2019	02/04/2019 13:15	Sima Feizi	02/05/2019 17:25	Rosalyn Ballman	2059005
	02/01/2019	02/04/2019 13:15	Sima Feizi	02/05/2019 17:26	Rosalyn Ballman	2059006
	02/01/2019	02/04/2019 13:15	Sima Feizi	02/05/2019 17:27	Rosalyn Ballman	2059007

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	02/01/2019	02/04/2019 13:15	Sima Feizi	02/05/2019 17:28	Rosalyn Ballman	2059008
	02/01/2019	02/04/2019 13:15	Sima Feizi	02/05/2019 17:29	Rosalyn Ballman	2059009
EPA 365.1 Rev. 2.0 dissolved	02/01/2019			02/01/2019 15:52	Jhamieka S. Greenwood	2059011
	02/01/2019			02/01/2019 15:56	Jhamieka S. Greenwood	2059010, 2059012
	02/01/2019			02/01/2019 16:21	Jhamieka S. Greenwood	2059013
	02/01/2019			02/01/2019 16:22	Jhamieka S. Greenwood	2059014
	02/01/2019			02/01/2019 16:23	Jhamieka S. Greenwood	2059015
SM 2120 B	02/01/2019			02/01/2019 15:04	Julia Storbeck	2058999
	02/01/2019			02/01/2019 15:08	Julia Storbeck	2058998, 2059000
	02/01/2019			02/01/2019 15:09	Julia Storbeck	2059001
	02/01/2019			02/01/2019 15:10	Julia Storbeck	2059002
	02/01/2019			02/01/2019 15:11	Julia Storbeck	2059003
SM 2320 B-97	02/01/2019			02/09/2019 18:58	Dale L. Simmons	2058998
	02/01/2019			02/09/2019 19:13	Dale L. Simmons	2058999
	02/01/2019			02/09/2019 19:27	Dale L. Simmons	2059000
	02/01/2019			02/09/2019 19:37	Dale L. Simmons	2059001
	02/01/2019			02/09/2019 19:47	Dale L. Simmons	2059002
SM 2540 C-97	02/01/2019			02/09/2019 20:00	Dale L. Simmons	2059003
	02/01/2019			02/06/2019 15:36	Yijie Li	2058998, 2058999, 2059000, 2059001, 2059002, 2059003
SM 2540 D-97	02/01/2019			02/06/2019 15:36	Yijie Li	2058998, 2058999, 2059000, 2059001, 2059002, 2059003
SM 4500 F-C-97	02/01/2019			02/09/2019 18:58	Dale L. Simmons	2058998
	02/01/2019			02/09/2019 19:13	Dale L. Simmons	2058999
	02/01/2019			02/09/2019 19:27	Dale L. Simmons	2059000
	02/01/2019			02/09/2019 19:37	Dale L. Simmons	2059001
	02/01/2019			02/09/2019 19:47	Dale L. Simmons	2059002
SM 5310 B-00	02/01/2019			02/09/2019 20:00	Dale L. Simmons	2059003
	02/01/2019			02/06/2019 15:23	Chelsea Hernandez	2059004
	02/01/2019			02/06/2019 16:12	Chelsea Hernandez	2059005
	02/01/2019			02/06/2019 16:36	Chelsea Hernandez	2059006
	02/01/2019			02/06/2019 16:48	Chelsea Hernandez	2059007
	02/01/2019			02/06/2019 17:25	Chelsea Hernandez	2059008
	02/01/2019			02/06/2019 17:37	Chelsea Hernandez	2059009