

Chemical Analysis Report

WAS-SECT-2019-12-18-01

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

Event Description: **Merrit's Mill Pond BMAP**
Request ID: **RQ-2019-12-16-47**
Customer: **WAS-SECT**
Project ID: **BMAP**

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 15-JAN-2020 13:00



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: Merritt's Mill Pond 500 meters upstream of dam Collection Date/Time: 12/18/2019 08:53

Field ID: G2WA0009

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2145096	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P376125	
	EPA 300.0 Rev. 2.1	Chloride	5.1		mg Cl/L	P376563	
		Sulfate	1.4		mg SO4/L	P376565	
		Color (true)	2.5	U	PCU	P376194	
	SM 2320 B-97	Total Alkalinity	125		mg CaCO3/L	P376376	
	SM 2540 C-97	TDS	155	A	mg/L	P376545	
	SM 2540 D-97	TSS	2	UA	mg/L	P376534	
	SM 4500 F-C-97	Fluoride	0.038	I	mg F/L	P376673	
2145101	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P376457	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.26		mg N/L	P376665	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.6		mg N/L	P376334	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P376211	MS
	SM 5310 B-00	Organic Carbon	0.83	I	mg C/L	P376383	
2145106	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P376177	
2145119	EPA 200.7 Rev. 4.4	Barium	7.8		ug/L	P376414	
		Calcium	53.7		mg/L	P376414	
		Iron	30	U	ug/L	P376414	
		Magnesium	3.00		mg/L	P376414	
		Potassium	0.55	I	mg/L	P376414	
		Sodium	2.2		mg/L	P376414	
		Zinc	5.0	U	ug/L	P376414	
		Aluminum	5.0	U	ug/L	P376414	
		Antimony	0.050	U	ug/L	P376414	
		Arsenic	0.31		ug/L	P376414	
	EPA 200.8 Rev. 5.4	Boron**	7.7	I	ug/L	P376414	
		Cadmium	0.020	U	ug/L	P376414	
		Chromium	0.71	I	ug/L	P376414	
		Copper	0.40	U	ug/L	P376414	
		Lead	0.20	U	ug/L	P376414	
		Nickel	0.50	U	ug/L	P376414	
		Selenium	0.20	U	ug/L	P376414	
		Silver	0.010	U	ug/L	P376414	
		Thallium	0.10	U	ug/L	P376414	

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: Merritt's Mill Pond mid under powerlines

Collection Date/Time: 12/18/2019 10:12

Field ID: FB_12182019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2145111	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P376125	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P376563	
		Sulfate	0.20	U	mg SO4/L	P376565	
		Color (true)	2.5	U	PCU	P376194	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P376376	
	SM 2540 C-97	TDS	15	U	mg/L	P376545	
	SM 2540 D-97	TSS	2	U	mg/L	P376534	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P376673	
2145112	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P376457	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P376665	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376335	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P376211	MS
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P376383	
2145113	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376177	
2145124	EPA 200.7 Rev. 4.4	Barium	1.0	U	ug/L	P376414	
		Calcium	0.075	U	mg/L	P376414	
		Iron	30	U	ug/L	P376414	
		Magnesium	0.040	U	mg/L	P376414	
		Potassium	0.30	U	mg/L	P376414	
		Sodium	0.50	U	mg/L	P376414	
		Zinc	5.0	U	ug/L	P376414	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P376414	
		Antimony	0.050	U	ug/L	P376838	
		Arsenic	0.050	U	ug/L	P376414	
		Boron**	2.0	U	ug/L	P376414	
		Cadmium	0.020	U	ug/L	P376414	
		Chromium	0.40	U	ug/L	P376414	
		Copper	0.40	U	ug/L	P376414	
		Lead	0.20	U	ug/L	P376414	
		Nickel	0.50	U	ug/L	P376414	
		Selenium	0.20	U	ug/L	P376414	
		Silver	0.010	U	ug/L	P376414	
		Thallium	0.10	U	ug/L	P376414	

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: Merritt's Mill Pond mid under powerlines

Collection Date/Time: 12/18/2019 10:24

Field ID: G2WA0008

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2145097	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P376125	
	EPA 300.0 Rev. 2.1	Chloride	4.9		mg Cl/L	P376563	
		Sulfate	1.3		mg SO4/L	P376565	
	SM 2120 B	Color (true)	2.5	U	PCU	P376194	
	SM 2320 B-97	Total Alkalinity	125		mg CaCO3/L	P376376	
	SM 2540 C-97	TDS	143		mg/L	P376545	
	SM 2540 D-97	TSS	2	U	mg/L	P376534	
	SM 4500 F-C-97	Fluoride	0.039	I	mg F/L	P376673	
2145102	EPA 350.1 Rev. 2.0	Ammonia-N	0.088		mg N/L	P376457	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21		mg N/L	P376665	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.8		mg N/L	P376334	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P376211	MS
	SM 5310 B-00	Organic Carbon	0.67	I	mg C/L	P376383	
2145107	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.015		mg P/L	P376177	
2145120	EPA 200.7 Rev. 4.4	Barium	7.6		ug/L	P376414	
		Calcium	53.6		mg/L	P376414	
		Iron	30	U	ug/L	P376414	
		Magnesium	2.98		mg/L	P376414	
		Potassium	0.50	I	mg/L	P376414	
		Sodium	2.2		mg/L	P376414	
		Zinc	5.0	U	ug/L	P376414	
	EPA 200.8 Rev. 5.4	Aluminum	6.3	I	ug/L	P376414	
		Antimony	0.050	U	ug/L	P376838	
		Arsenic	0.32		ug/L	P376414	
		Boron**	7.4	I	ug/L	P376414	
		Cadmium	0.020	U	ug/L	P376414	
		Chromium	0.83	I	ug/L	P376414	
		Copper	0.40	U	ug/L	P376414	
		Lead	0.20	U	ug/L	P376414	
		Nickel	0.50	U	ug/L	P376414	
		Selenium	0.20	U	ug/L	P376414	
		Silver	0.010	U	ug/L	P376414	
		Thallium	0.10	U	ug/L	P376414	

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: Merritt's Mill Pond mid under powerlines

Collection Date/Time: 12/18/2019 10:31

Field ID: G2WA0008_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2145098	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P376125	
	EPA 300.0 Rev. 2.1	Chloride	4.9		mg Cl/L	P376563	
		Sulfate	1.3		mg SO4/L	P376565	
		Color (true)	2.5	U	PCU	P376194	
	SM 2320 B-97	Total Alkalinity	125		mg CaCO3/L	P376376	
	SM 2540 C-97	TDS	142		mg/L	P376545	
	SM 2540 D-97	TSS	2	I	mg/L	P376534	
	SM 4500 F-C-97	Fluoride	0.038	I	mg F/L	P376673	
2145103	EPA 350.1 Rev. 2.0	Ammonia-N	0.087		mg N/L	P376457	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.20	I	mg N/L	P376665	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.8		mg N/L	P376334	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P376211	MS
	SM 5310 B-00	Organic Carbon	0.61	I	mg C/L	P376383	
2145108	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.015		mg P/L	P376177	
2145121	EPA 200.7 Rev. 4.4	Barium	7.7		ug/L	P376414	
		Calcium	53.6		mg/L	P376414	
		Iron	30	U	ug/L	P376414	
		Magnesium	2.93		mg/L	P376414	
		Potassium	0.48	I	mg/L	P376414	
		Sodium	2.2		mg/L	P376414	
		Zinc	5.0	U	ug/L	P376414	
	EPA 200.8 Rev. 5.4	Aluminum	8.0	I	ug/L	P376414	
		Antimony	0.050	U	ug/L	P376838	
		Arsenic	0.32		ug/L	P376414	
		Boron**	7.4	I	ug/L	P376414	
		Cadmium	0.020	U	ug/L	P376414	
		Chromium	0.84	I	ug/L	P376414	
		Copper	0.40	U	ug/L	P376414	
		Lead	0.20	U	ug/L	P376414	
		Nickel	0.50	U	ug/L	P376414	
		Selenium	0.20	U	ug/L	P376414	
		Silver	0.010	U	ug/L	P376414	
		Thallium	0.10	U	ug/L	P376414	

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: SHANGRI LA SPRING Vent

Collection Date/Time: 12/18/2019 11:04

Field ID: G2WA0022

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2145099	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P376125	
	EPA 300.0 Rev. 2.1	Chloride	5.1		mg Cl/L	P376563	
		Sulfate	1.3		mg SO4/L	P376565	
		Color (true)	2.5	U	PCU	P376194	
	SM 2320 B-97	Total Alkalinity	126	A	mg CaCO3/L	P376376	
	SM 2540 C-97	TDS	155		mg/L	P376545	
	SM 2540 D-97	TSS	2	I	mg/L	P376534	
	SM 4500 F-C-97	Fluoride	0.037	I	mg F/L	P376673	
2145104	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P376457	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	UJ	mg N/L	P376665	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	3.9		mg N/L	P376335	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P376211	MS
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P376383	
2145109	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.021		mg P/L	P376177	
2145122	EPA 200.7 Rev. 4.4	Barium	5.7		ug/L	P376414	
		Calcium	56.4		mg/L	P376414	
		Iron	30	U	ug/L	P376414	
		Magnesium	2.26		mg/L	P376414	
		Potassium	0.44	I	mg/L	P376414	
		Sodium	2.0		mg/L	P376414	
		Zinc	5.0	U	ug/L	P376414	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P376414	
		Antimony	0.050	U	ug/L	P376838	
		Arsenic	0.25		ug/L	P376414	
		Boron**	7.1	I	ug/L	P376414	
		Cadmium	0.020	U	ug/L	P376414	
		Chromium	1.2	I	ug/L	P376414	
		Copper	0.40	U	ug/L	P376414	
		Lead	0.20	U	ug/L	P376414	
		Nickel	0.50	U	ug/L	P376414	
		Selenium	0.20	U	ug/L	P376414	
		Silver	0.010	U	ug/L	P376414	
		Thallium	0.10	U	ug/L	P376414	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Merritt's Mill Pond 600 meters downstream of Jackson Blue Sp

Collection Date/Time: 12/18/2019 10:51

Field ID: G2WA0007

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2145100	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P376125	
	EPA 300.0 Rev. 2.1	Chloride	4.8		mg Cl/L	P376563	
		Sulfate	1.2		mg SO4/L	P376565	
	SM 2120 B	Color (true)	2.5	U	PCU	P376194	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P376376	
	SM 2540 C-97	TDS	152		mg/L	P376545	
	SM 2540 D-97	TSS	2	U	mg/L	P376534	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P376673	
2145105	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P376457	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P376665	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	3.5		mg N/L	P376335	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P376211	MS
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P376383	
2145110	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.019		mg P/L	P376177	
2145123	EPA 200.7 Rev. 4.4	Barium	6.2		ug/L	P376414	
		Calcium	52.5		mg/L	P376414	
		Iron	30	U	ug/L	P376414	
		Magnesium	2.62		mg/L	P376414	
		Potassium	0.44	I	mg/L	P376414	
		Sodium	2.0		mg/L	P376414	
		Zinc	5.0	U	ug/L	P376414	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P376414	
		Antimony	0.050	U	ug/L	P376838	
		Arsenic	0.28		ug/L	P376414	
		Boron**	6.9	I	ug/L	P376414	
		Cadmium	0.020	U	ug/L	P376414	
		Chromium	1.1	I	ug/L	P376414	
		Copper	0.40	U	ug/L	P376414	
		Lead	0.20	U	ug/L	P376414	
		Nickel	0.50	U	ug/L	P376414	
		Selenium	0.21	I	ug/L	P376414	
		Silver	0.010	U	ug/L	P376414	
		Thallium	0.10	U	ug/L	P376414	

Ref. Method and Comment:

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P376125

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P376414

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: P376414

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.11	I	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 200.8 Rev. 5.4
Batch ID: P376838

Component	Result	Code	Units
Antimony	0.050	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376563

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376565

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: P376457

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376665

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376334

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376335

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376211

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376177

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

Reference Method: SM 2120 B
Batch ID: P376194

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P376376

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

Reference Method: SM 2540 C-97
Batch ID: P376545

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P376534

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P376673

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P376383

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: P376414

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	85 - 115
Calcium	107		P	85 - 115
Iron	107		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	103		P	85 - 115
Sodium	102		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P376414

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.8		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	104		P	85 - 115
Boron	97.3		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	97.9		P	85 - 115
Copper	99.9		P	85 - 115
Lead	110		P	85 - 115
Nickel	100		P	85 - 115
Selenium	101		P	85 - 115
Silver	100		P	85 - 115
Thallium	107		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P376838

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Antimony	106		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P376563

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P376565

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P376457

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376665

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376334

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376335

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: P376211

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376177

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

Reference Method: SM 2120 B
Batch ID: P376194

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P376376

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

Reference Method: SM 4500 F-C-97
Batch ID: P376673

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P376383

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P376414

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145123	Barium	99.1		P	80 - 120
2145123	Calcium	107		P	80 - 120
2145123	Iron	105		P	80 - 120
2145123	Magnesium	102		P	80 - 120
2145123	Potassium	104		P	80 - 120
2145123	Sodium	104		P	80 - 120
2145123	Zinc	101		P	80 - 120
2145245	Barium	102	105	P/P	80 - 120
2145245	Calcium	109	109	P/P	80 - 120
2145245	Iron	107	107	P/P	80 - 120
2145245	Magnesium	108	109	P/P	80 - 120
2145245	Potassium	107	109	P/P	80 - 120
2145245	Sodium	105		P	80 - 120
2145245	Zinc	105	109	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P376414

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145123	Aluminum	95.1		P	80 - 120
2145123	Antimony	101		P	80 - 120
2145123	Arsenic	101		P	80 - 120
2145123	Boron	93.0		P	80 - 120
2145123	Cadmium	101		P	80 - 120
2145123	Chromium	98.9		P	80 - 120
2145123	Copper	93.9		P	80 - 120
2145123	Lead	108		P	80 - 120
2145123	Nickel	94.9		P	80 - 120
2145123	Selenium	97.4		P	80 - 120
2145123	Silver	101		P	80 - 120
2145123	Thallium	106		P	80 - 120
2145245	Aluminum	96.3	94.9	P/P	80 - 120
2145245	Antimony	99.7	100	P/P	80 - 120
2145245	Arsenic	102	99.6	P/P	80 - 120
2145245	Boron	98.5	98.1	P/P	80 - 120
2145245	Cadmium	103	97.9	P/P	80 - 120
2145245	Chromium	101	99.5	P/P	80 - 120
2145245	Copper	98.6	96.3	P/P	80 - 120
2145245	Lead	110	110	P/P	80 - 120
2145245	Nickel	101	95.8	P/P	80 - 120
2145245	Selenium	93.9	95.2	P/P	80 - 120
2145245	Silver	99.5	99.8	P/P	80 - 120
2145245	Thallium	107	108	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P376838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145120	Antimony	108	107	P/P	80 - 120
2145223	Antimony	107		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376563

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143451	Chloride	95.8		P	90 - 110
2144973	Chloride	96.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376565

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143451	Sulfate	93.2		P	90 - 110
2144973	Sulfate	96.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376457

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145129	Ammonia-N	102	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376665

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145104	Kjeldahl Nitrogen	115	114	F/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376334

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145001	NO2NO3-N	96.5	96.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145131	NO2NO3-N	97.0	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145087	Total-P	104	111	P/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376177

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145106	O-Phosphate-P	93.7	95.3	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P376673

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145099	Fluoride	98.2	98.2	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P376383

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145000	Organic Carbon	97.0	97.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P376125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145125	Turbidity	0.393	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P376414

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145245	Barium	2.94	Spike	P	0 - 20
2145245	Calcium	0.0884	Spike	P	0 - 20
2145245	Iron	0.0965	Spike	P	0 - 20
2145245	Magnesium	0.708	Spike	P	0 - 20
2145245	Potassium	1.74	Spike	P	0 - 20
2145245	Sodium	1.24	Spike	P	0 - 20
2145245	Zinc	3.24	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P376414

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145245	Aluminum	1.30	Spike	P	0 - 20
2145245	Antimony	0.442	Spike	P	0 - 20
2145245	Arsenic	2.12	Spike	P	0 - 20
2145245	Boron	0.312	Spike	P	0 - 20
2145245	Cadmium	4.93	Spike	P	0 - 20
2145245	Chromium	1.49	Spike	P	0 - 20
2145245	Copper	2.39	Spike	P	0 - 20
2145245	Lead	0.0571	Spike	P	0 - 20
2145245	Nickel	5.40	Spike	P	0 - 20
2145245	Selenium	1.33	Spike	P	0 - 20
2145245	Silver	0.299	Spike	P	0 - 20
2145245	Thallium	0.677	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P376838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145120	Antimony	1.19	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376563

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143451	Chloride	1.99	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376565

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143451	Sulfate	0.202	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145129	Ammonia-N	1.33	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145104	Kjeldahl Nitrogen	0.639	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376334

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145001	NO2NO3-N	0.336	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145131	NO2NO3-N	1.03	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145087	Total-P	6.43	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376177

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145106	O-Phosphate-P	1.57	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P376194

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145128	Color (true)	10.6	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P376376

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145099	Total Alkalinity	0.105	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P376545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145096	TDS	9.03	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P376673

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145099	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P376383

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145000	Organic Carbon	0.609	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A96446

Included Lab Sample IDs: 2145096, 2145097, 2145098, 2145099, 2145100, 2145111

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A96476

Included Lab Sample IDs: 2145106, 2145107, 2145108, 2145109, 2145110, 2145113

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.4	97.1	P/P	90 - 110
O-Phosphate-P	97.8	96.9	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A96487

Included Lab Sample IDs: 2145096, 2145097, 2145098, 2145099, 2145100, 2145111

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A96541

Included Lab Sample IDs: 2145101, 2145102, 2145103, 2145104, 2145105, 2145112

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: EPA 365.1 Rev. 2.0

Run ID: A96548

Included Lab Sample IDs: 2145101, 2145102, 2145103, 2145104, 2145105, 2145112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	98.5	P/P	90 - 110
Total-P	98.5	98.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A96559

Included Lab Sample IDs: 2145096, 2145097, 2145098, 2145099, 2145100, 2145111

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

Reference Method: SM 5310 B-00

Run ID: A96560

Included Lab Sample IDs: 2145101, 2145102, 2145103, 2145104, 2145105, 2145112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	98.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A96586

Included Lab Sample IDs: 2145101, 2145102, 2145103, 2145104, 2145105, 2145112

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A96634

Included Lab Sample IDs: 2145096, 2145097, 2145098, 2145099, 2145100, 2145111

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	100	P/P	90 - 110
Chloride	100	102	P/P	90 - 110
Sulfate	100	101	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A96635

Included Lab Sample IDs: 2145119, 2145120, 2145121, 2145122, 2145123, 2145124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	98.4	98.9	P/P	90 - 110
Barium	100	98.4	P/P	95 - 105
Calcium	104	105	P/P	95 - 105
Calcium	105	103	P/P	90 - 110
Iron	102	103	P/P	95 - 105
Iron	103	103	P/P	90 - 110
Magnesium	101	102	P/P	95 - 105
Magnesium	102	103	P/P	90 - 110
Potassium	100	102	P/P	95 - 105
Potassium	102	102	P/P	90 - 110
Sodium	104	102	P/P	90 - 110
Sodium	104	104	P/P	95 - 105
Zinc	102	99.3	P/P	95 - 105
Zinc	99.3	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96700

Included Lab Sample IDs: 2145119, 2145120, 2145121, 2145122, 2145123, 2145124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	94.1	95.0	P/P	90 - 110
Aluminum	97.2	94.1	P/P	90 - 110
Arsenic	100	98.7	P/P	90 - 110
Arsenic	98.7	99.7	P/P	90 - 110
Boron	94.3	92.7	P/P	90 - 110
Boron	95.8	94.3	P/P	90 - 110
Cadmium	97.6	98.6	P/P	90 - 110
Cadmium	98.6	99.6	P/P	90 - 110
Chromium	94.8	98.3	P/P	90 - 110
Chromium	98.3	99.0	P/P	90 - 110
Copper	96.1	96.5	P/P	90 - 110
Copper	98.5	96.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96700

Included Lab Sample IDs: 2145119, 2145120, 2145121, 2145122, 2145123, 2145124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	103	104	P/P	90 - 110
Lead	104	104	P/P	90 - 110
Nickel	95.4	96.4	P/P	90 - 110
Nickel	97.7	95.4	P/P	90 - 110
Selenium	97.2	97.9	P/P	90 - 110
Selenium	97.9	98.1	P/P	90 - 110
Thallium	93.9	94.9	P/P	90 - 110
Thallium	94.9	94.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A96714

Included Lab Sample IDs: 2145096, 2145097, 2145098, 2145099, 2145100, 2145111

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96742

Included Lab Sample IDs: 2145119, 2145120, 2145121, 2145122, 2145123, 2145124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	97.1	96.8	P/P	90 - 110
Silver	101	102	P/P	90 - 110
Silver	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96743

Included Lab Sample IDs: 2145101, 2145102, 2145103, 2145104, 2145105, 2145112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	99.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96843

Included Lab Sample IDs: 2145120, 2145121, 2145122, 2145123, 2145124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	98.4	98.9	P/P	90 - 110
Antimony	98.9	97.2	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					0.393	
EPA 200.7 Rev. 4.4	Barium	100	99.1	102	105		2.94
	Calcium	107	107	109	109		0.0884
	Iron	107	105	107	107		0.0965
	Magnesium	107	102	108	109		0.708
	Potassium	103	104	107	109		1.74
	Sodium	102	104	105			1.24
	Zinc	102	101	105	109		3.24
EPA 200.8 Rev. 5.4	Aluminum	98.8	95.1	96.3	94.9		1.30
	Antimony	100	99.7	100	101		0.442
	Antimony	106	108	107	107		1.19
	Arsenic	104	101	102	99.6		2.12
	Boron	97.3	93.0	98.5	98.1		0.312
	Cadmium	102	101	103	97.9		4.93
	Chromium	97.9	98.9	101	99.5		1.49
	Copper	99.9	93.9	98.6	96.3		2.39
	Lead	110	108	110	110		0.0571
	Nickel	100	94.9	101	95.8		5.40
	Selenium	101	97.4	93.9	95.2		1.33
	Silver	100	99.5	99.8	101		0.299
	Thallium	107	106	107	108		0.677
EPA 300.0 Rev. 2.1	Chloride	98.0	95.8	96.5		1.99	
	Sulfate	97.2	93.2	96.4		0.202	
EPA 350.1 Rev. 2.0	Ammonia-N	97.9	102	100			1.33
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	115	114			0.639
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	96.5	96.0			0.336
	NO2NO3-N	100	97.0	98.0			1.03
EPA 365.1 Rev. 2.0	Total-P	104	104	111			6.43
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.8	93.7	95.3			1.57
SM 2120 B	Color (true)	100				10.6	
SM 2320 B-97	Total Alkalinity	102				0.105	
SM 2540 C-97	TDS					9.03	
SM 4500 F-C-97	Fluoride	99.9	98.2	98.2			0.0
SM 5310 B-00	Organic Carbon	96.8	97.0	97.8			0.609

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2145096, 2145097, 2145098, 2145099, 2145100, 2145111
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2145119, 2145120, 2145121, 2145122, 2145123, 2145124
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2145119, 2145120, 2145121, 2145122, 2145123, 2145124
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2145096, 2145097, 2145098, 2145099, 2145100, 2145111
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2145096, 2145097, 2145098, 2145099, 2145100, 2145111
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2145101, 2145102, 2145103, 2145104, 2145105, 2145112
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2145101, 2145102, 2145103, 2145104, 2145105, 2145112
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2145101, 2145102, 2145103, 2145104, 2145105, 2145112

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	2145101, 2145102, 2145103, 2145104, 2145105, 2145112
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2145106, 2145107, 2145108, 2145109, 2145110, 2145113
SM 2120 B / E31780	True Color measured at 450 nm	2145096, 2145097, 2145098, 2145099, 2145100, 2145111
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2145096, 2145097, 2145098, 2145099, 2145100, 2145111
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2145096, 2145097, 2145098, 2145099, 2145100, 2145111
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2145096, 2145097, 2145098, 2145099, 2145100, 2145111
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2145096, 2145097, 2145098, 2145099, 2145100, 2145111
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2145101, 2145102, 2145103, 2145104, 2145105, 2145112

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	12/18/2019			12/18/2019 16:50	Blanca Fach	2145096, 2145097, 2145098, 2145099, 2145100, 2145111
EPA 200.7 Rev. 4.4	12/18/2019	12/26/2019 14:00	Elliott D. Healy	12/30/2019 11:52	Betina Topolski	2145124
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	12/30/2019 12:28	Betina Topolski	2145119
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	12/30/2019 12:35	Betina Topolski	2145120
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	12/30/2019 12:43	Betina Topolski	2145121
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	12/30/2019 13:12	Betina Topolski	2145122
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	12/30/2019 13:19	Betina Topolski	2145123
EPA 200.8 Rev. 5.4	12/18/2019	01/09/2020 14:15	Elliott D. Healy	01/13/2020 16:27	Justin Cutchin	2145124
	12/18/2019	01/09/2020 14:15	Elliott D. Healy	01/13/2020 17:34	Justin Cutchin	2145120
	12/18/2019	01/09/2020 14:15	Elliott D. Healy	01/13/2020 18:22	Justin Cutchin	2145121
	12/18/2019	01/09/2020 14:15	Elliott D. Healy	01/13/2020 18:32	Justin Cutchin	2145122
	12/18/2019	01/09/2020 14:15	Elliott D. Healy	01/13/2020 18:42	Justin Cutchin	2145123
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	01/03/2020 18:47	Martin Acosta	2145124
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	01/03/2020 19:54	Martin Acosta	2145119
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	01/03/2020 20:03	Martin Acosta	2145120
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	01/03/2020 20:41	Martin Acosta	2145121
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	01/03/2020 20:51	Martin Acosta	2145122
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	01/03/2020 21:00	Martin Acosta	2145123
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	01/07/2020 20:02	Alexander Thompson	2145124
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	01/07/2020 21:30	Alexander Thompson	2145119
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	01/07/2020 21:38	Alexander Thompson	2145120
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	01/07/2020 21:45	Alexander Thompson	2145121
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	01/07/2020 21:52	Alexander Thompson	2145122
	12/18/2019	12/26/2019 14:00	Elliott D. Healy	01/07/2020 22:29	Alexander Thompson	2145123
EPA 300.0 Rev. 2.1	12/18/2019			12/30/2019 21:49	Irina Carbone	2145096
	12/18/2019			12/30/2019 22:01	Irina Carbone	2145097
	12/18/2019			12/30/2019 22:13	Irina Carbone	2145098
	12/18/2019			12/30/2019 22:49	Irina Carbone	2145099
	12/18/2019			12/30/2019 23:01	Irina Carbone	2145100
	12/18/2019			12/30/2019 23:13	Irina Carbone	2145111
EPA 350.1 Rev. 2.0	12/18/2019			12/26/2019 13:17	Ping Hua	2145101
	12/18/2019			12/26/2019 13:25	Ping Hua	2145103
	12/18/2019			12/26/2019 13:26	Ping Hua	2145104
	12/18/2019			12/26/2019 13:28	Ping Hua	2145105
	12/18/2019			12/26/2019 13:40	Ping Hua	2145112
	12/18/2019			12/26/2019 16:15	Ping Hua	2145102
EPA 351.2 Rev. 2.0	12/18/2019	01/06/2020 17:22	Jhamieka S. Greenwood	01/07/2020 14:07	Virginia P. Brown	2145101
	12/18/2019	01/06/2020 17:22	Jhamieka S. Greenwood	01/07/2020 14:09	Virginia P. Brown	2145102
	12/18/2019	01/06/2020 17:22	Jhamieka S. Greenwood	01/07/2020 14:10	Virginia P. Brown	2145103

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	12/18/2019	01/06/2020 17:22	Jhamieka S. Greenwood	01/07/2020 14:12	Virginia P. Brown	2145104
	12/18/2019	01/06/2020 17:22	Jhamieka S. Greenwood	01/07/2020 14:16	Virginia P. Brown	2145105
	12/18/2019	01/06/2020 17:22	Jhamieka S. Greenwood	01/07/2020 14:18	Virginia P. Brown	2145112
EPA 353.2 Rev. 2.0	12/18/2019			12/23/2019 12:49	Beverly Y. Sanders	2145101
	12/18/2019			12/23/2019 12:50	Beverly Y. Sanders	2145102
	12/18/2019			12/23/2019 12:52	Beverly Y. Sanders	2145103
	12/18/2019			12/23/2019 12:59	Beverly Y. Sanders	2145104
	12/18/2019			12/23/2019 13:00	Beverly Y. Sanders	2145105
	12/18/2019			12/23/2019 13:01	Beverly Y. Sanders	2145112
	12/18/2019			12/23/2019 13:01	Beverly Y. Sanders	2145112
EPA 365.1 Rev. 2.0	12/18/2019	12/20/2019 13:10	Yen Ta	12/23/2019 14:48	Benjamin T. Nordmann	2145101
	12/18/2019	12/20/2019 13:10	Yen Ta	12/23/2019 14:49	Benjamin T. Nordmann	2145102
	12/18/2019	12/20/2019 13:10	Yen Ta	12/23/2019 14:50	Benjamin T. Nordmann	2145103
	12/18/2019	12/20/2019 13:10	Yen Ta	12/23/2019 14:51	Benjamin T. Nordmann	2145104
	12/18/2019	12/20/2019 13:10	Yen Ta	12/23/2019 14:59	Benjamin T. Nordmann	2145105
	12/18/2019	12/20/2019 13:10	Yen Ta	12/23/2019 15:01	Benjamin T. Nordmann	2145112
EPA 365.1 Rev. 2.0 dissolved	12/18/2019			12/19/2019 15:12	Samantha Davila	2145106
	12/18/2019			12/19/2019 15:36	Samantha Davila	2145113
	12/18/2019			12/19/2019 15:37	Samantha Davila	2145107
	12/18/2019			12/19/2019 15:38	Samantha Davila	2145108, 2145109
	12/18/2019			12/19/2019 15:39	Samantha Davila	2145110
SM 2120 B	12/18/2019			12/19/2019 16:55	Madeline Funaro	2145096, 2145097
	12/18/2019			12/19/2019 16:56	Madeline Funaro	2145098
	12/18/2019			12/19/2019 16:57	Madeline Funaro	2145099
	12/18/2019			12/19/2019 16:58	Madeline Funaro	2145100
	12/18/2019			12/19/2019 16:59	Madeline Funaro	2145111
SM 2320 B-97	12/18/2019			12/24/2019 12:42	Dale L. Simmons	2145099
	12/18/2019			12/24/2019 14:37	Dale L. Simmons	2145096
	12/18/2019			12/24/2019 15:19	Dale L. Simmons	2145097
	12/18/2019			12/24/2019 15:32	Dale L. Simmons	2145098
	12/18/2019			12/24/2019 15:45	Dale L. Simmons	2145100
	12/18/2019			12/24/2019 16:00	Dale L. Simmons	2145111
SM 2540 C-97	12/18/2019			12/23/2019 16:45	Yijie Li	2145096, 2145097, 2145098, 2145099, 2145100, 2145111
SM 2540 D-97	12/18/2019			12/23/2019 16:45	Yijie Li	2145096, 2145097, 2145098, 2145099, 2145100, 2145111
SM 4500 F-C-97	12/18/2019			01/07/2020 01:48	Dale L. Simmons	2145099
	12/18/2019			01/07/2020 02:38	Dale L. Simmons	2145096
	12/18/2019			01/07/2020 03:13	Dale L. Simmons	2145097
	12/18/2019			01/07/2020 03:18	Dale L. Simmons	2145098
	12/18/2019			01/07/2020 03:22	Dale L. Simmons	2145100

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-97	12/18/2019			01/07/2020 03:30	Dale L. Simmons	2145111
SM 5310 B-00	12/18/2019			12/24/2019 06:35	Madeline Funaro	2145101
	12/18/2019			12/24/2019 06:47	Madeline Funaro	2145102
	12/18/2019			12/24/2019 06:59	Madeline Funaro	2145103
	12/18/2019			12/24/2019 07:11	Madeline Funaro	2145104
	12/18/2019			12/24/2019 07:23	Madeline Funaro	2145105
	12/18/2019			12/24/2019 07:36	Madeline Funaro	2145112