

Chemical Analysis Report

NE-DIST-2019-07-12-02

Florida Department of Environmental Protection
Central Laboratory
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DOH Accreditation E31780

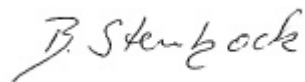
Event Description: **Nassau West**
Request ID: **RQ-2019-07-01-14**
Customer: **NE-DIST**
Project ID: **SMP**

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

Date Certified: 06-AUG-2019 17:25



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: St. Marys S Prong @ CR 23C

Collection Date/Time: 07/11/2019 10:15

Field ID: 19010023

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2102698	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P367176	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P367341	
		Sulfate	7.0		mg SO4/L	P367343	
		Color (true)	37		PCU	P367165	
	SM 2120 B	Total Alkalinity	50	A	mg CaCO3/L	P367554	
	SM 2540 C-97	TDS	105		mg/L	P367546	
	SM 2540 D-97	TSS	2	U	mg/L	P367573	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P367559	
2102702	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P367750	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.26		mg N/L	P367201	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.45		mg N/L	P367262	
	EPA 365.1 Rev. 2.0	Total-P	0.50		mg P/L	P367217	
	SM 5310 B-00	Organic Carbon	3.8		mg C/L	P367489	
2102706	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.43		mg P/L	P367174	
2102743	EPA 200.7 Rev. 4.4	Barium	40.0		ug/L	P367293	
		Calcium	13.3		mg/L	P367293	
		Iron	390		ug/L	P367293	
		Magnesium	6.06		mg/L	P367293	
		Potassium	2.4		mg/L	P367293	
		Sodium	14.6		mg/L	P367293	
		Zinc	5.0	U	ug/L	P367293	
	EPA 200.8 Rev. 5.4	Aluminum	52		ug/L	P367293	
		Antimony	0.059	I	ug/L	P367293	
		Arsenic	0.35		ug/L	P367293	
		Boron**	29.5		ug/L	P367293	
		Cadmium	0.020	U	ug/L	P367293	
		Chromium	0.40	U	ug/L	P367293	
		Copper	0.40	U	ug/L	P367293	
		Lead	0.20	U	ug/L	P367293	
		Nickel	0.65	I	ug/L	P367293	
		Selenium	0.20	U	ug/L	P367293	
		Silver	0.010	U	ug/L	P367293	
		Thallium	0.10	U	ug/L	P367293	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: St. Marys S Prong @ US 90

Collection Date/Time: 07/11/2019 10:55

Field ID: 19010021

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2102699	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P367176	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P367341	
		Sulfate	13		mg SO4/L	P367343	
		Color (true)	51		PCU	P367165	
	SM 2120 B	Total Alkalinity	54	A	mg CaCO3/L	P367555	
	SM 2540 C-97	TDS	143		mg/L	P367546	
	SM 2540 D-97	TSS	2	U	mg/L	P367573	
	SM 4500 F-C-97	Fluoride	0.21		mg F/L	P367560	
2102703	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P367715	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P367201	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.71		mg N/L	P367262	
	EPA 365.1 Rev. 2.0	Total-P	1.2		mg P/L	P367217	
	SM 5310 B-00	Organic Carbon	5.4		mg C/L	P367489	
2102707	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	1.1		mg P/L	P367174	
2102744	EPA 200.7 Rev. 4.4	Barium	34.7		ug/L	P367293	
		Calcium	15.9		mg/L	P367293	
		Iron	820		ug/L	P367293	
		Magnesium	6.35		mg/L	P367293	
		Potassium	3.8		mg/L	P367293	
		Sodium	20.3		mg/L	P367293	
		Zinc	26		ug/L	P367293	
	EPA 200.8 Rev. 5.4	Aluminum	48		ug/L	P367293	
		Antimony	0.11	I	ug/L	P367293	
		Arsenic	0.41		ug/L	P367293	
		Boron**	53.4		ug/L	P367293	
		Cadmium	0.020	U	ug/L	P367293	
		Chromium	0.40	U	ug/L	P367293	
		Copper	0.45	I	ug/L	P367293	
		Lead	0.22	I	ug/L	P367293	
		Nickel	0.64	I	ug/L	P367293	
		Selenium	0.20	U	ug/L	P367293	
		Silver	0.010	U	ug/L	P367293	
		Thallium	0.10	U	ug/L	P367293	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample

Sample Location: Daughtery BR @ Crews Rd

Collection Date/Time: 07/11/2019 09:50

Field ID: FB 07112019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2102710	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P367176	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P367341	
		Sulfate	0.20	U	mg SO4/L	P367343	
		Color (true)	2.5	U	PCU	P367165	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P367555	
	SM 2540 C-97	TDS	15	U	mg/L	P367545	
	SM 2540 D-97	TSS	2	U	mg/L	P367572	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P367560	
2102711	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P367716	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P367201	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P367262	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P367217	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P367489	
2102712	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P367174	
2102747	EPA 200.7 Rev. 4.4	Barium	1.0	U	ug/L	P367293	
		Calcium	0.075	U	mg/L	P367293	
		Iron	30	U	ug/L	P367293	
		Magnesium	0.040	U	mg/L	P367293	
		Potassium	0.30	U	mg/L	P367293	
		Sodium	0.50	U	mg/L	P367293	
		Zinc	5.0	U	ug/L	P367293	
		Aluminum	5.0	U	ug/L	P367293	
		Antimony	0.050	U	ug/L	P367293	
		Arsenic	0.050	U	ug/L	P367293	
	EPA 200.8 Rev. 5.4	Boron**	2.0	U	ug/L	P367293	
		Cadmium	0.020	U	ug/L	P367293	
		Chromium	0.40	U	ug/L	P367293	
		Copper	0.40	U	ug/L	P367293	
		Lead	0.20	U	ug/L	P367293	
		Nickel	0.50	U	ug/L	P367293	
		Selenium	0.20	U	ug/L	P367293	
		Silver	0.010	U	ug/L	P367293	
		Thallium	0.10	U	ug/L	P367293	

Ref. Method and Comment:

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Daughtery BR @ Crews Rd

Collection Date/Time: 07/11/2019 09:35

Field ID: 19010136

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2102700	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P367176	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P367341	
		Sulfate	1.5		mg SO4/L	P367343	
	SM 2120 B	Color (true)	43		PCU	P367165	
	SM 2320 B-97	Total Alkalinity	49		mg CaCO3/L	P367555	
	SM 2540 C-97	TDS	98		mg/L	P367546	
	SM 2540 D-97	TSS	4	I	mg/L	P367573	
	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P367560	
2102704	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P367715	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P367201	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.2		mg N/L	P367262	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P367217	
	SM 5310 B-00	Organic Carbon	4.1		mg C/L	P367489	
2102708	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.023		mg P/L	P367174	
2102745	EPA 200.7 Rev. 4.4	Barium	80.6		ug/L	P367293	
		Calcium	14.4		mg/L	P367293	
		Iron	410		ug/L	P367293	
		Magnesium	4.92		mg/L	P367293	
		Potassium	1.3		mg/L	P367293	
		Sodium	8.3		mg/L	P367293	
		Zinc	8.0	I	ug/L	P367293	
		Aluminum	299		ug/L	P368055	
		Antimony	0.050	U	ug/L	P367293	
		Arsenic	0.33		ug/L	P367293	
	EPA 200.8 Rev. 5.4	Boron**	14.3		ug/L	P367293	
		Cadmium	0.039	I	ug/L	P367293	
		Chromium	0.41	I	ug/L	P367293	
		Copper	0.40	I	ug/L	P367293	
		Lead	0.40		ug/L	P367293	
		Nickel	0.74	I	ug/L	P367293	
		Selenium	0.20	U	ug/L	P367293	
		Silver	0.010	U	ug/L	P367293	
		Thallium	0.10	U	ug/L	P367293	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for aluminum are unavailable because of high analyte concentration in the QC sample.

Sample Location: Daughtery BR @ Crews Rd

Collection Date/Time: 07/11/2019 09:40

Field ID: 19010136 DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2102701	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P367176	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P367341	
		Sulfate	1.5		mg SO4/L	P367343	
	SM 2120 B	Color (true)	43		PCU	P367165	
	SM 2320 B-97	Total Alkalinity	50		mg CaCO3/L	P367555	
	SM 2540 C-97	TDS	90		mg/L	P367546	
	SM 2540 D-97	TSS	5	I	mg/L	P367573	
	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P367560	
2102705	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P367715	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38		mg N/L	P367201	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.2		mg N/L	P367262	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P367217	
	SM 5310 B-00	Organic Carbon	4.2		mg C/L	P367489	
2102709	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.019		mg P/L	P367174	
2102746	EPA 200.7 Rev. 4.4	Barium	77.3		ug/L	P367293	
		Calcium	13.8		mg/L	P367293	
		Iron	480		ug/L	P367293	
		Magnesium	4.69		mg/L	P367293	
		Potassium	1.3		mg/L	P367293	
		Sodium	8.0		mg/L	P367293	
		Zinc	7.9	I	ug/L	P367293	
		Aluminum	317		ug/L	P368055	
		Antimony	0.054	I	ug/L	P367293	
		Arsenic	0.35		ug/L	P367293	
	EPA 200.8 Rev. 5.4	Boron**	13.7		ug/L	P367293	
		Cadmium	0.038	I	ug/L	P367293	
		Chromium	0.54	I	ug/L	P367293	
		Copper	0.40	U	ug/L	P367293	
		Lead	0.44		ug/L	P367293	
		Nickel	0.93	I	ug/L	P367293	
		Selenium	0.20	U	ug/L	P367293	
		Silver	0.010	U	ug/L	P367293	
		Thallium	0.10	U	ug/L	P367293	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for aluminum are unavailable 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: P367176

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P367293

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: P367293

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 200.8 Rev. 5.4
Batch ID: P368055

Component	Result	Code	Units
Aluminum	5.0	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367341

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367343

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: P367715

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367716

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367750

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367201

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367262

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P367217

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367174

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

Reference Method: SM 2120 B
Batch ID: P367165

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P367554

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P367555

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

Reference Method: SM 2540 C-97
Batch ID: P367545

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P367546

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P367572

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P367573

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P367559

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P367560

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P367489

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: P367293

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	96.0		P	85 - 115
Iron	101		P	85 - 115
Magnesium	97.4		P	85 - 115
Potassium	104		P	85 - 115
Sodium	97.0		P	85 - 115
Zinc	99.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P367293

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	91.1		P	85 - 115
Antimony	106		P	85 - 115
Arsenic	95.1		P	85 - 115
Boron	93.8		P	85 - 115
Cadmium	94.3		P	85 - 115
Chromium	105		P	85 - 115
Copper	110		P	85 - 115
Lead	93.9		P	85 - 115
Nickel	108		P	85 - 115
Selenium	110		P	85 - 115
Silver	99.5		P	85 - 115
Thallium	97.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P368055

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.2		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367341

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367343

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367715

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367716

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367750

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367201

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367262

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: P367217

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367174

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

Reference Method: SM 2120 B
Batch ID: P367165

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.9		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P367554

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

Reference Method: SM 2320 B-97
Batch ID: P367555

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P367559

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.4		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P367560

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P367489

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: P367293

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102743	Barium	98.6	98.2	P/P	80 - 120
2102743	Calcium	97.0		P	80 - 120
2102743	Iron	98.6	99.5	P/P	80 - 120
2102743	Magnesium	97.0		P	80 - 120
2102743	Potassium	93.1	101	P/P	80 - 120
2102743	Sodium	98.0		P	80 - 120
2102743	Zinc	99.0	98.0	P/P	80 - 120
2102908	Barium	97.3		P	80 - 120
2102908	Calcium	96.2		P	80 - 120
2102908	Iron	98.7		P	80 - 120
2102908	Magnesium	101		P	80 - 120
2102908	Potassium	104		P	80 - 120
2102908	Sodium	100		P	80 - 120
2102908	Zinc	96.0		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P367293

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102743	Aluminum	90.0	90.2	P/P	80 - 120
2102743	Antimony	107	107	P/P	80 - 120
2102743	Arsenic	94.6	95.1	P/P	80 - 120
2102743	Boron	97.5	96.7	P/P	80 - 120
2102743	Cadmium	93.8	94.7	P/P	80 - 120
2102743	Chromium	106	107	P/P	80 - 120
2102743	Copper	107	110	P/P	80 - 120
2102743	Lead	94.5	94.9	P/P	80 - 120
2102743	Nickel	105	110	P/P	80 - 120
2102743	Selenium	108	110	P/P	80 - 120
2102743	Silver	98.1	100	P/P	80 - 120
2102743	Thallium	98.3	100	P/P	80 - 120
2102908	Aluminum	94.0		P	80 - 120
2102908	Antimony	105		P	80 - 120
2102908	Arsenic	93.4		P	80 - 120
2102908	Boron	96.8		P	80 - 120
2102908	Cadmium	94.8		P	80 - 120
2102908	Chromium	106		P	80 - 120
2102908	Copper	106		P	80 - 120
2102908	Lead	95.6		P	80 - 120
2102908	Nickel	109		P	80 - 120
2102908	Selenium	108		P	80 - 120
2102908	Silver	100		P	80 - 120
2102908	Thallium	99.7		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367341

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102612	Chloride	101		P	90 - 110
2102723	Chloride	102		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102612	Sulfate	101		P	90 - 110
2102723	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367715

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2101582	Ammonia-N	98.8	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367716

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102724	Ammonia-N	90.5	98.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367750

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102616	Ammonia-N	107	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367201

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102702	Kjeldahl Nitrogen	109	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102653	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367174

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102725	O-Phosphate-P	95.9	96.5	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P367559

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102698	Fluoride	95.9	95.3	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P367560

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102699	Fluoride	96.0	96.0	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P367489

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102895	Organic Carbon	98.3	99.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P367176

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102763	Turbidity	1.92	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P367293

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102743	Barium	0.324	Spike	P	0 - 20
2102743	Calcium	0.607	Spike	P	0 - 20
2102743	Iron	0.813	Spike	P	0 - 20
2102743	Magnesium	0.117	Spike	P	0 - 20
2102743	Potassium	5.27	Spike	P	0 - 20
2102743	Sodium	0.382	Spike	P	0 - 20
2102743	Zinc	0.987	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P367293

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102743	Aluminum	0.219	Spike	P	0 - 20
2102743	Antimony	0.485	Spike	P	0 - 20
2102743	Arsenic	0.601	Spike	P	0 - 20
2102743	Boron	0.631	Spike	P	0 - 20
2102743	Cadmium	0.970	Spike	P	0 - 20
2102743	Chromium	1.02	Spike	P	0 - 20
2102743	Copper	2.49	Spike	P	0 - 20
2102743	Lead	0.436	Spike	P	0 - 20
2102743	Nickel	4.49	Spike	P	0 - 20
2102743	Selenium	1.74	Spike	P	0 - 20
2102743	Silver	1.95	Spike	P	0 - 20
2102743	Thallium	1.86	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P368055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104975	Aluminum	2.01	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102612	Chloride	0.101	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102612	Sulfate	0.645	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367715

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2101582	Ammonia-N	1.76	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367716

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102724	Ammonia-N	5.74	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367750

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102616	Ammonia-N	0.182	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367201

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102702	Kjeldahl Nitrogen	2.35	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102653	NO2NO3-N	0.460	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P367217

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102702	Total-P	0.176	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102725	O-Phosphate-P	0.624	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P367165

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102651	Color (true)	4.08	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P367554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102698	Total Alkalinity	0.672	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P367555

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102699	Total Alkalinity	0.0798	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P367545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102555	TDS	4.44	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P367546

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102623	TDS	6.88	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P367572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102555	TSS	6.45	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P367559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102698	Fluoride	0.476	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P367560

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102699	Fluoride	0.0	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P367489

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102895	Organic Carbon	0.575	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: A92738

Included Lab Sample IDs: 2102698, 2102699, 2102700, 2102701, 2102710

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A92740

Included Lab Sample IDs: 2102706, 2102707, 2102708, 2102709, 2102712

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.2	97.3	P/P	90 - 110
O-Phosphate-P	98.4	98.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A92741

Included Lab Sample IDs: 2102698, 2102699, 2102700, 2102701, 2102710

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	101	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A92780

Included Lab Sample IDs: 2102702, 2102704, 2102705

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	99.8	P/P	90 - 110
Total-P	99.8	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A92781

Included Lab Sample IDs: 2102702, 2102703, 2102704, 2102705, 2102711

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.3	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A92785

Included Lab Sample IDs: 2102702, 2102703, 2102704, 2102705, 2102711

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110
NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A92786

Included Lab Sample IDs: 2102703

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A92790

Included Lab Sample IDs: 2102711

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	99.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A92796

Included Lab Sample IDs: 2102698, 2102699, 2102700, 2102701, 2102710

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A92843

Included Lab Sample IDs: 2102743, 2102744, 2102745, 2102746, 2102747

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	99.6	P/P	90 - 110
Barium	101	101	P/P	90 - 110
Barium	99.6	99.6	P/P	90 - 110
Calcium	97.1	96.3	P/P	90 - 110
Calcium	98.1	97.1	P/P	90 - 110
Calcium	98.7	98.1	P/P	90 - 110
Iron	97.2	96.5	P/P	90 - 110
Iron	98.2	97.2	P/P	90 - 110
Iron	98.4	98.2	P/P	90 - 110
Magnesium	98.3	97.1	P/P	90 - 110
Magnesium	99.1	98.3	P/P	90 - 110
Magnesium	99.5	99.1	P/P	90 - 110
Potassium	95.5	95.1	P/P	90 - 110
Potassium	97.8	95.5	P/P	90 - 110
Potassium	98.3	97.8	P/P	90 - 110
Sodium	97.9	96.5	P/P	90 - 110
Sodium	99.7	99.9	P/P	90 - 110
Sodium	99.9	97.9	P/P	90 - 110
Zinc	101	101	P/P	90 - 110
Zinc	101	99.8	P/P	90 - 110
Zinc	99.8	99.0	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A92860

Included Lab Sample IDs: 2102702, 2102703, 2102704, 2102705, 2102711

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

Reference Method: SM 2320 B-97

Run ID: A92887

Included Lab Sample IDs: 2102698, 2102699, 2102700, 2102701, 2102710

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	102	P/P	90 - 110
Total Alkalinity	105	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A92887

Included Lab Sample IDs: 2102698, 2102699, 2102700, 2102701, 2102710

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	100	P/P	90 - 110
Fluoride	99.1	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A92906

Included Lab Sample IDs: 2102702

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A92956

Included Lab Sample IDs: 2102703, 2102704, 2102705, 2102711

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A92994

Included Lab Sample IDs: 2102743, 2102744, 2102745, 2102746, 2102747

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	94.3	93.5	P/P	90 - 110
Aluminum	94.3	94.3	P/P	90 - 110
Arsenic	95.2	94.5	P/P	90 - 110
Arsenic	96.6	95.2	P/P	90 - 110
Boron	96.2	98.0	P/P	90 - 110
Boron	98.0	98.4	P/P	90 - 110
Cadmium	92.8	95.0	P/P	90 - 110
Cadmium	95.0	92.8	P/P	90 - 110
Lead	95.1	97.2	P/P	90 - 110
Lead	96.3	95.1	P/P	90 - 110
Silver	101	99.1	P/P	90 - 110
Silver	99.1	100	P/P	90 - 110
Thallium	94.2	95.3	P/P	90 - 110
Thallium	95.2	94.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A93117

Included Lab Sample IDs: 2102743, 2102744, 2102745, 2102746, 2102747

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	97.2	97.9	P/P	90 - 110
Antimony	97.9	95.9	P/P	90 - 110
Chromium	101	102	P/P	90 - 110
Chromium	100	101	P/P	90 - 110
Copper	101	103	P/P	90 - 110
Copper	103	101	P/P	90 - 110
Nickel	101	102	P/P	90 - 110
Nickel	102	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A93117

Included Lab Sample IDs: 2102743, 2102744, 2102745, 2102746, 2102747

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A93176

Included Lab Sample IDs: 2102744, 2102745, 2102746, 2102747

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	104	105	P/P	90 - 110
Copper	104	105	P/P	90 - 110
Copper	109	109	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A93225

Included Lab Sample IDs: 2102745

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	95.8	91.2	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					1.92	
EPA 200.7 Rev. 4.4	Barium	101	98.6	98.2	97.3		0.324
	Calcium	96.0	97.0	96.2			0.607
	Iron	101	98.6	99.5	98.7		0.813
	Magnesium	97.4	97.0	101			0.117
	Potassium	104	93.1	101	104		5.27
	Sodium	97.0	98.0	100			0.382
	Zinc	99.8	99.0	98.0	96.0		0.987
EPA 200.8 Rev. 5.4	Aluminum	91.1	90.0	90.2	94.0		0.219
	Aluminum	99.2					2.01
	Antimony	106	107	107	105		0.485
	Arsenic	95.1	94.6	95.1	93.4		0.601
	Boron	93.8	97.5	96.7	96.8		0.631
	Cadmium	94.3	93.8	94.7	94.8		0.970
	Chromium	105	106	107	106		1.02
	Copper	110	107	110	106		2.49
	Lead	93.9	94.5	94.9	95.6		0.436
	Nickel	108	105	110	109		4.49
	Selenium	110	108	110	108		1.74
	Silver	99.5	98.1	100	100		1.95
	Thallium	97.3	98.3	100	99.7		1.86
EPA 300.0 Rev. 2.1	Chloride	102	101	102		0.101	
	Sulfate	102	101	104		0.645	
EPA 350.1 Rev. 2.0	Ammonia-N	101	98.8	101			1.76
	Ammonia-N	102	90.5	98.9			5.74
	Ammonia-N	109	107	107			0.182
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	109	106			2.35
EPA 353.2 Rev. 2.0	NO2NO3-N	102	101	100			0.460
EPA 365.1 Rev. 2.0	Total-P	102					0.176
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	95.9	96.5			0.624
SM 2120 B	Color (true)	97.9				4.08	
SM 2320 B-97	Total Alkalinity	104				0.672	
	Total Alkalinity	105				0.0798	
SM 2540 C-97	TDS					4.44	
	TDS					6.88	
SM 2540 D-97	TSS					6.45	
SM 4500 F-C-97	Fluoride	96.4	95.9	95.3			0.476
	Fluoride	96.9	96.0	96.0			0.0
SM 5310 B-00	Organic Carbon	98.4	98.3	99.0			0.575

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2102698, 2102699, 2102700, 2102701, 2102710
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2102743, 2102744, 2102745, 2102746, 2102747
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2102743, 2102744, 2102745, 2102746, 2102747
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2102698, 2102699, 2102700, 2102701, 2102710
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2102698, 2102699, 2102700, 2102701, 2102710

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2102702, 2102703, 2102704, 2102705, 2102711
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2102702, 2102703, 2102704, 2102705, 2102711
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2102702, 2102703, 2102704, 2102705, 2102711
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2102702, 2102703, 2102704, 2102705, 2102711
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2102706, 2102707, 2102708, 2102709, 2102712
SM 2120 B / E31780	True Color measured at 450 nm	2102698, 2102699, 2102700, 2102701, 2102710
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2102698, 2102699, 2102700, 2102701, 2102710
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2102698, 2102699, 2102700, 2102701, 2102710
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2102698, 2102699, 2102700, 2102701, 2102710
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2102698, 2102699, 2102700, 2102701, 2102710
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2102702, 2102703, 2102704, 2102705, 2102711

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	07/12/2019			07/12/2019 16:46	Samantha Davila	2102698, 2102699, 2102700, 2102701, 2102710
EPA 200.7 Rev. 4.4	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/17/2019 16:56	Betina Topolski	2102747
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/17/2019 18:39	Betina Topolski	2102743
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/17/2019 19:04	Betina Topolski	2102744
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/17/2019 19:10	Betina Topolski	2102745
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/17/2019 19:42	Betina Topolski	2102746
EPA 200.8 Rev. 5.4	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/24/2019 03:38	Robert K Palmer	2102747
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/24/2019 05:55	Robert K Palmer	2102743
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/24/2019 06:34	Robert K Palmer	2102744
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/24/2019 06:44	Robert K Palmer	2102745
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/24/2019 06:54	Robert K Palmer	2102746
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/29/2019 12:59	Robert K Palmer	2102747
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/29/2019 14:00	Robert K Palmer	2102743
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/29/2019 14:39	Robert K Palmer	2102744
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/29/2019 14:46	Robert K Palmer	2102745
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/29/2019 14:54	Robert K Palmer	2102746
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/31/2019 00:23	Robert K Palmer	2102747
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/31/2019 17:02	Robert K Palmer	2102744
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/31/2019 17:12	Robert K Palmer	2102745
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	08/02/2019 04:35	Martin Acosta	2102745
	07/12/2019	07/29/2019 10:50	Alexander Thompson	07/31/2019 19:09	Robert K Palmer	2102745
	07/12/2019	07/29/2019 10:50	Alexander Thompson	07/31/2019 19:19	Robert K Palmer	2102746
EPA 300.0 Rev. 2.1	07/12/2019			07/17/2019 00:47	Jhamieka S. Greenwood	2102698
	07/12/2019			07/17/2019 00:59	Jhamieka S. Greenwood	2102699
	07/12/2019			07/17/2019 01:11	Jhamieka S. Greenwood	2102700
	07/12/2019			07/17/2019 01:23	Jhamieka S. Greenwood	2102701
	07/12/2019			07/17/2019 01:35	Jhamieka S. Greenwood	2102710
EPA 350.1 Rev. 2.0	07/12/2019			07/19/2019 14:01	Virginia P. Brown	2102702
	07/12/2019			07/22/2019 17:43	Julia Storbeck	2102703
	07/12/2019			07/22/2019 17:45	Julia Storbeck	2102704
	07/12/2019			07/22/2019 17:46	Julia Storbeck	2102705
	07/12/2019			07/22/2019 18:09	Julia Storbeck	2102711
EPA 351.2 Rev. 2.0	07/12/2019	07/15/2019 12:00	Sima Feizi	07/16/2019 09:42	Joseph Suarez	2102702
	07/12/2019	07/15/2019 12:00	Sima Feizi	07/16/2019 09:46	Joseph Suarez	2102703
	07/12/2019	07/15/2019 12:00	Sima Feizi	07/16/2019 09:48	Joseph Suarez	2102704
	07/12/2019	07/15/2019 12:00	Sima Feizi	07/16/2019 09:49	Joseph Suarez	2102705
	07/12/2019	07/15/2019 12:00	Sima Feizi	07/16/2019 09:51	Joseph Suarez	2102711
EPA 353.2 Rev. 2.0	07/12/2019			07/16/2019 09:54	Beverly Y. Sanders	2102702
	07/12/2019			07/16/2019 09:55	Beverly Y. Sanders	2102703

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 353.2 Rev. 2.0	07/12/2019			07/16/2019 10:28	Beverly Y. Sanders	2102704
	07/12/2019			07/16/2019 10:29	Beverly Y. Sanders	2102705
	07/12/2019			07/16/2019 10:30	Beverly Y. Sanders	2102711
EPA 365.1 Rev. 2.0	07/12/2019	07/15/2019 12:55	Sima Feizi	07/16/2019 09:29	Lipi Saha	2102702
	07/12/2019	07/15/2019 12:55	Sima Feizi	07/16/2019 09:35	Lipi Saha	2102704
	07/12/2019	07/15/2019 12:55	Sima Feizi	07/16/2019 09:38	Lipi Saha	2102705
	07/12/2019	07/15/2019 12:55	Sima Feizi	07/16/2019 11:18	Lipi Saha	2102703
	07/12/2019	07/15/2019 12:55	Sima Feizi	07/16/2019 11:32	Lipi Saha	2102711
EPA 365.1 Rev. 2.0 dissolved	07/12/2019			07/12/2019 16:16	Jhamieka S. Greenwood	2102712
	07/12/2019			07/12/2019 16:17	Jhamieka S. Greenwood	2102708
	07/12/2019			07/12/2019 16:18	Jhamieka S. Greenwood	2102709
	07/12/2019			07/12/2019 16:46	Jhamieka S. Greenwood	2102706
SM 2120 B	07/12/2019			07/12/2019 16:47	Jhamieka S. Greenwood	2102707
	07/12/2019			07/12/2019 16:05	Madeline Funaro	2102698
	07/12/2019			07/12/2019 16:06	Madeline Funaro	2102699, 2102700
	07/12/2019			07/12/2019 16:07	Madeline Funaro	2102701
SM 2320 B-97	07/12/2019			07/12/2019 16:08	Madeline Funaro	2102710
	07/12/2019			07/18/2019 11:28	Dale L. Simmons	2102698
	07/12/2019			07/18/2019 17:52	Dale L. Simmons	2102699
	07/12/2019			07/18/2019 18:13	Dale L. Simmons	2102700
	07/12/2019			07/18/2019 18:25	Dale L. Simmons	2102701
SM 2540 C-97	07/12/2019			07/18/2019 18:40	Dale L. Simmons	2102710
	07/12/2019			07/16/2019 21:03	Yijie Li	2102698, 2102699, 2102700, 2102701, 2102710
SM 2540 D-97	07/12/2019			07/16/2019 21:03	Yijie Li	2102698, 2102699, 2102700, 2102701, 2102710
SM 4500 F-C-97	07/12/2019			07/18/2019 11:19	Dale L. Simmons	2102698
	07/12/2019			07/18/2019 17:42	Dale L. Simmons	2102699
	07/12/2019			07/18/2019 18:13	Dale L. Simmons	2102700
	07/12/2019			07/18/2019 18:25	Dale L. Simmons	2102701
	07/12/2019			07/18/2019 18:40	Dale L. Simmons	2102710
SM 5310 B-00	07/12/2019			07/18/2019 01:43	Madeline Funaro	2102702
	07/12/2019			07/18/2019 01:55	Madeline Funaro	2102703
	07/12/2019			07/18/2019 02:08	Madeline Funaro	2102704
	07/12/2019			07/18/2019 02:20	Madeline Funaro	2102705
	07/12/2019			07/18/2019 02:32	Madeline Funaro	2102711