

Chemical Analysis Report

SE-DIST-2019-09-17-02

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

Event Description: **SMP-Horses**
Request ID: **RQ-2019-09-02-60**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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2199 South Rock Road
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 08-OCT-2019 14:50

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: L-8 @ G-541

Collection Date/Time: 09/16/2019 11:30

Field ID: G3SE0017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119659	EPA 180.1 Rev. 2.0	Turbidity	5.9		NTU	P370833	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P370976	
		Sulfate	4.8		mg SO4/L	P370979	
		Color (true)	380		PCU	P370939	
	SM 2320 B-97	Total Alkalinity	66		mg CaCO3/L	P371113	
	SM 2540 C-97	TDS	187	A	mg/L	P371456	
	SM 2540 D-97	TSS	5	IA	mg/L	P371389	
	SM 4500 F-C-97	Fluoride	0.061	I	mg F/L	P371117	
2119660	EPA 350.1 Rev. 2.0	Ammonia-N	0.17		mg N/L	P370993	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P370898	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038		mg N/L	P370859	
	EPA 365.1 Rev. 2.0	Total-P	0.052		mg P/L	P370980	
	SM 5310 B-00	Organic Carbon	31		mg C/L	P371022	
2119661	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.014		mg P/L	P370816	
2119705	EPA 200.7 Rev. 4.4	Barium	11.3		ug/L	P371002	
		Calcium	30.7		mg/L	P371002	
		Iron	790		ug/L	P371002	
		Magnesium	3.36		mg/L	P371002	
		Potassium	0.89	I	mg/L	P371002	
		Sodium	14.8		mg/L	P371002	
		Zinc	5.0	U	ug/L	P371002	
		Aluminum	213		ug/L	P371002	
	EPA 200.8 Rev. 5.4	Antimony	0.061	I	ug/L	P371002	
		Arsenic	0.65		ug/L	P371002	
		Boron**	34.2		ug/L	P371002	
		Cadmium	0.020	U	ug/L	P371002	
		Chromium	0.61	I	ug/L	P371002	
		Copper	0.92		ug/L	P371002	
		Lead	0.34	I	ug/L	P371002	
		Nickel	0.50	U	ug/L	P371002	
		Selenium	0.20	U	ug/L	P371002	
		Silver	0.010	U	ug/L	P371002	
		Thallium	0.10	U	ug/L	P371002	

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: C-51 West @ Little Ranches Trail

Collection Date/Time: 09/16/2019 12:15

Field ID: G3SE0041

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119668	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P370834	
	EPA 300.0 Rev. 2.1	Chloride	54		mg Cl/L	P370976	
		Sulfate	27		mg SO4/L	P370979	
	SM 2120 B	Color (true)	32		PCU	P370942	
	SM 2320 B-97	Total Alkalinity	190		mg CaCO3/L	P371113	
	SM 2540 C-97	TDS	325		mg/L	P371457	
	SM 2540 D-97	TSS	2	I	mg/L	P371390	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P371117	
2119669	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P370993	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P370898	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.072		mg N/L	P370859	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P370980	
	SM 5310 B-00	Organic Carbon	9.9		mg C/L	P371022	
2119670	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P370816	

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: Lake Wellington

Collection Date/Time: 09/16/2019 13:00

Field ID: G3SE0039

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119671	EPA 180.1 Rev. 2.0	Turbidity	3.9		NTU	P370834	
	EPA 300.0 Rev. 2.1	Chloride	72		mg Cl/L	P370976	
		Sulfate	29		mg SO4/L	P370979	
	SM 2120 B	Color (true)	48		PCU	P370942	
	SM 2320 B-97	Total Alkalinity	202		mg CaCO3/L	P371113	
	SM 2540 C-97	TDS	381		mg/L	P371457	
	SM 2540 D-97	TSS	6	I	mg/L	P371390	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P371117	
2119672	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P370993	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P370967	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370859	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P370980	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P371022	
2119673	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P370816	

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: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Acme (South Sector) @ Lake Worth

Collection Date/Time: 09/16/2019 14:00

Field ID: G3SE0016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119674	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P370834	
	EPA 300.0 Rev. 2.1	Chloride	61		mg Cl/L	P370976	
		Sulfate	17		mg SO4/L	P370979	
	SM 2120 B	Color (true)	93		PCU	P370942	
	SM 2320 B-97	Total Alkalinity	228		mg CaCO3/L	P371113	
	SM 2540 C-97	TDS	386		mg/L	P371457	
	SM 2540 D-97	TSS	4	I	mg/L	P371390	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P371117	
2119675	EPA 350.1 Rev. 2.0	Ammonia-N	0.25		mg N/L	P370993	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P370967	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P370859	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P370980	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P371022	
2119676	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.014		mg P/L	P370816	

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: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: C-16N @ Bellaggio

Collection Date/Time: 09/16/2019 14:15

Field ID: G3SE0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119677	EPA 180.1 Rev. 2.0	Turbidity	6.8		NTU	P370834	
	EPA 300.0 Rev. 2.1	Chloride	43		mg Cl/L	P371124	
		Sulfate	17		mg SO4/L	P371128	
	SM 2120 B	Color (true)	34		PCU	P370942	
	SM 2320 B-97	Total Alkalinity	200		mg CaCO3/L	P371113	
	SM 2540 C-97	TDS	332		mg/L	P371457	
	SM 2540 D-97	TSS	7	I	mg/L	P371390	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P371117	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P370993	
2119678	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.99		mg N/L	P370967	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.035		mg N/L	P370859	
	EPA 365.1 Rev. 2.0	Total-P	0.048		mg P/L	P370980	
	SM 5310 B-00	Organic Carbon	9.8		mg C/L	P371022	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P370818	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Pine Lake Center

Collection Date/Time: 09/16/2019 15:00

Field ID: G3SE0045

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119665	EPA 180.1 Rev. 2.0	Turbidity	4.3		NTU	P370834	
	EPA 300.0 Rev. 2.1	Chloride	31		mg Cl/L	P370976	
		Sulfate	11		mg SO4/L	P370979	
	SM 2120 B	Color (true)	38	A	PCU	P370942	
	SM 2320 B-97	Total Alkalinity	140		mg CaCO3/L	P371113	
	SM 2540 C-97	TDS	223		mg/L	P371457	
	SM 2540 D-97	TSS	7	I	mg/L	P371390	
	SM 4500 F-C-97	Fluoride	0.072	I	mg F/L	P371117	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.010		mg N/L	P370993	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P370898	
2119666	EPA 353.2 Rev. 2.0	NO2NO3-N	0.022		mg N/L	P370859	
	EPA 365.1 Rev. 2.0	Total-P	0.076		mg P/L	P370980	
	SM 5310 B-00	Organic Carbon	8.6		mg C/L	P371022	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.007	I	mg P/L	P370816	
	dissolved						

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: M-Canal @ Haverhill

Collection Date/Time: 09/16/2019 15:20

Field ID: G3SE0029

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119662	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P370833	
	EPA 300.0 Rev. 2.1	Chloride	27		mg Cl/L	P370976	
		Sulfate	5.9		mg SO4/L	P370979	
		Color (true)	54		PCU	P370942	
	SM 2320 B-97	Total Alkalinity	70		mg CaCO3/L	P371113	
	SM 2540 C-97	TDS	162	A	mg/L	P371457	
	SM 2540 D-97	TSS	3	IA	mg/L	P371390	
	SM 4500 F-C-97	Fluoride	0.085	I	mg F/L	P371117	
2119663	EPA 350.1 Rev. 2.0	Ammonia-N	0.053		mg N/L	P370993	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P370898	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P370859	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P370980	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P371022	
2119664	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P370816	
2119706	EPA 200.7 Rev. 4.4	Barium	11.3		ug/L	P371002	
		Calcium	24.9		mg/L	P371002	
		Iron	79	I	ug/L	P371002	
		Magnesium	4.41		mg/L	P371002	
		Potassium	2.5		mg/L	P371002	
		Sodium	16.2		mg/L	P371002	
		Zinc	13	I	ug/L	P371002	
	EPA 200.8 Rev. 5.4	Aluminum	35		ug/L	P371002	
		Antimony	0.064	I	ug/L	P371002	
		Arsenic	0.54		ug/L	P371002	
		Boron**	48.9		ug/L	P371002	
		Cadmium	0.020	U	ug/L	P371002	
		Chromium	0.43	I	ug/L	P371002	
		Copper	0.40	U	ug/L	P371002	
		Lead	0.20	U	ug/L	P371002	
		Nickel	0.50	U	ug/L	P371002	
		Selenium	0.20	U	ug/L	P371002	
		Silver	0.010	U	ug/L	P371002	
		Thallium	0.10	U	ug/L	P371002	

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: P370833

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370834

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371002

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: P371002

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: P370976

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370979

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371124

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371128

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370993

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370898

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370967

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370859

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370980

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370816

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370818

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P370939

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P370942

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P371113

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

Reference Method: SM 2540 C-97
Batch ID: P371456

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P371457

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P371389

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P371390

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P371117

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P371022

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: P371002

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	85 - 115
Calcium	108		P	85 - 115
Iron	107		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	104		P	85 - 115
Sodium	107		P	85 - 115
Zinc	97.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371002

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.3		P	85 - 115
Antimony	99.7		P	85 - 115
Arsenic	102		P	85 - 115
Boron	101		P	85 - 115
Cadmium	96.3		P	85 - 115
Chromium	95.2		P	85 - 115
Copper	101		P	85 - 115
Lead	98.7		P	85 - 115
Nickel	100		P	85 - 115
Selenium	100		P	85 - 115
Silver	101		P	85 - 115
Thallium	99.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370976

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370979

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371124

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371128

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370993

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370898

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370967

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370859

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370980

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.7		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370816

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370818

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

Reference Method: SM 2120 B
Batch ID: P370939

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

Reference Method: SM 2120 B
Batch ID: P370942

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P371113

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

Reference Method: SM 4500 F-C-97
Batch ID: P371117

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P371022

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371002

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119832	Barium	103	99.8	P/P	80 - 120
2119832	Calcium	101		P	80 - 120
2119832	Iron	110	109	P/P	80 - 120
2119832	Magnesium	113	110	P/P	80 - 120
2119832	Potassium	109	108	P/P	80 - 120
2119832	Sodium	105	105	P/P	80 - 120
2119832	Zinc	101	97.6	P/P	80 - 120
2120147	Barium	95.2		P	80 - 120
2120147	Calcium	105		P	80 - 120
2120147	Iron	103		P	80 - 120
2120147	Magnesium	99.1		P	80 - 120
2120147	Potassium	97.1		P	80 - 120
2120147	Sodium	97.6		P	80 - 120
2120147	Zinc	95.5		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371002

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119832	Aluminum	98.1	97.4	P/P	80 - 120
2119832	Antimony	101	100	P/P	80 - 120
2119832	Arsenic	102	102	P/P	80 - 120
2119832	Boron	104	105	P/P	80 - 120
2119832	Cadmium	99.2	97.6	P/P	80 - 120
2119832	Chromium	95.3	94.9	P/P	80 - 120
2119832	Copper	107	102	P/P	80 - 120
2119832	Lead	99.9	100	P/P	80 - 120
2119832	Nickel	102	101	P/P	80 - 120
2119832	Selenium	99.6	99.4	P/P	80 - 120
2119832	Silver	105	102	P/P	80 - 120
2119832	Thallium	103	103	P/P	80 - 120
2120147	Aluminum	96.0		P	80 - 120
2120147	Antimony	101		P	80 - 120
2120147	Arsenic	103		P	80 - 120
2120147	Boron	101		P	80 - 120
2120147	Cadmium	95.4		P	80 - 120
2120147	Chromium	95.4		P	80 - 120
2120147	Copper	101		P	80 - 120
2120147	Lead	99.5		P	80 - 120
2120147	Nickel	99.6		P	80 - 120
2120147	Selenium	98.6		P	80 - 120
2120147	Silver	99.8		P	80 - 120
2120147	Thallium	101		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370976

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119527	Chloride	102	102	P/P	90 - 110
2119580	Chloride	102		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370979

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119527	Sulfate	103	103	P/P	90 - 110
2119580	Sulfate	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371124

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119683	Chloride	99.2		P	90 - 110
2119797	Chloride	99.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371128

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119797	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370993

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119666	Ammonia-N	99.2	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370898

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119669	Kjeldahl Nitrogen	96.1	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370859

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119663	NO2NO3-N	100	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119660	Total-P	98.1	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370816

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119483	O-Phosphate-P	95.3	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370818

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119808	O-Phosphate-P	97.2	98.4	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P371117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120409	Fluoride	96.9	95.4	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P371022

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119672	Organic Carbon	103	98.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370833

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119577	Turbidity	9.05	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119719	Turbidity	10.7	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119832	Barium	3.34	Spike	P	0 - 20
2119832	Calcium	1.90	Spike	P	0 - 20
2119832	Iron	1.40	Spike	P	0 - 20
2119832	Magnesium	2.14	Spike	P	0 - 20
2119832	Potassium	0.782	Spike	P	0 - 20
2119832	Sodium	0.428	Spike	P	0 - 20
2119832	Zinc	3.27	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119832	Aluminum	0.769	Spike	P	0 - 20
2119832	Antimony	0.464	Spike	P	0 - 20
2119832	Arsenic	0.280	Spike	P	0 - 20
2119832	Boron	0.307	Spike	P	0 - 20
2119832	Cadmium	1.63	Spike	P	0 - 20
2119832	Chromium	0.511	Spike	P	0 - 20
2119832	Copper	4.58	Spike	P	0 - 20
2119832	Lead	0.121	Spike	P	0 - 20
2119832	Nickel	1.21	Spike	P	0 - 20
2119832	Selenium	0.197	Spike	P	0 - 20
2119832	Silver	2.80	Spike	P	0 - 20
2119832	Thallium	0.0415	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370976

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119527	Chloride	0.245	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370979

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119527	Sulfate	0.0502	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371124

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119683	Chloride	1.08	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371128

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119683	Sulfate	1.69	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119666	Ammonia-N	0.413	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370898

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119669	Kjeldahl Nitrogen	2.21	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370967

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119672	Kjeldahl Nitrogen	0.757	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370859

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119663	NO2NO3-N	0.464	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119660	Total-P	0.383	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119483	O-Phosphate-P	1.77	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370818

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119808	O-Phosphate-P	1.23	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P370939

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119574	Color (true)	0.555	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P370942

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119665	Color (true)	1.34	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P371113

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120409	Total Alkalinity	1.95	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P371456

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119659	TDS	6.42	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P371457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119662	TDS	9.23	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P371117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120409	Fluoride	1.47	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P371022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119672	Organic Carbon	2.61	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A94268

Included Lab Sample IDs: 2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Chloride	102	102	P/P	90 - 110
Chloride	102	102	P/P	90 - 110
Sulfate	102	103	P/P	90 - 110
Sulfate	103	103	P/P	90 - 110
Sulfate	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A94279

Included Lab Sample IDs: 2119661, 2119664, 2119667, 2119670, 2119673, 2119676, 2119679

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A94291

Included Lab Sample IDs: 2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A94302

Included Lab Sample IDs: 2119660, 2119663, 2119666, 2119669, 2119672, 2119675, 2119678

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

Reference Method: SM 2120 B

Run ID: A94335

Included Lab Sample IDs: 2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	90 - 115
Color (true)	103	102	P/P	90 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94340

Included Lab Sample IDs: 2119660, 2119663, 2119666, 2119669, 2119672, 2119675, 2119678

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	99.2	P/P	90 - 110
Ammonia-N	99.1	98.5	P/P	90 - 110
Ammonia-N	99.2	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A94349

Included Lab Sample IDs: 2119660, 2119663, 2119666, 2119669, 2119672, 2119675, 2119678

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

Reference Method: SM 5310 B-00

Run ID: A94349

Included Lab Sample IDs: 2119660, 2119663, 2119666, 2119669, 2119672, 2119675, 2119678

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	98.2	P/P	90 - 110
Organic Carbon	105	102	P/P	90 - 110
Organic Carbon	98.2	95.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94351

Included Lab Sample IDs: 2119660, 2119663, 2119666, 2119669

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	106	P/P	90 - 110
Kjeldahl Nitrogen	106	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94380

Included Lab Sample IDs: 2119660, 2119666, 2119672, 2119675

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.4	98.8	P/P	90 - 110
Total-P	100	98.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94386

Included Lab Sample IDs: 2119705, 2119706

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.5	98.4	P/P	90 - 110
Boron	102	101	P/P	90 - 110
Thallium	94.2	93.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A94387

Included Lab Sample IDs: 2119705, 2119706

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	98.0	101	P/P	90 - 110
Calcium	100	108	P/P	90 - 110
Iron	100	110	P/P	90 - 110
Magnesium	100	109	P/P	90 - 110
Potassium	99.7	109	P/P	90 - 110
Zinc	97.6	98.4	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A94398

Included Lab Sample IDs: 2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A94398

Included Lab Sample IDs: 2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94412

Included Lab Sample IDs: 2119672, 2119675, 2119678

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.3	98.8	P/P	90 - 110
Kjeldahl Nitrogen	98.8	96.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94415

Included Lab Sample IDs: 2119663, 2119669, 2119678

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	99.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A94416

Included Lab Sample IDs: 2119705, 2119706

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sodium	98.4	96.8	P/P	95 - 105

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A9471

Included Lab Sample IDs: 2119705, 2119706

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	96.2	95.7	P/P	90 - 110
Nickel	100	101	P/P	90 - 110
Selenium	99.5	99.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94722

Included Lab Sample IDs: 2119705, 2119706

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	101	P/P	90 - 110
Cadmium	96.9	95.4	P/P	90 - 110
Chromium	96.1	93.7	P/P	90 - 110
Copper	100	101	P/P	90 - 110
Lead	99.8	99.6	P/P	90 - 110
Silver	98.7	98.0	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			LCS	Precision	
									SMP	MS
EPA 180.1 Rev. 2.0	Turbidity								9.05	
	Turbidity								10.7	
EPA 200.7 Rev. 4.4	Barium	100			103	99.8	95.2			3.34
	Calcium	108			101	105				1.90
	Iron	107			110	109	103			1.40
	Magnesium	110			113	110	99.1			2.14
	Potassium	104			109	108	97.1			0.782
	Sodium	107			105	105	97.6			0.428
	Zinc	97.4			101	97.6	95.5			3.27
EPA 200.8 Rev. 5.4	Aluminum	97.3			98.1	97.4	96.0			0.769
	Antimony	99.7			101	100	101			0.464
	Arsenic	102			102	102	103			0.280
	Boron	101			104	105	101			0.307
	Cadmium	96.3			99.2	97.6	95.4			1.63
	Chromium	95.2			95.3	94.9	95.4			0.511
	Copper	101			107	102	101			4.58
	Lead	98.7			99.9	100	99.5			0.121
	Nickel	100			102	101	99.6			1.21
	Selenium	100			99.6	99.4	98.6			0.197
	Silver	101			105	102	99.8			2.80
	Thallium	99.6			103	103	101			0.0415
EPA 300.0 Rev. 2.1	Chloride	101			102	102	102			0.245
	Chloride	98.3			99.2	99.8			1.08	
	Sulfate	103			103	103	104			0.0502
	Sulfate	99.5			102				1.69	
EPA 350.1 Rev. 2.0	Ammonia-N	97.7			99.2	99.7				0.413
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.0			96.1	100				2.21
	Kjeldahl Nitrogen	103								0.757
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5			100	99.6				0.464
EPA 365.1 Rev. 2.0	Total-P	97.7			98.1	97.6				0.383
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.9			95.3	97.0				1.77
	O-Phosphate-P	98.4			97.2	98.4				1.23
SM 2120 B	Color (true)	101							0.555	
	Color (true)	102							1.34	
SM 2320 B-97	Total Alkalinity	103							1.95	
SM 2540 C-97	TDS								6.42	
	TDS								9.23	
SM 4500 F-C-97	Fluoride	97.2			96.9	95.4				1.47
SM 5310 B-00	Organic Carbon	100			103	98.8				2.61

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2119705, 2119706
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2119705, 2119706
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2119660, 2119663, 2119666, 2119669, 2119672, 2119675, 2119678
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2119660, 2119663, 2119666, 2119669, 2119672, 2119675, 2119678
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2119660, 2119663, 2119666, 2119669, 2119672, 2119675, 2119678
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2119660, 2119663, 2119666, 2119669, 2119672, 2119675, 2119678
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2119661, 2119664, 2119667, 2119670, 2119673, 2119676, 2119679
SM 2120 B / E31780	True Color measured at 450 nm	2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2119660, 2119663, 2119666, 2119669, 2119672, 2119675, 2119678

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	09/17/2019			09/17/2019 15:16	Samantha Davila	2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677
EPA 200.7 Rev. 4.4	09/17/2019	09/19/2019 16:45	Elliott D. Healy	09/20/2019 14:51	Alexander Thompson	2119705
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	09/20/2019 14:59	Alexander Thompson	2119706
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	09/23/2019 11:08	Alexander Thompson	2119705
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	09/23/2019 11:13	Alexander Thompson	2119706
EPA 200.8 Rev. 5.4	09/17/2019	09/19/2019 16:45	Elliott D. Healy	09/21/2019 03:48	Justin Cutchin	2119705
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	09/21/2019 03:57	Justin Cutchin	2119706
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	10/04/2019 02:01	Justin Cutchin	2119705
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	10/04/2019 02:11	Justin Cutchin	2119706
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	10/05/2019 04:40	Justin Cutchin	2119705
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	10/05/2019 04:49	Justin Cutchin	2119706
	09/17/2019					
EPA 300.0 Rev. 2.1	09/17/2019			09/19/2019 06:05	Jhamieka S. Greenwood	2119659
	09/17/2019			09/19/2019 06:18	Jhamieka S. Greenwood	2119662
	09/17/2019			09/19/2019 06:30	Jhamieka S. Greenwood	2119665
	09/17/2019			09/19/2019 07:06	Jhamieka S. Greenwood	2119668
	09/17/2019			09/19/2019 07:18	Jhamieka S. Greenwood	2119671
	09/17/2019			09/19/2019 07:30	Jhamieka S. Greenwood	2119674
	09/17/2019			09/20/2019 18:06	Jhamieka S. Greenwood	2119677
EPA 350.1 Rev. 2.0	09/17/2019			09/19/2019 11:38	Ping Hua	2119666
	09/17/2019			09/19/2019 11:43	Ping Hua	2119660
	09/17/2019			09/19/2019 11:50	Ping Hua	2119663
	09/17/2019			09/19/2019 11:52	Ping Hua	2119669
	09/17/2019			09/19/2019 11:53	Ping Hua	2119672
	09/17/2019			09/19/2019 14:09	Ping Hua	2119675
	09/17/2019			09/19/2019 14:10	Ping Hua	2119678
EPA 351.2 Rev. 2.0	09/17/2019	09/18/2019 12:00	Sima Feizi	09/19/2019 18:09	Julia Storbeck	2119669
	09/17/2019	09/18/2019 12:00	Sima Feizi	09/19/2019 18:26	Julia Storbeck	2119660
	09/17/2019	09/18/2019 12:00	Sima Feizi	09/19/2019 18:27	Julia Storbeck	2119663
	09/17/2019	09/18/2019 12:00	Sima Feizi	09/19/2019 18:29	Julia Storbeck	2119666
	09/17/2019	09/19/2019 14:00	Sima Feizi	09/20/2019 17:03	Julia Storbeck	2119672
	09/17/2019	09/19/2019 14:00	Sima Feizi	09/20/2019 17:11	Julia Storbeck	2119675
	09/17/2019	09/19/2019 14:00	Sima Feizi	09/20/2019 17:13	Julia Storbeck	2119678
EPA 353.2 Rev. 2.0	09/17/2019			09/18/2019 09:58	Beverly Y. Sanders	2119660
	09/17/2019			09/18/2019 09:59	Beverly Y. Sanders	2119663
	09/17/2019			09/18/2019 10:01	Beverly Y. Sanders	2119666
	09/17/2019			09/18/2019 10:02	Beverly Y. Sanders	2119669
	09/17/2019			09/18/2019 10:03	Beverly Y. Sanders	2119672
	09/17/2019			09/18/2019 10:04	Beverly Y. Sanders	2119675
	09/17/2019			09/18/2019 10:05	Beverly Y. Sanders	2119678

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	09/17/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 12:10	Rosalyn Ballman	2119660
	09/17/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 12:14	Rosalyn Ballman	2119666
	09/17/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 12:19	Rosalyn Ballman	2119672
	09/17/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 12:20	Rosalyn Ballman	2119675
	09/17/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 16:36	Rosalyn Ballman	2119663
	09/17/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 16:37	Rosalyn Ballman	2119669
	09/17/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 16:38	Rosalyn Ballman	2119678
	09/17/2019			09/17/2019 15:14	Jhamieka S. Greenwood	2119661
EPA 365.1 Rev. 2.0 dissolved	09/17/2019			09/17/2019 15:15	Jhamieka S. Greenwood	2119664
	09/17/2019			09/17/2019 15:16	Jhamieka S. Greenwood	2119667
	09/17/2019			09/17/2019 15:17	Jhamieka S. Greenwood	2119670, 2119673
	09/17/2019			09/17/2019 15:18	Jhamieka S. Greenwood	2119676
	09/17/2019			09/17/2019 15:31	Jhamieka S. Greenwood	2119679
SM 2120 B	09/17/2019			09/17/2019 18:40	Madeline Funaro	2119662
	09/17/2019			09/17/2019 18:41	Madeline Funaro	2119665
	09/17/2019			09/17/2019 18:42	Madeline Funaro	2119668
	09/17/2019			09/17/2019 18:43	Madeline Funaro	2119671, 2119674
	09/17/2019			09/17/2019 18:44	Madeline Funaro	2119677
	09/17/2019			09/17/2019 18:58	Madeline Funaro	2119659
	09/17/2019			09/20/2019 05:44	Dale L. Simmons	2119659
SM 2320 B-97	09/17/2019			09/20/2019 05:56	Dale L. Simmons	2119662
	09/17/2019			09/20/2019 06:09	Dale L. Simmons	2119665
	09/17/2019			09/20/2019 06:23	Dale L. Simmons	2119668
	09/17/2019			09/20/2019 07:23	Dale L. Simmons	2119671
	09/17/2019			09/20/2019 07:37	Dale L. Simmons	2119674
	09/17/2019			09/20/2019 07:50	Dale L. Simmons	2119677
	09/17/2019			09/20/2019 15:02	Yijie Li	2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677
	09/17/2019			09/20/2019 15:02	Yijie Li	2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677
SM 2540 C-97	09/17/2019			09/20/2019 15:02	Yijie Li	2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677
SM 2540 D-97	09/17/2019			09/20/2019 15:02	Yijie Li	2119659, 2119662, 2119665, 2119668, 2119671, 2119674, 2119677
SM 4500 F-C-97	09/17/2019			09/20/2019 05:44	Dale L. Simmons	2119659
	09/17/2019			09/20/2019 05:56	Dale L. Simmons	2119662
	09/17/2019			09/20/2019 06:09	Dale L. Simmons	2119665
	09/17/2019			09/20/2019 06:23	Dale L. Simmons	2119668
	09/17/2019			09/20/2019 07:23	Dale L. Simmons	2119671
	09/17/2019			09/20/2019 07:37	Dale L. Simmons	2119674
	09/17/2019			09/20/2019 07:50	Dale L. Simmons	2119677
	09/17/2019			09/18/2019 20:59	Madeline Funaro	2119672
SM 5310 B-00	09/17/2019			09/18/2019 23:47	Madeline Funaro	2119660
	09/17/2019			09/19/2019 00:26	Madeline Funaro	2119663

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	09/17/2019			09/19/2019 00:38	Madeline Funaro	2119666
	09/17/2019			09/19/2019 00:50	Madeline Funaro	2119669
	09/17/2019			09/19/2019 01:03	Madeline Funaro	2119675
	09/17/2019			09/19/2019 01:15	Madeline Funaro	2119678