

Chemical Analysis Report

NW-DIST-2019-08-29-01

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

Event Description: **EASTERN LAKES**
Request ID: **RQ-2019-08-26-13**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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

Date Certified: 23-SEP-2019 09:25

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: CASSIDY LAKE CENTER

Collection Date/Time: 08/28/2019 10:45

Field ID: G3NW0183

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2115681	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P369968	
	EPA 300.0 Rev. 2.1	Chloride	2.8		mg Cl/L	P370215	
		Sulfate	0.87		mg SO4/L	P370218	
		Color (true)	2.9	I	PCU	P369945	
	SM 2320 B-97	Total Alkalinity	0.87	I	mg CaCO3/L	P370200	
	SM 2540 C-97	TDS	15	U	mg/L	P370143	
	SM 2540 D-97	TSS	2	U	mg/L	P370058	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P370203	
2115685	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P370238	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P370089	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370066	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P370291	
	SM 5310 B-00	Organic Carbon	2.6		mg C/L	P370116	
2115689	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P369961	
2115700	EPA 200.7 Rev. 4.4	Barium	5.2		ug/L	P369935	
		Calcium	0.41		mg/L	P369935	
		Iron	50	I	ug/L	P369935	
		Magnesium	0.39		mg/L	P369935	
		Potassium	0.30	U	mg/L	P369935	
		Sodium	1.7	I	mg/L	P369935	
		Zinc	5.0	U	ug/L	P369935	
		Aluminum	10	I	ug/L	P369935	
		Antimony	0.050	U	ug/L	P369935	
		Arsenic	0.30		ug/L	P369935	
	EPA 200.8 Rev. 5.4	Boron**	8.4		ug/L	P369935	
		Cadmium	0.020	U	ug/L	P369935	
		Chromium	0.40	U	ug/L	P369935	
		Copper	0.40	U	ug/L	P369935	
		Lead	0.20	U	ug/L	P369935	
		Nickel	0.50	U	ug/L	P369935	
		Selenium	0.20	U	ug/L	P369935	
		Silver	0.010	U	ug/L	P369935	
		Thallium	0.10	U	ug/L	P369935	

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: SPRING LAKE CENTER

Collection Date/Time: 08/28/2019 11:48

Field ID: G3NW0164

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2115682	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P369968	
	EPA 300.0 Rev. 2.1	Chloride	2.6		mg Cl/L	P370215	
		Sulfate	0.52	I	mg SO4/L	P370218	
	SM 2120 B	Color (true)	9.3	A	PCU	P369945	
	SM 2320 B-97	Total Alkalinity	2.6		mg CaCO3/L	P370200	
	SM 2540 C-97	TDS	23	I	mg/L	P370143	
	SM 2540 D-97	TSS	3	I	mg/L	P370058	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P370203	
2115686	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P370238	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P370089	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370182	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P370291	
	SM 5310 B-00	Organic Carbon	4.5		mg C/L	P370116	
2115690	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P369960	
2115701	EPA 200.7 Rev. 4.4	Barium	4.1		ug/L	P369935	
		Calcium	1.08		mg/L	P369935	
		Iron	60	I	ug/L	P369935	
		Magnesium	0.47		mg/L	P369935	
		Potassium	0.30	U	mg/L	P369935	
		Sodium	1.7	I	mg/L	P369935	
		Zinc	5.0	U	ug/L	P369935	
		Aluminum	40		ug/L	P369935	
		Antimony	0.050	U	ug/L	P369935	
		Arsenic	1.26		ug/L	P369935	
	EPA 200.8 Rev. 5.4	Boron**	8.4		ug/L	P369935	
		Cadmium	0.020	U	ug/L	P369935	
		Chromium	0.40	U	ug/L	P369935	
		Copper	0.73	I	ug/L	P369935	
		Lead	0.20	U	ug/L	P369935	
		Nickel	0.50	U	ug/L	P369935	
		Selenium	0.20	U	ug/L	P369935	
		Silver	0.010	U	ug/L	P369935	
		Thallium	0.10	U	ug/L	P369935	

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 STANLEY (CENTER)

Collection Date/Time: 08/28/2019 12:42

Field ID: G3NW0132

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2115683	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P369969	
	EPA 300.0 Rev. 2.1	Chloride	2.9		mg Cl/L	P370215	
		Sulfate	0.30	I	mg SO4/L	P370218	
	SM 2120 B	Color (true)	13		PCU	P369945	
	SM 2320 B-97	Total Alkalinity	4.3		mg CaCO3/L	P370200	
	SM 2540 C-97	TDS	23	I	mg/L	P370143	
	SM 2540 D-97	TSS	3	I	mg/L	P370058	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P370203	
2115687	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P370238	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P370089	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370182	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P370291	
	SM 5310 B-00	Organic Carbon	6.7		mg C/L	P370116	
2115691	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P369960	
2115702	EPA 200.7 Rev. 4.4	Barium	4.9		ug/L	P369935	
		Calcium	1.73		mg/L	P369935	
		Iron	45	I	ug/L	P369935	
		Magnesium	0.75		mg/L	P369935	
		Potassium	0.36	I	mg/L	P369935	
		Sodium	1.9	I	mg/L	P369935	
		Zinc	5.0	U	ug/L	P369935	
		Aluminum	19	I	ug/L	P369935	
	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P369935	
		Arsenic	1.63		ug/L	P369935	
		Boron**	11.3		ug/L	P369935	
		Cadmium	0.020	U	ug/L	P369935	
		Chromium	0.40	U	ug/L	P369935	
		Copper	0.81		ug/L	P369935	
		Lead	0.20	U	ug/L	P369935	
		Nickel	0.50	U	ug/L	P369935	
		Selenium	0.20	U	ug/L	P369935	
		Silver	0.010	U	ug/L	P369935	
		Thallium	0.10	U	ug/L	P369935	

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 STANLEY (CENTER)

Collection Date/Time: 08/28/2019 12:50

Field ID: G3NW0132_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2115684	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P369969	
	EPA 300.0 Rev. 2.1	Chloride	3.0		mg Cl/L	P370215	
		Sulfate	0.30	I	mg SO4/L	P370218	
	SM 2120 B	Color (true)	13		PCU	P369945	
	SM 2320 B-97	Total Alkalinity	4.3		mg CaCO3/L	P370200	
	SM 2540 C-97	TDS	19	I	mg/L	P370143	
	SM 2540 D-97	TSS	2	I	mg/L	P370058	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P370203	
2115688	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P370238	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P370089	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370182	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P370291	
	SM 5310 B-00	Organic Carbon	6.8		mg C/L	P370116	
2115692	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P369960	
2115703	EPA 200.7 Rev. 4.4	Barium	4.7		ug/L	P369935	
		Calcium	1.68		mg/L	P369935	
		Iron	46	I	ug/L	P369935	
		Magnesium	0.73		mg/L	P369935	
		Potassium	0.33	I	mg/L	P369935	
		Sodium	1.9	I	mg/L	P369935	
		Zinc	5.0	U	ug/L	P369935	
		Aluminum	19	I	ug/L	P369935	
		Antimony	0.050	U	ug/L	P369935	
		Arsenic	1.60		ug/L	P369935	
	EPA 200.8 Rev. 5.4	Boron**	11.1		ug/L	P369935	
		Cadmium	0.020	U	ug/L	P369935	
		Chromium	0.40	U	ug/L	P369935	
		Copper	0.59	I	ug/L	P369935	
		Lead	0.20	U	ug/L	P369935	
		Nickel	0.50	U	ug/L	P369935	
		Selenium	0.20	U	ug/L	P369935	
		Silver	0.010	U	ug/L	P369935	
		Thallium	0.10	U	ug/L	P369935	

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 STANLEY (CENTER)

Collection Date/Time: 08/28/2019 12:55

Field ID: FB_28082019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2115693	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P369969	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P370215	
		Sulfate	0.20	U	mg SO4/L	P370218	
		Color (true)	2.5	U	PCU	P369945	
	SM 2120 B	Total Alkalinity	0.65	U	mg CaCO3/L	P370200	
	SM 2540 C-97	TDS	15	U	mg/L	P370143	
	SM 2540 D-97	TSS	2	U	mg/L	P370058	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P370203	
2115694	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P370238	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P370089	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370182	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P370291	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P370116	
2115695	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P369961	
2115704	EPA 200.7 Rev. 4.4	Barium	1.0	U	ug/L	P369935	
		Calcium	0.075	U	mg/L	P369935	
		Iron	30	U	ug/L	P369935	
		Magnesium	0.040	U	mg/L	P369935	
		Potassium	0.30	U	mg/L	P369935	
		Sodium	0.50	U	mg/L	P369935	
		Zinc	5.0	U	ug/L	P369935	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P369935	
		Antimony	0.050	U	ug/L	P369935	
		Arsenic	0.050	U	ug/L	P369935	
		Boron**	2.0	U	ug/L	P369935	
		Cadmium	0.020	U	ug/L	P369935	
		Chromium	0.40	U	ug/L	P369935	
		Copper	0.40	U	ug/L	P369935	
		Lead	0.20	U	ug/L	P369935	
		Nickel	0.50	U	ug/L	P369935	
		Selenium	0.20	U	ug/L	P369935	
		Silver	0.010	U	ug/L	P369935	
		Thallium	0.10	U	ug/L	P369935	

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: P369968

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369969

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369935

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: P369935

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: P370215

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370218

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: P370238

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370089

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370066

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370182

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370291

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369960

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369961

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

Reference Method: SM 2120 B
Batch ID: P369945

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P370200

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P370143

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P370058

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P370203

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P370116

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: P369935

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	102		P	85 - 115
Calcium	109		P	85 - 115
Iron	104		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	109		P	85 - 115
Sodium	106		P	85 - 115
Zinc	98.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369935

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	105		P	85 - 115
Boron	92.2		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	90.1		P	85 - 115
Copper	102		P	85 - 115
Lead	104		P	85 - 115
Nickel	103		P	85 - 115
Selenium	103		P	85 - 115
Silver	105		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370215

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370218

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370238

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.5		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370089

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.1		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370066

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370182

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: P370291

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	94.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369960

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369961

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

Reference Method: SM 2120 B
Batch ID: P369945

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

Reference Method: SM 2320 B-97
Batch ID: P370200

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

Reference Method: SM 4500 F-C-97
Batch ID: P370203

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P370116

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115585	Barium	100		P	80 - 120
2115585	Calcium	107		P	80 - 120
2115585	Iron	104		P	80 - 120
2115585	Magnesium	104		P	80 - 120
2115585	Potassium	107		P	80 - 120
2115585	Sodium	99.1		P	80 - 120
2115585	Zinc	99.5		P	80 - 120
2115701	Barium	103	103	P/P	80 - 120
2115701	Calcium	110	110	P/P	80 - 120
2115701	Iron	107	107	P/P	80 - 120
2115701	Magnesium	111	112	P/P	80 - 120
2115701	Potassium	117	117	P/P	80 - 120
2115701	Sodium	105	105	P/P	80 - 120
2115701	Zinc	99.9	100	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115585	Aluminum	101		P	80 - 120
2115585	Antimony	100		P	80 - 120
2115585	Arsenic	103		P	80 - 120
2115585	Boron	94.1		P	80 - 120
2115585	Cadmium	103		P	80 - 120
2115585	Chromium	91.7		P	80 - 120
2115585	Copper	99.9		P	80 - 120
2115585	Lead	107		P	80 - 120
2115585	Nickel	102		P	80 - 120
2115585	Selenium	98.7		P	80 - 120
2115585	Silver	102		P	80 - 120
2115585	Thallium	106		P	80 - 120
2115701	Aluminum	99.8	101	P/P	80 - 120
2115701	Antimony	99.1	99.7	P/P	80 - 120
2115701	Arsenic	100	102	P/P	80 - 120
2115701	Boron	94.1	91.1	P/P	80 - 120
2115701	Cadmium	102	100	P/P	80 - 120
2115701	Chromium	91.4	88.6	P/P	80 - 120
2115701	Copper	99.6	101	P/P	80 - 120
2115701	Lead	104	105	P/P	80 - 120
2115701	Nickel	99.1	101	P/P	80 - 120
2115701	Selenium	99.8	97.8	P/P	80 - 120
2115701	Silver	103	103	P/P	80 - 120
2115701	Thallium	101	106	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370215

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115635	Chloride	105		P	90 - 110
2115906	Chloride	103		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370218

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115635	Sulfate	101		P	90 - 110
2115906	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370238

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115685	Ammonia-N	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115636	Kjeldahl Nitrogen	99.6	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115685	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370182

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115894	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370291

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115636	Total-P	94.6	94.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369960

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115538	O-Phosphate-P	99.0	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369961

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115689	O-Phosphate-P	99.6	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P370203

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115535	Fluoride	94.0	93.5	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P370116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115686	Organic Carbon	102	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369968

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115648	Turbidity	5.31	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115719	Turbidity	1.50	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115701	Barium	0.253	Spike	P	0 - 20
2115701	Calcium	0.232	Spike	P	0 - 20
2115701	Iron	0.0594	Spike	P	0 - 20
2115701	Magnesium	0.171	Spike	P	0 - 20
2115701	Potassium	0.234	Spike	P	0 - 20
2115701	Sodium	0.0541	Spike	P	0 - 20
2115701	Zinc	0.342	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115701	Aluminum	1.19	Spike	P	0 - 20
2115701	Antimony	0.554	Spike	P	0 - 20
2115701	Arsenic	1.12	Spike	P	0 - 20
2115701	Boron	3.00	Spike	P	0 - 20
2115701	Cadmium	1.12	Spike	P	0 - 20
2115701	Chromium	3.07	Spike	P	0 - 20
2115701	Copper	0.998	Spike	P	0 - 20
2115701	Lead	0.766	Spike	P	0 - 20
2115701	Nickel	1.93	Spike	P	0 - 20
2115701	Selenium	2.01	Spike	P	0 - 20
2115701	Silver	0.253	Spike	P	0 - 20
2115701	Thallium	4.74	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370215

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115635	Chloride	1.15	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370218

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115635	Sulfate	1.35	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370238

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115685	Ammonia-N	0.243	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115636	Kjeldahl Nitrogen	2.92	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115685	NO2NO3-N	0.985	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115894	NO2NO3-N	0.489	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115636	Total-P	0.192	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369960

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115538	O-Phosphate-P	0.751	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369961

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115689	O-Phosphate-P	0.999	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
 Batch ID: P369945

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115682	Color (true)	0.741	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P370200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115535	Total Alkalinity	0.321	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
 Batch ID: P370143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115626	TDS	2.81	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P370203

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115535	Fluoride	0.477	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
 Batch ID: P370116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115686	Organic Carbon	0.521	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: A93891

Included Lab Sample IDs: 2115681, 2115682, 2115683, 2115684, 2115693

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	102	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A93904

Included Lab Sample IDs: 2115689, 2115690, 2115691, 2115692, 2115695

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.2	98.8	P/P	90 - 110
O-Phosphate-P	99.6	98.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A93907

Included Lab Sample IDs: 2115681, 2115682, 2115683, 2115684, 2115693

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A93936

Included Lab Sample IDs: 2115700, 2115701, 2115702, 2115703, 2115704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	101	P/P	90 - 110
Barium	101	101	P/P	90 - 110
Calcium	101	101	P/P	90 - 110
Calcium	99.5	101	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Iron	100	101	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Magnesium	99.8	101	P/P	90 - 110
Potassium	101	101	P/P	90 - 110
Potassium	102	102	P/P	90 - 110
Zinc	97.7	98.1	P/P	90 - 110
Zinc	97.8	97.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93955

Included Lab Sample IDs: 2115685

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

Reference Method: SM 5310 B-00

Run ID: A93968

Included Lab Sample IDs: 2115685, 2115686, 2115687, 2115688, 2115694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	105	106	P/P	90 - 110
Organic Carbon	106	107	P/P	90 - 110
Organic Carbon	106	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93984

Included Lab Sample IDs: 2115685, 2115686, 2115687, 2115688, 2115694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.9	104	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A93993

Included Lab Sample IDs: 2115700, 2115701, 2115702, 2115703, 2115704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sodium	96.5	96.8	P/P	95 - 105
Sodium	96.8	97.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93999

Included Lab Sample IDs: 2115686, 2115687, 2115688, 2115694

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

Reference Method: SM 2320 B-97

Run ID: A94004

Included Lab Sample IDs: 2115681, 2115682, 2115683, 2115684, 2115693

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

Reference Method: SM 4500 F-C-97

Run ID: A94004

Included Lab Sample IDs: 2115681, 2115682, 2115683, 2115684, 2115693

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	97.1	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A94012

Included Lab Sample IDs: 2115681, 2115682, 2115683, 2115684, 2115693

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94019

Included Lab Sample IDs: 2115685, 2115686, 2115687, 2115688, 2115694

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94096

Included Lab Sample IDs: 2115685, 2115686, 2115687, 2115688, 2115694

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94323

Included Lab Sample IDs: 2115700, 2115701, 2115702, 2115703, 2115704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	99.5	P/P	90 - 110
Aluminum	102	100	P/P	90 - 110
Aluminum	103	102	P/P	90 - 110
Antimony	96.3	96.5	P/P	90 - 110
Antimony	97.8	96.3	P/P	90 - 110
Antimony	99.1	97.8	P/P	90 - 110
Arsenic	101	100	P/P	90 - 110
Arsenic	102	101	P/P	90 - 110
Arsenic	104	102	P/P	90 - 110
Cadmium	101	100	P/P	90 - 110
Cadmium	102	101	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Copper	100	100	P/P	90 - 110
Copper	102	100	P/P	90 - 110
Copper	104	102	P/P	90 - 110
Lead	104	104	P/P	90 - 110
Lead	104	104	P/P	90 - 110
Lead	105	104	P/P	90 - 110
Nickel	100	100	P/P	90 - 110
Nickel	102	100	P/P	90 - 110
Nickel	103	102	P/P	90 - 110
Selenium	101	101	P/P	90 - 110
Selenium	102	101	P/P	90 - 110
Selenium	105	102	P/P	90 - 110
Thallium	94.8	94.9	P/P	90 - 110
Thallium	94.9	92.9	P/P	90 - 110
Thallium	96.3	94.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94342

Included Lab Sample IDs: 2115700, 2115701, 2115702, 2115703, 2115704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	92.2	93.2	P/P	90 - 110
Boron	93.2	90.0	P/P	90 - 110
Boron	94.6	92.2	P/P	90 - 110
Chromium	90.7	92.6	P/P	90 - 110
Chromium	99.4	90.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94372

Included Lab Sample IDs: 2115700, 2115701, 2115702, 2115703, 2115704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	102	102	P/P	90 - 110
Silver	97.4	98.8	P/P	90 - 110
Silver	98.8	97.2	P/P	90 - 110
Silver	99.3	97.4	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision	
						LCS	MS
EPA 180.1 Rev. 2.0	Turbidity					5.31	
	Turbidity					1.50	
EPA 200.7 Rev. 4.4	Barium	102	100	103	103		0.253
	Calcium	109	107	110	110		0.232
	Iron	104	104	107	107		0.0594
	Magnesium	109	104	111	112		0.171
	Potassium	109	107	117	117		0.234
	Sodium	106	99.1	105	105		0.0541
	Zinc	98.8	99.5	99.9	100		0.342
EPA 200.8 Rev. 5.4	Aluminum	102	101	99.8	101		1.19
	Antimony	101	100	99.1	99.7		0.554
	Arsenic	105	103	100	102		1.12
	Boron	92.2	94.1	94.1	91.1		3.00
	Cadmium	101	103	102	100		1.12
	Chromium	90.1	91.7	91.4	88.6		3.07
	Copper	102	99.9	99.6	101		0.998
	Lead	104	107	104	105		0.766
	Nickel	103	102	99.1	101		1.93
	Selenium	103	98.7	99.8	97.8		2.01
	Silver	105	102	103	103		0.253
	Thallium	101	106	101	106		4.74
	Chloride	101	105	103		1.15	
	Sulfate	101	101	104		1.35	
EPA 300.0 Rev. 2.1	Ammonia-N	94.5	102	102			0.243
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.1	99.6	105			2.92
EPA 353.2 Rev. 2.0	NO2NO3-N	101	101	102			0.985
	NO2NO3-N	102	102	102			0.489
EPA 365.1 Rev. 2.0	Total-P	94.3	94.6	94.3			0.192
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	99.0	99.8			0.751
	O-Phosphate-P	104	99.6	101			0.999
SM 2120 B	Color (true)	102				0.741	
SM 2320 B-97	Total Alkalinity	105				0.321	
SM 2540 C-97	TDS					2.81	
SM 4500 F-C-97	Fluoride	94.8	94.0	93.5			0.477
SM 5310 B-00	Organic Carbon	103	102	103			0.521

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2115681, 2115682, 2115683, 2115684, 2115693
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2115700, 2115701, 2115702, 2115703, 2115704
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2115700, 2115701, 2115702, 2115703, 2115704
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2115681, 2115682, 2115683, 2115684, 2115693
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2115681, 2115682, 2115683, 2115684, 2115693
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2115685, 2115686, 2115687, 2115688, 2115694
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2115685, 2115686, 2115687, 2115688, 2115694
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2115685, 2115686, 2115687, 2115688, 2115694

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	2115685, 2115686, 2115687, 2115688, 2115694
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2115689, 2115690, 2115691, 2115692, 2115695
SM 2120 B / E31780	True Color measured at 450 nm	2115681, 2115682, 2115683, 2115684, 2115693
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2115681, 2115682, 2115683, 2115684, 2115693
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2115681, 2115682, 2115683, 2115684, 2115693
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2115681, 2115682, 2115683, 2115684, 2115693
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2115681, 2115682, 2115683, 2115684, 2115693
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2115685, 2115686, 2115687, 2115688, 2115694

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	08/29/2019			08/29/2019 17:38	Rosalyn Ballman	2115681, 2115682, 2115683, 2115684, 2115693
EPA 200.7 Rev. 4.4	08/29/2019	08/29/2019 16:50	Elliott D. Healy	08/30/2019 16:50	Alexander Thompson	2115704
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	08/30/2019 18:54	Alexander Thompson	2115700
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	08/30/2019 18:59	Alexander Thompson	2115701
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	08/30/2019 19:22	Alexander Thompson	2115702
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	08/30/2019 19:27	Alexander Thompson	2115703
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/04/2019 12:24	Alexander Thompson	2115704
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/04/2019 13:10	Alexander Thompson	2115700
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/04/2019 13:13	Alexander Thompson	2115701
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/04/2019 13:28	Alexander Thompson	2115702
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/04/2019 13:30	Alexander Thompson	2115703
EPA 200.8 Rev. 5.4	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/17/2019 16:42	Robert K Palmer	2115704
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/17/2019 19:09	Robert K Palmer	2115700
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/17/2019 19:18	Robert K Palmer	2115701
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/17/2019 20:17	Robert K Palmer	2115702
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/17/2019 20:27	Robert K Palmer	2115703
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/18/2019 16:12	Robert K Palmer	2115704
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/18/2019 17:23	Robert K Palmer	2115700
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/18/2019 17:29	Robert K Palmer	2115701
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/18/2019 17:59	Robert K Palmer	2115702
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/18/2019 18:05	Robert K Palmer	2115703
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/19/2019 18:58	Robert K Palmer	2115704
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/19/2019 20:10	Robert K Palmer	2115700
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/19/2019 20:16	Robert K Palmer	2115701
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/19/2019 20:47	Robert K Palmer	2115702
	08/29/2019	08/29/2019 16:50	Elliott D. Healy	09/19/2019 20:53	Robert K Palmer	2115703
EPA 300.0 Rev. 2.1	08/29/2019			09/05/2019 06:43	Jhamieka S. Greenwood	2115681
	08/29/2019			09/05/2019 06:55	Jhamieka S. Greenwood	2115682
	08/29/2019			09/05/2019 07:31	Jhamieka S. Greenwood	2115683
	08/29/2019			09/05/2019 07:43	Jhamieka S. Greenwood	2115684
	08/29/2019			09/05/2019 07:55	Jhamieka S. Greenwood	2115693
EPA 350.1 Rev. 2.0	08/29/2019			09/05/2019 13:28	Ping Hua	2115685
	08/29/2019			09/05/2019 13:40	Ping Hua	2115686
	08/29/2019			09/05/2019 13:41	Ping Hua	2115687
	08/29/2019			09/05/2019 13:43	Ping Hua	2115688
	08/29/2019			09/05/2019 13:56	Ping Hua	2115694
EPA 351.2 Rev. 2.0	08/29/2019	09/03/2019 16:50	Jhamieka S. Greenwood	09/04/2019 16:59	Julia Storbeck	2115685
	08/29/2019	09/03/2019 16:50	Jhamieka S. Greenwood	09/04/2019 17:00	Julia Storbeck	2115686
	08/29/2019	09/03/2019 16:50	Jhamieka S. Greenwood	09/04/2019 17:02	Julia Storbeck	2115687

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	08/29/2019	09/03/2019 16:50	Jhamieka S. Greenwood	09/04/2019 17:03	Julia Storbeck	2115688
	08/29/2019	09/03/2019 16:50	Jhamieka S. Greenwood	09/04/2019 17:05	Julia Storbeck	2115694
EPA 353.2 Rev. 2.0	08/29/2019			09/03/2019 13:29	Beverly Y. Sanders	2115685
	08/29/2019			09/05/2019 10:10	Beverly Y. Sanders	2115686
	08/29/2019			09/05/2019 10:11	Beverly Y. Sanders	2115687
	08/29/2019			09/05/2019 10:13	Beverly Y. Sanders	2115688
	08/29/2019			09/05/2019 10:14	Beverly Y. Sanders	2115694
EPA 365.1 Rev. 2.0	08/29/2019	09/06/2019 13:30	Lipi Saha	09/09/2019 15:56	Rosalyn Ballman	2115685
	08/29/2019	09/06/2019 13:30	Lipi Saha	09/09/2019 15:57	Rosalyn Ballman	2115686
	08/29/2019	09/06/2019 13:30	Lipi Saha	09/09/2019 15:58	Rosalyn Ballman	2115687
	08/29/2019	09/06/2019 13:30	Lipi Saha	09/09/2019 15:59	Rosalyn Ballman	2115688
	08/29/2019	09/06/2019 13:30	Lipi Saha	09/09/2019 16:06	Rosalyn Ballman	2115694
EPA 365.1 Rev. 2.0 dissolved	08/29/2019			08/29/2019 17:46	Jhamieka S. Greenwood	2115689
	08/29/2019			08/29/2019 18:10	Jhamieka S. Greenwood	2115690
	08/29/2019			08/29/2019 18:11	Jhamieka S. Greenwood	2115691
	08/29/2019			08/29/2019 18:12	Jhamieka S. Greenwood	2115692
	08/29/2019			08/29/2019 18:13	Jhamieka S. Greenwood	2115695
SM 2120 B	08/29/2019			08/29/2019 16:52	Madeline Funaro	2115681
	08/29/2019			08/29/2019 16:53	Madeline Funaro	2115682
	08/29/2019			08/29/2019 16:54	Madeline Funaro	2115683
	08/29/2019			08/29/2019 16:55	Madeline Funaro	2115684, 2115693
SM 2320 B-97	08/29/2019			09/04/2019 05:56	Dale L. Simmons	2115681
	08/29/2019			09/04/2019 06:10	Dale L. Simmons	2115682
	08/29/2019			09/04/2019 06:23	Dale L. Simmons	2115683
	08/29/2019			09/04/2019 06:36	Dale L. Simmons	2115684
	08/29/2019			09/04/2019 07:03	Dale L. Simmons	2115693
SM 2540 C-97	08/29/2019			08/30/2019 17:48	Rosalyn Ballman	2115681, 2115682, 2115683, 2115684, 2115693
SM 2540 D-97	08/29/2019			08/30/2019 17:48	Rosalyn Ballman	2115681, 2115682, 2115683, 2115684, 2115693
SM 4500 F-C-97	08/29/2019			09/04/2019 05:56	Dale L. Simmons	2115681
	08/29/2019			09/04/2019 06:10	Dale L. Simmons	2115682
	08/29/2019			09/04/2019 06:23	Dale L. Simmons	2115683
	08/29/2019			09/04/2019 06:36	Dale L. Simmons	2115684
	08/29/2019			09/04/2019 07:03	Dale L. Simmons	2115693
SM 5310 B-00	08/29/2019			09/03/2019 21:47	Madeline Funaro	2115686
	08/29/2019			09/04/2019 00:38	Madeline Funaro	2115685
	08/29/2019			09/04/2019 01:18	Madeline Funaro	2115687
	08/29/2019			09/04/2019 01:30	Madeline Funaro	2115688
	08/29/2019			09/04/2019 01:45	Madeline Funaro	2115694