

Chemical Analysis Report

TLH-ROC-2019-09-05-02

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

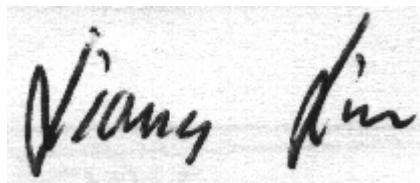
Event Description: **Run 12**
Request ID: **RQ-2019-08-19-24**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
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Attn: Michael Eckles

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 26-SEP-2019 13:42

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: DICKSON BAY SOUTH

Collection Date/Time: 09/05/2019 10:00

Field ID: G2TLHR0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2116859	EPA 180.1 Rev. 2.0	Turbidity	8.4		NTU	P370294	
	EPA 300.0	Bromide	36		mg Br/L	P370340	
	SM 2320 B-97	Total Alkalinity	87		mg CaCO3/L	P370402	
	SM 2540 D-97	TSS	17		mg/L	P370360	
	SM 4500 F-C-97	Fluoride	0.68		mg F/L	P370405	
2116862	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P370513	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P370421	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370389	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P370489	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P370307	
2116865	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P370298	

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: DICKSON BAY NORTH

Collection Date/Time: 09/05/2019 10:15

Field ID: G2TLHR0028

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2116860	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P370294	
	EPA 300.0	Bromide	42		mg Br/L	P370340	
	SM 2320 B-97	Total Alkalinity	98	A	mg CaCO3/L	P370402	
	SM 2540 D-97	TSS	7	I	mg/L	P370361	
	SM 4500 F-C-97	Fluoride	0.78		mg F/L	P370405	
2116863	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P370513	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P370421	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370389	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P370489	
	SM 5310 B-00	Organic Carbon	8.1		mg C/L	P370307	
2116866	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P370298	

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: Alligator Harbor near clam beds

Collection Date/Time: 09/05/2019 11:10

Field ID: G2TLHR0025

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2116861	EPA 180.1 Rev. 2.0	Turbidity	13		NTU	P370294	
	EPA 300.0	Bromide	62		mg Br/L	P370340	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P370402	
	SM 2540 D-97	TSS	26		mg/L	P370361	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P370405	
2116864	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P370513	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P370421	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370389	
	EPA 365.1 Rev. 2.0	Total-P	0.037		mg P/L	P370489	
	SM 5310 B-00	Organic Carbon	4.6		mg C/L	P370307	
2116867	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P370298	

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: Gully Branch 80m north of Gully Branch Rd

Collection Date/Time: 09/05/2019 12:25

Field ID: G2TLHR0006

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2116853	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P370294	
	EPA 300.0 Rev. 2.1	Chloride	3.1		mg Cl/L	P370544	
		Sulfate	0.47	I	mg SO4/L	P370546	
	SM 2120 B	Color (true)	670		PCU	P370308	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P370399	
	SM 2540 C-97	TDS	96		mg/L	P370459	
	SM 2540 D-97	TSS	9	I	mg/L	P370358	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P370403	
2116854	EPA 350.1 Rev. 2.0	Ammonia-N	0.16		mg N/L	P370670	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P370368	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370318	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P370490	
	SM 5310 B-00	Organic Carbon	43		mg C/L	P370306	
2116855	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P370297	
2116881	EPA 200.7 Rev. 4.4	Barium	6.6		ug/L	P370341	
		Calcium	2.02		mg/L	P370341	
		Iron	2.84E+03		ug/L	P370341	
		Magnesium	0.42		mg/L	P370341	
		Potassium	0.30	U	mg/L	P370341	
		Sodium	2.1		mg/L	P370341	
		Zinc	5.0	U	ug/L	P370341	
	EPA 200.8 Rev. 5.4	Aluminum	894		ug/L	P370341	
		Antimony	0.050	U	ug/L	P370341	
		Arsenic	0.41		ug/L	P370341	
		Boron**	11.1		ug/L	P370341	
		Cadmium	0.020	U	ug/L	P370341	
		Chromium	0.77	I	ug/L	P370341	
		Copper	0.40	U	ug/L	P370341	
		Lead	0.81		ug/L	P370341	
		Nickel	0.55	I	ug/L	P370341	
		Selenium	0.21	I	ug/L	P370341	
		Silver	0.010	U	ug/L	P370341	
		Thallium	0.10	U	ug/L	P370341	

Ref. Method and Comment:

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 09/24/2019.

Sample Location: CROOKED RIVER @ POST 46

Collection Date/Time: 09/05/2019 13:15

Field ID: G2TLHR0038

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2116856	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P370294	
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P370544	
		Sulfate	2.4		mg SO4/L	P370546	
	SM 2120 B	Color (true)	670		PCU	P370308	
	SM 2320 B-97	Total Alkalinity	5.2		mg CaCO3/L	P370399	
	SM 2540 C-97	TDS	149		mg/L	P370459	
	SM 2540 D-97	TSS	4	IA	mg/L	P370359	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P370403	
2116857	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P370670	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P370460	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P370318	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P370490	
	SM 5310 B-00	Organic Carbon	41		mg C/L	P370306	
2116858	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.01	I	mg P/L	P370297	

Ref. Method and Comment:

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high 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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370294

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P370341

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: P370341

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
Batch ID: P370340

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370544

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370546

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: P370513

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370670

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370368

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370421

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370460

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370318

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370389

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370489

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370490

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370297

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370298

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

Reference Method: SM 2120 B
Batch ID: P370308

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P370399

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

Reference Method: SM 2320 B-97
Batch ID: P370402

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

Reference Method: SM 2540 C-97
Batch ID: P370459

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P370358

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P370359

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P370360

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P370361

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P370403

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P370405

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P370306

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-00
Batch ID: P370307

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: P370341

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	108		P	85 - 115
Iron	104		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	103		P	85 - 115
Sodium	110		P	85 - 115
Zinc	99.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P370341

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.4		P	85 - 115
Antimony	97.0		P	85 - 115
Arsenic	98.5		P	85 - 115
Boron	102		P	85 - 115
Cadmium	97.9		P	85 - 115
Chromium	90.8		P	85 - 115
Copper	95.7		P	85 - 115
Lead	94.4		P	85 - 115
Nickel	96.2		P	85 - 115
Selenium	103		P	85 - 115
Silver	98.8		P	85 - 115
Thallium	97.5		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P370340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	97.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370544

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370546

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370513

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.4		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370670

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370368

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370421

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370460

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370318

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370389

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: P370489

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370490

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370297

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P370298

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

Reference Method: SM 2120 B
 Batch ID: P370308

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

Reference Method: SM 2320 B-97
 Batch ID: P370399

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

Reference Method: SM 2320 B-97
 Batch ID: P370402

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

Reference Method: SM 4500 F-C-97
 Batch ID: P370403

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.5		P	92 - 103

Reference Method: SM 4500 F-C-97
 Batch ID: P370405

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.4		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P370306

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	108		P	85 - 115

Reference Method: SM 5310 B-00
 Batch ID: P370307

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	107		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P370341

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116676	Barium	99.9	101	P/P	80 - 120
2116676	Calcium	110	110	P/P	80 - 120
2116676	Iron	106	107	P/P	80 - 120
2116676	Magnesium	112	112	P/P	80 - 120
2116676	Potassium	106	111	P/P	80 - 120
2116676	Sodium	107	107	P/P	80 - 120
2116676	Zinc	100	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P370341

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116676	Aluminum	94.8	95.4	P/P	80 - 120
2116676	Antimony	93.4	94.8	P/P	80 - 120
2116676	Arsenic	96.6	97.5	P/P	80 - 120
2116676	Boron	98.3	101	P/P	80 - 120
2116676	Cadmium	94.7	96.5	P/P	80 - 120
2116676	Chromium	94.0	95.7	P/P	80 - 120
2116676	Copper	96.3	97.0	P/P	80 - 120
2116676	Lead	91.0	92.7	P/P	80 - 120
2116676	Nickel	93.9	94.8	P/P	80 - 120
2116676	Selenium	101	98.0	P/P	80 - 120
2116676	Silver	96.5	97.7	P/P	80 - 120
2116676	Thallium	97.6	98.9	P/P	80 - 120

Reference Method: EPA 300.0
Batch ID: P370340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116013	Bromide	93.8	94.7	P/P	90 - 110
2116078	Bromide	94.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370544

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116619	Chloride	99.9		P	90 - 110
2116853	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370546

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116619	Sulfate	99.9		P	90 - 110
2116853	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370513

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116864	Ammonia-N	94.3	95.6	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116888	Ammonia-N	96.9	97.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116830	Kjeldahl Nitrogen	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370421

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116864	Kjeldahl Nitrogen	99.0	92.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370318

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116830	NO2NO3-N	99.0	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370389

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116862	NO2NO3-N	101	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370489

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116760	Total-P	100	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370490

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116854	Total-P	95.9	96.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116969	O-Phosphate-P	97.7	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116867	O-Phosphate-P	97.3	97.2	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P370405

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116860	Fluoride	94.8	95.5	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P370306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116625	Organic Carbon	94.6	95.6	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P370307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116863	Organic Carbon	101	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370294

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116894	Turbidity	2.20	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P370341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116676	Barium	1.53	Spike	P	0 - 20
2116676	Calcium	0.292	Spike	P	0 - 20
2116676	Iron	0.698	Spike	P	0 - 20
2116676	Magnesium	0.686	Spike	P	0 - 20
2116676	Potassium	5.06	Spike	P	0 - 20
2116676	Sodium	0.139	Spike	P	0 - 20
2116676	Zinc	1.84	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P370341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116676	Aluminum	0.663	Spike	P	0 - 20
2116676	Antimony	1.49	Spike	P	0 - 20
2116676	Arsenic	0.926	Spike	P	0 - 20
2116676	Boron	1.94	Spike	P	0 - 20
2116676	Cadmium	1.92	Spike	P	0 - 20
2116676	Chromium	1.78	Spike	P	0 - 20
2116676	Copper	0.663	Spike	P	0 - 20
2116676	Lead	1.75	Spike	P	0 - 20
2116676	Nickel	0.921	Spike	P	0 - 20
2116676	Selenium	3.19	Spike	P	0 - 20
2116676	Silver	1.15	Spike	P	0 - 20
2116676	Thallium	1.25	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P370340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116013	Bromide	0.722	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116619	Chloride	0.517	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370546

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116619	Sulfate	0.166	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370513

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116864	Ammonia-N	1.18	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116888	Ammonia-N	0.271	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116830	Kjeldahl Nitrogen	0.500	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370421

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116864	Kjeldahl Nitrogen	5.53	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370460

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2117153	Kjeldahl Nitrogen	2.38	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370318

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116830	NO2NO3-N	0.830	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370389

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116862	NO2NO3-N	1.99	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370489

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116760	Total-P	2.58	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370490

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116854	Total-P	0.729	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116969	O-Phosphate-P	0.815	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116867	O-Phosphate-P	0.103	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P370308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116826	Color (true)	2.09	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P370399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116620	Total Alkalinity	1.21	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P370402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116860	Total Alkalinity	1.60	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P370459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116826	TDS	0.0	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P370403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116620	Fluoride	0.471	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P370405

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116860	Fluoride	0.509	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P370306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116625	Organic Carbon	0.582	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P370307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116863	Organic Carbon	0.0823	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: EPA 180.1 Rev. 2.0

Run ID: A94042

Included Lab Sample IDs: 2116853, 2116856, 2116859, 2116860, 2116861

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A94044

Included Lab Sample IDs: 2116855, 2116858, 2116865, 2116866, 2116867

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	99.1	P/P	90 - 110
O-Phosphate-P	99.1	98.9	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A94054

Included Lab Sample IDs: 2116854, 2116857, 2116862, 2116863, 2116864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	105	104	P/P	90 - 110
Organic Carbon	106	105	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A94055

Included Lab Sample IDs: 2116853, 2116856

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	104	102	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A94057

Included Lab Sample IDs: 2116854, 2116857

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

Reference Method: EPA 300.0

Run ID: A94066

Included Lab Sample IDs: 2116859, 2116860, 2116861

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A94085

Included Lab Sample IDs: 2116862, 2116863, 2116864

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

Reference Method: SM 2320 B-97

Run ID: A94093

Included Lab Sample IDs: 2116853, 2116856, 2116859, 2116860, 2116861

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

Reference Method: SM 2320 B-97

Run ID: A94093

Included Lab Sample IDs: 2116853, 2116856, 2116859, 2116860, 2116861

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

Reference Method: SM 4500 F-C-97

Run ID: A94093

Included Lab Sample IDs: 2116853, 2116856, 2116859, 2116860, 2116861

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	98.6	P/P	90 - 110
Fluoride	99.5	99.5	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A94108

Included Lab Sample IDs: 2116881

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	102	102	P/P	90 - 110
Calcium	105	100	P/P	90 - 110
Iron	104	103	P/P	90 - 110
Magnesium	105	103	P/P	90 - 110
Potassium	104	102	P/P	90 - 110
Sodium	107	104	P/P	90 - 110
Zinc	101	99.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94122

Included Lab Sample IDs: 2116854

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.9	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94145

Included Lab Sample IDs: 2116862, 2116863, 2116864

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94156

Included Lab Sample IDs: 2116862, 2116863, 2116864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	90.7	94.4	P/P	90 - 110
Kjeldahl Nitrogen	94.6	90.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A94159

Included Lab Sample IDs: 2116853, 2116856

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94199

Included Lab Sample IDs: 2116854, 2116857, 2116862, 2116863, 2116864

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94203

Included Lab Sample IDs: 2116857

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94206

Included Lab Sample IDs: 2116881

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.2	98.2	P/P	90 - 110
Antimony	95.6	96.1	P/P	90 - 110
Arsenic	99.6	101	P/P	90 - 110
Boron	102	99.6	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Copper	99.0	99.2	P/P	90 - 110
Lead	95.3	97.0	P/P	90 - 110
Nickel	98.3	99.2	P/P	90 - 110
Silver	98.1	98.2	P/P	90 - 110
Thallium	93.9	94.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94208

Included Lab Sample IDs: 2116881

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	102	96.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94209

Included Lab Sample IDs: 2116881

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	101	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94214

Included Lab Sample IDs: 2116854, 2116857

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.3	97.4	P/P	90 - 110
Ammonia-N	98.0	97.3	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					2.20	
EPA 200.7 Rev. 4.4	Barium	101	99.9	101			1.53
	Calcium	108	110	110			0.292
	Iron	104	106	107			0.698
	Magnesium	110	112	112			0.686
	Potassium	103	106	111			5.06
	Sodium	110	107	107			0.139
	Zinc	99.9	100	102			1.84
EPA 200.8 Rev. 5.4	Aluminum	96.4	94.8	95.4			0.663
	Antimony	97.0	93.4	94.8			1.49
	Arsenic	98.5	96.6	97.5			0.926
	Boron	102	98.3	101			1.94
	Cadmium	97.9	94.7	96.5			1.92
	Chromium	90.8	94.0	95.7			1.78
	Copper	95.7	96.3	97.0			0.663
	Lead	94.4	91.0	92.7			1.75
	Nickel	96.2	93.9	94.8			0.921
	Selenium	103	101	98.0			3.19
	Silver	98.8	96.5	97.7			1.15
	Thallium	97.5	97.6	98.9			1.25
EPA 300.0	Bromide	97.8	93.8	94.7	94.6		0.722
EPA 300.0 Rev. 2.1	Chloride	98.8	99.9	101		0.517	
	Sulfate	99.5	99.9	101		0.166	
EPA 350.1 Rev. 2.0	Ammonia-N	99.4	94.3	95.6			1.18
	Ammonia-N	97.9	96.9	97.1			0.271
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.9	100	101			0.500
	Kjeldahl Nitrogen	93.4	99.0	92.3			5.53
	Kjeldahl Nitrogen	104					2.38
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.0	100			0.830
	NO2NO3-N	102	101	99.3			1.99
EPA 365.1 Rev. 2.0	Total-P	100	100	97.4			2.58
	Total-P	97.8	95.9	96.6			0.729
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	97.7	98.5			0.815
	O-Phosphate-P	98.0	97.3	97.2			0.103
SM 2120 B	Color (true)	100				2.09	
SM 2320 B-97	Total Alkalinity	105				1.21	
	Total Alkalinity	104				1.60	
SM 2540 C-97	TDS					0.0	
SM 4500 F-C-97	Fluoride	96.5					0.471
	Fluoride	99.4	94.8	95.5			0.509
SM 5310 B-00	Organic Carbon	108	94.6	95.6			0.582
	Organic Carbon	107	101	101			0.0823

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2116853, 2116856, 2116859, 2116860, 2116861
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2116881
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2116881
EPA 300.0 / E31780	Bromide in aqueous matrices	2116859, 2116860, 2116861

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2116853, 2116856
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2116853, 2116856
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2116854, 2116857, 2116862, 2116863, 2116864
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2116854, 2116857, 2116862, 2116863, 2116864
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2116854, 2116857, 2116862, 2116863, 2116864
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2116854, 2116857, 2116862, 2116863, 2116864
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2116855, 2116858, 2116865, 2116866, 2116867
SM 2120 B / E31780	True Color measured at 450 nm	2116853, 2116856
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2116853, 2116856, 2116859, 2116860, 2116861
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2116853, 2116856
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2116853, 2116856, 2116859, 2116860, 2116861
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2116853, 2116856, 2116859, 2116860, 2116861
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2116854, 2116857, 2116862, 2116863, 2116864

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	09/05/2019			09/06/2019 16:35	Samantha Davila	2116853, 2116856, 2116859, 2116860, 2116861
EPA 200.7 Rev. 4.4	09/05/2019	09/09/2019 13:25	Elliott D. Healy	09/10/2019 13:47	Alexander Thompson	2116881
EPA 200.8 Rev. 5.4	09/05/2019	09/09/2019 13:25	Elliott D. Healy	09/13/2019 08:36	Robert K Palmer	2116881
	09/05/2019	09/09/2019 13:25	Elliott D. Healy	09/14/2019 09:10	Robert K Palmer	2116881
	09/05/2019	09/09/2019 13:25	Elliott D. Healy	09/15/2019 06:56	Robert K Palmer	2116881
EPA 300.0	09/05/2019			09/06/2019 23:58	Jhamieka S. Greenwood	2116859
	09/05/2019			09/07/2019 00:15	Jhamieka S. Greenwood	2116860
	09/05/2019			09/07/2019 00:32	Jhamieka S. Greenwood	2116861
EPA 300.0 Rev. 2.1	09/05/2019			09/11/2019 16:22	Jhamieka S. Greenwood	2116853
	09/05/2019			09/11/2019 19:12	Jhamieka S. Greenwood	2116856
EPA 350.1 Rev. 2.0	09/05/2019			09/11/2019 11:16	Ping Hua	2116864
	09/05/2019			09/11/2019 11:35	Ping Hua	2116862
	09/05/2019			09/11/2019 11:37	Ping Hua	2116863
	09/05/2019			09/13/2019 11:34	Ping Hua	2116854
	09/05/2019			09/13/2019 11:42	Ping Hua	2116857
EPA 351.2 Rev. 2.0	09/05/2019	09/09/2019 13:25	Sima Feizi	09/10/2019 16:15	Julia Storbeck	2116854
	09/05/2019	09/10/2019 13:06	Sima Feizi	09/11/2019 17:41	Julia Storbeck	2116864
	09/05/2019	09/10/2019 13:06	Sima Feizi	09/11/2019 17:49	Julia Storbeck	2116862
	09/05/2019	09/10/2019 13:06	Sima Feizi	09/11/2019 17:53	Julia Storbeck	2116863
	09/05/2019	09/11/2019 12:55	Sima Feizi	09/12/2019 15:16	Julia Storbeck	2116857
EPA 353.2 Rev. 2.0	09/05/2019			09/09/2019 08:56	Beverly Y. Sanders	2116854
	09/05/2019			09/09/2019 08:57	Beverly Y. Sanders	2116857
	09/05/2019			09/10/2019 08:29	Beverly Y. Sanders	2116862
	09/05/2019			09/10/2019 08:39	Beverly Y. Sanders	2116863
	09/05/2019			09/10/2019 08:40	Beverly Y. Sanders	2116864
EPA 365.1 Rev. 2.0	09/05/2019	09/11/2019 10:25	Lipi Saha	09/13/2019 13:19	Rosalyn Ballman	2116862
	09/05/2019	09/11/2019 10:25	Lipi Saha	09/13/2019 13:20	Rosalyn Ballman	2116863
	09/05/2019	09/11/2019 10:25	Lipi Saha	09/13/2019 13:21	Rosalyn Ballman	2116864
	09/05/2019	09/11/2019 10:25	Lipi Saha	09/13/2019 13:27	Rosalyn Ballman	2116854
	09/05/2019	09/11/2019 10:25	Lipi Saha	09/13/2019 13:35	Rosalyn Ballman	2116857
EPA 365.1 Rev. 2.0 dissolved	09/05/2019			09/06/2019 16:17	Jhamieka S. Greenwood	2116867
	09/05/2019			09/06/2019 16:23	Jhamieka S. Greenwood	2116855
	09/05/2019			09/06/2019 16:31	Jhamieka S. Greenwood	2116858
	09/05/2019			09/06/2019 16:32	Jhamieka S. Greenwood	2116865
	09/05/2019			09/06/2019 16:33	Jhamieka S. Greenwood	2116866
SM 2120 B	09/05/2019			09/06/2019 17:27	Madeline Funaro	2116853
	09/05/2019			09/06/2019 17:28	Madeline Funaro	2116856
SM 2320 B-97	09/05/2019			09/09/2019 20:42	Dale L. Simmons	2116853
	09/05/2019			09/09/2019 20:55	Dale L. Simmons	2116856

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-97	09/05/2019			09/10/2019 02:44	Dale L. Simmons	2116860
	09/05/2019			09/10/2019 02:56	Dale L. Simmons	2116859
	09/05/2019			09/10/2019 03:09	Dale L. Simmons	2116861
SM 2540 C-97	09/05/2019			09/06/2019 17:30	Rosalyn Ballman	2116853, 2116856
SM 2540 D-97	09/05/2019			09/06/2019 17:30	Rosalyn Ballman	2116853, 2116856, 2116859, 2116860, 2116861
SM 4500 F-C-97	09/05/2019			09/09/2019 20:42	Dale L. Simmons	2116853
	09/05/2019			09/09/2019 20:55	Dale L. Simmons	2116856
	09/05/2019			09/10/2019 02:05	Dale L. Simmons	2116860
	09/05/2019			09/10/2019 02:18	Dale L. Simmons	2116859
	09/05/2019			09/10/2019 02:22	Dale L. Simmons	2116861
SM 5310 B-00	09/05/2019			09/07/2019 02:22	Madeline Funaro	2116854
	09/05/2019			09/07/2019 02:36	Madeline Funaro	2116857
	09/05/2019			09/07/2019 03:41	Madeline Funaro	2116863
	09/05/2019			09/07/2019 05:17	Madeline Funaro	2116862
	09/05/2019			09/07/2019 05:29	Madeline Funaro	2116864