

Chemical Analysis Report

CEN-DIST-2016-12-01-01

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

Event Description: **Strickland D/Turnbull B/Spruce C/Rose Bx2**

Request ID: **RQ-2016-11-28-43**

Customer: **CEN-DIST**

Project ID: **SMP**

Send Reports to:

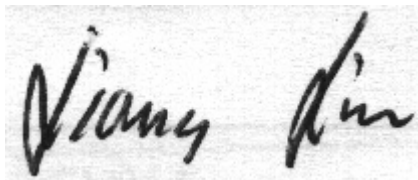
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Mike Linger

For additional information please contact

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Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 29-DEC-2016 13:05

A handwritten signature in black ink, appearing to read "Liang Lin", 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 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: ROSE BAY @ 125M NE OF BOAT RAMP

Collection Date/Time: 11/30/2016 10:13

Field ID: G5CE0073

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1853724	EPA 180.1 Rev. 2.0	Turbidity	8.8		NTU	P316041	
	SM 2320 B-97	Total Alkalinity	134	A	mg CaCO3/L	P316124	
	SM 2540 D-97	TSS	16	A	mg/L	P316485	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P316127	
1853727	EPA 350.1 Rev. 2.0	Ammonia-N	0.050		mg N/L	P316242	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P316363	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P316323	
	EPA 365.1 Rev. 2.0	Total-P	0.066		mg P/L	P316341	
	SM 5310 B-00	Organic Carbon	5.1		mg C/L	P316152	
1853730	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.035		mg P/L	P316048	

Sample Location: ROSE BAY @ US 1

Collection Date/Time: 11/30/2016 10:23

Field ID: G5CE0038

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1853725	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P316041	
	SM 2320 B-97	Total Alkalinity	132		mg CaCO3/L	P316124	
	SM 2540 D-97	TSS	8	I	mg/L	P316485	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P316127	
1853728	EPA 350.1 Rev. 2.0	Ammonia-N	0.044		mg N/L	P316242	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P316477	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P316323	
	EPA 365.1 Rev. 2.0	Total-P	0.063		mg P/L	P316341	
	SM 5310 B-00	Organic Carbon	5.2		mg C/L	P316152	
1853731	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.036		mg P/L	P316048	

**Sample Location: TURNBULL BAY @ 2 MILES NW OF
TURNBULL BAY RD**

Collection Date/Time: 11/30/2016 11:02

Field ID: G5CE0075

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1853726	EPA 180.1 Rev. 2.0	Turbidity	5.2		NTU	P316041	
	SM 2320 B-97	Total Alkalinity	130		mg CaCO3/L	P316124	
	SM 2540 D-97	TSS	12		mg/L	P316485	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P316127	
1853729	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P316242	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P316477	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P316323	
	EPA 365.1 Rev. 2.0	Total-P	0.058		mg P/L	P316341	
	SM 5310 B-00	Organic Carbon	4.9		mg C/L	P316152	
1853732	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.030		mg P/L	P316048	

**Sample Location: STRICKLAND BAY @ 875M EAST DS of RR
Crossing**

Collection Date/Time: 11/30/2016 11:10

Field ID: G5CE0074

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1853736	EPA 180.1 Rev. 2.0	Turbidity	4.3		NTU	P316041	
	SM 2320 B-97	Total Alkalinity	129		mg CaCO ₃ /L	P316124	
	SM 2540 D-97	TSS	8	I	mg/L	P316485	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P316127	
1853737	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P316242	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P316569	
	EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	0.008	I	mg N/L	P316323	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P316341	
	SM 5310 B-00	Organic Carbon	4.8		mg C/L	P316152	
1853738	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.028		mg P/L	P316048	
1853745	EPA 200.7 Rev. 4.4	Iron	140	I	ug/L	P316348	
	EPA 200.8 Rev. 5.4	Arsenic	2.05		ug/L	P316348	
		Cadmium	0.060	U	ug/L	P316348	
		Chromium	0.41	I	ug/L	P316348	
		Copper	0.71	I	ug/L	P316348	
		Lead	0.25	U	ug/L	P316348	
		Nickel	0.36	I	ug/L	P316348	
		Silver	0.015	U	ug/L	P316348	
		Zinc	5.4	I	ug/L	P316348	

Sample Location: SPRUCE CREEK @ AIRPORT RD.

Collection Date/Time: 11/30/2016 11:59

Field ID: G5CE0072

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1853733	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P316041	
	EPA 300.0 Rev. 2.1	Chloride	2.4E+03		mg Cl/L	P316909	
		Sulfate	310		mg SO ₄ /L	P316906	
	SM 2120 B	Color (true)	54	A	PCU	P316035	
	SM 2320 B-97	Total Alkalinity	212		mg CaCO ₃ /L	P316122	
	SM 2540 C-97	TDS	4.05E+03		mg/L	P316704	
	SM 2540 D-97	TSS	9	I	mg/L	P316482	
	SM 4500 F-C-97	Fluoride	0.23		mg F/L	P316125	
1853734	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P316242	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P316459	
	EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	0.009	I	mg N/L	P316510	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P316341	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P316050	
1853735	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.036		mg P/L	P316048	
1853744	EPA 200.7 Rev. 4.4	Calcium	127		mg/L	P316193	
		Iron	390		ug/L	P316193	
		Magnesium	154		mg/L	P316193	
		Potassium	45		mg/L	P316193	
		Sodium	1.23E+03		mg/L	P316193	
		Zinc	5.0	U	ug/L	P316193	

Field ID: G5CE0072

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1853744	EPA 200.8 Rev. 5.4	Arsenic	0.74		ug/L	P316193	
		Cadmium	0.020	U	ug/L	P316193	
		Chromium	0.25		ug/L	P316193	
		Copper	0.43		ug/L	P316193	
		Lead	0.060	I	ug/L	P316193	
		Nickel	0.23		ug/L	P316193	
		Silver	0.0050	U	ug/L	P316193	

Ref. Method and Comment:
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples 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: P316041

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P316193

Component	Result	Code	Units
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 200.7 Rev. 4.4
Batch ID: P316348

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P316193

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.050	U	ug/L
Copper	0.10	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.050	U	ug/L
Silver	0.0061	I	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P316348

Component	Result	Code	Units
Arsenic	0.050	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P316348

Component	Result	Code	Units
Cadmium	0.020	U	ug/L
Chromium	0.050	U	ug/L
Copper	0.10	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.050	U	ug/L
Silver	0.0050	U	ug/L
Zinc	1.0	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P316906

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P316909

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P316242

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316363

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316459

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316477

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316569

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P316323

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P316510

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P316341

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P316048

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

Reference Method: SM 2120 B
Batch ID: P316035

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P316122

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

Reference Method: SM 2320 B-97
Batch ID: P316124

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

Reference Method: SM 2540 C-97
Batch ID: P316704

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P316482

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P316485

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P316125

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P316127

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P316050

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

Reference Method: SM 5310 B-00
Batch ID: P316152

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: P316193

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	108		P	85 - 115
Magnesium	108		P	85 - 115
Potassium	101		P	85 - 115
Sodium	100		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P316348

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P316193

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	99.0		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P316193

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cadmium	98.9		P	85 - 115
Chromium	97.3		P	85 - 115
Copper	95.9		P	85 - 115
Lead	92.6		P	85 - 115
Nickel	98.4		P	85 - 115
Silver	98.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P316348

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	98.1		P	85 - 115
Cadmium	97.6		P	85 - 115
Chromium	94.5		P	85 - 115
Copper	94.0		P	85 - 115
Lead	96.8		P	85 - 115
Nickel	96.8		P	85 - 115
Silver	101		P	85 - 115
Zinc	99.3		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P316906

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P316909

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P316242

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P316363

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P316459

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316477

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316569

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: P316323

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P316510

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: P316341

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P316048

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

Reference Method: SM 2320 B-97
Batch ID: P316122

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.5		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P316124

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.6		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P316125

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.6		P	92 - 103

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P316127

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P316050

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.5		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P316152

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P316193

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853362	Iron	103		P	80 - 120
1853362	Magnesium	102		P	80 - 120
1853362	Potassium	98.9		P	80 - 120
1853362	Sodium	102		P	80 - 120
1853362	Zinc	96.3		P	80 - 120
1854134	Calcium	102		P	80 - 120
1854134	Iron	102	108	P/P	80 - 120
1854134	Magnesium	99.4	109	P/P	80 - 120
1854134	Potassium	93.7	101	P/P	80 - 120
1854134	Sodium	98.7		P	80 - 120
1854134	Zinc	99.5	103	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P316348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1854983	Iron	100		P	70 - 130
1855137	Iron	97.4	95.1	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P316193

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853362	Arsenic	102		P	80 - 120
1853362	Cadmium	102		P	80 - 120
1853362	Chromium	98.8		P	80 - 120
1853362	Copper	93.2		P	80 - 120
1853362	Lead	93.7		P	80 - 120
1853362	Nickel	96.3		P	80 - 120
1853362	Silver	101		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P316193

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1854134	Arsenic	99.1	102	P/P	80 - 120
1854134	Cadmium	101	104	P/P	80 - 120
1854134	Chromium	97.2	99.0	P/P	80 - 120
1854134	Copper	94.6	98.3	P/P	80 - 120
1854134	Lead	92.4	94.2	P/P	80 - 120
1854134	Nickel	96.0	97.9	P/P	80 - 120
1854134	Silver	97.9	98.4	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P316348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1854983	Arsenic	103		P	70 - 130
1854983	Cadmium	89.6		P	70 - 130
1854983	Chromium	80.9		P	70 - 130
1854983	Copper	90.5		P	70 - 130
1854983	Lead	100		P	70 - 130
1854983	Nickel	96.4		P	70 - 130
1854983	Silver	89.9		P	70 - 130
1854983	Zinc	93.2		P	70 - 130
1855137	Arsenic	108	107	P/P	70 - 130
1855137	Cadmium	92.0	94.5	P/P	70 - 130
1855137	Chromium	83.6	83.9	P/P	70 - 130
1855137	Copper	91.3	92.4	P/P	70 - 130
1855137	Lead	104	106	P/P	70 - 130
1855137	Nickel	99.3	101	P/P	70 - 130
1855137	Silver	92.8	94.0	P/P	70 - 130
1855137	Zinc	95.0	95.6	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P316906

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853650	Sulfate	103		P	90 - 110
1853651	Sulfate	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P316909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853650	Chloride	102		P	90 - 110
1853651	Chloride	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P316242

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853071	Ammonia-N	99.1	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316363

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853069	Kjeldahl Nitrogen	97.7	99.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1854163	Kjeldahl Nitrogen	97.8	96.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316477

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853071	Kjeldahl Nitrogen	99.7	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316569

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853591	Kjeldahl Nitrogen	99.1	96.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P316323

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853637	NO2NO3-N	105	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P316510

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1856128	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P316341

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853639	Total-P	96.0	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P316048

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853730	O-Phosphate-P	99.4	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P316125

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853751	Fluoride	98.2	98.2	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P316127

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853724	Fluoride	96.0	95.3	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P316050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853036	Organic Carbon	101		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P316152

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853636	Organic Carbon	95.2	95.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P316041

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853651	Turbidity	3.11	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P316193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1854134	Calcium	3.59	Spike	P	0 - 20
1854134	Iron	5.32	Spike	P	0 - 20
1854134	Magnesium	5.90	Spike	P	0 - 20
1854134	Potassium	4.34	Spike	P	0 - 20
1854134	Sodium	2.84	Spike	P	0 - 20
1854134	Zinc	2.93	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P316348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1855137	Iron	2.38	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P316193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1854134	Arsenic	2.82	Spike	P	0 - 20
1854134	Cadmium	2.39	Spike	P	0 - 20
1854134	Chromium	1.67	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P316193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1854134	Copper	3.78	Spike	P	0 - 20
1854134	Lead	1.91	Spike	P	0 - 20
1854134	Nickel	1.87	Spike	P	0 - 20
1854134	Silver	0.505	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P316348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1855137	Arsenic	0.476	Spike	P	0 - 20
1855137	Cadmium	2.61	Spike	P	0 - 20
1855137	Chromium	0.380	Spike	P	0 - 20
1855137	Copper	1.09	Spike	P	0 - 20
1855137	Lead	1.51	Spike	P	0 - 20
1855137	Nickel	1.97	Spike	P	0 - 20
1855137	Silver	1.25	Spike	P	0 - 20
1855137	Zinc	0.550	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P316906

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853650	Sulfate	0.0206	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P316909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853650	Chloride	0.0421	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P316242

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853071	Ammonia-N	2.24	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316363

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853069	Kjeldahl Nitrogen	1.45	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1854163	Kjeldahl Nitrogen	1.51	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316477

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853071	Kjeldahl Nitrogen	4.65	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316569

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853591	Kjeldahl Nitrogen	2.26	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P316323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853637	NO2NO3-N	0.727	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P316510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1856128	NO2NO3-N	0.443	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P316341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853639	Total-P	1.54	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P316048

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853730	O-Phosphate-P	0.594	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P316035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853733	Color (true)	0.878	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P316122

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853751	Total Alkalinity	0.0771	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P316124

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853724	Total Alkalinity	0.230	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P316704

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853772	TDS	1.72	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P316482

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853772	TSS	0.0	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P316485

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853724	TSS	0.0	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P316125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853751	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P316127

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853724	Fluoride	0.480	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P316050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853036	Organic Carbon	0.386	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P316152

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853636	Organic Carbon	0.233	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: A73120
Included Lab Sample IDs: 1853733

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A73121
Included Lab Sample IDs: 1853724, 1853725, 1853726, 1853733, 1853736

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.0	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A73122
Included Lab Sample IDs: 1853730, 1853731, 1853732, 1853735, 1853738

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.7	P/P	90 - 110
O-Phosphate-P	98.9	99.0	P/P	90 - 110
O-Phosphate-P	99.0	99.6	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A73126
Included Lab Sample IDs: 1853734

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.4	98.8	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A73150
Included Lab Sample IDs: 1853724, 1853725, 1853726, 1853733, 1853736

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.5	99.1	P/P	90 - 110
Total Alkalinity	98.2	97.0	P/P	90 - 110
Total Alkalinity	98.4	97.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A73150

Included Lab Sample IDs: 1853724, 1853725, 1853726, 1853733, 1853736

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	99.0	P/P	90 - 110
Fluoride	98.0	101	P/P	90 - 110
Fluoride	99.0	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A73154

Included Lab Sample IDs: 1853727, 1853728, 1853729, 1853737

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	97.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A73197

Included Lab Sample IDs: 1853727, 1853728, 1853729, 1853734, 1853737

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A73223

Included Lab Sample IDs: 1853727, 1853728, 1853729, 1853737

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A73246

Included Lab Sample IDs: 1853744

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	103	P/P	90 - 110
Iron	102	100	P/P	90 - 110
Magnesium	102	100	P/P	90 - 110
Potassium	99.9	98.8	P/P	90 - 110
Sodium	98.6	98.4	P/P	90 - 110
Zinc	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A73267

Included Lab Sample IDs: 1853727

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A73269

Included Lab Sample IDs: 1853734

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A73275

Included Lab Sample IDs: 1853727, 1853728, 1853729, 1853737

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	98.0	P/P	90 - 110
Total-P	98.0	98.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A73276

Included Lab Sample IDs: 1853744

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	98.8	98.4	P/P	90 - 110
Cadmium	98.0	98.2	P/P	90 - 110
Chromium	97.4	98.1	P/P	90 - 110
Copper	96.8	96.8	P/P	90 - 110
Lead	90.5	90.7	P/P	90 - 110
Nickel	99.2	99.5	P/P	90 - 110
Silver	99.5	98.9	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A73287

Included Lab Sample IDs: 1853745

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	104	99.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A73290

Included Lab Sample IDs: 1853734

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A73300

Included Lab Sample IDs: 1853745

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	98.3	101	P/P	90 - 110
Cadmium	96.6	96.3	P/P	90 - 110
Chromium	95.2	91.6	P/P	90 - 110
Nickel	98.7	101	P/P	90 - 110
Zinc	99.3	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A73301

Included Lab Sample IDs: 1853734

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.2	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A73305

Included Lab Sample IDs: 1853745

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	93.7	95.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A73317

Included Lab Sample IDs: 1853728, 1853729

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.2	98.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A73335

Included Lab Sample IDs: 1853737

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.4	92.9	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A73375

Included Lab Sample IDs: 1853733

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	106	P/P	90 - 110
Sulfate	100	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A73629

Included Lab Sample IDs: 1853745

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	91.4	91.5	P/P	90 - 110
Silver	98.9	99.9	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			SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					3.11	
EPA 200.7 Rev. 4.4	Calcium	105		102			3.59
	Iron	108		103	102		5.32
	Iron	107		100	97.4	95.1	2.38
	Magnesium	108		102	99.4	109	5.90
	Potassium	101		98.9	93.7	101	4.34
	Sodium	100		102	98.7		2.84
	Zinc	102		96.3	99.5	103	2.93
EPA 200.8 Rev. 5.4	Arsenic	99.0		102	99.1	102	2.82

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision	MS
			LCS	SMP	MS		
EPA 200.8 Rev. 5.4	Arsenic	98.1	103	108	107		0.476
	Cadmium	98.9	102	101	104		2.39
	Cadmium	97.6	89.6	92.0	94.5		2.61
	Chromium	97.3	98.8	97.2	99.0		1.67
	Chromium	94.5	80.9	83.6	83.9		0.380
	Copper	95.9	93.2	94.6	98.3		3.78
	Copper	94.0	90.5	91.3	92.4		1.09
	Lead	92.6	93.7	92.4	94.2		1.91
	Lead	96.8	100	104	106		1.51
	Nickel	98.4	96.3	96.0	97.9		1.87
	Nickel	96.8	96.4	99.3	101		1.97
	Silver	98.3	101	97.9	98.4		0.505
	Silver	101	89.9	92.8	94.0		1.25
	Zinc	99.3	93.2	95.0	95.6		0.550
EPA 300.0 Rev. 2.1	Chloride	105	102	102		0.0421	
	Sulfate	106	103	100		0.0206	
EPA 350.1 Rev. 2.0	Ammonia-N	102	99.1	102			2.24
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	97.7	99.3			1.45
	Kjeldahl Nitrogen	102	97.8	96.2			1.51
	Kjeldahl Nitrogen	100	99.7	105			4.65
	Kjeldahl Nitrogen	103	99.1	96.3			2.26
EPA 353.2 Rev. 2.0	NO2NO3-N	104	105	106			0.727
	NO2NO3-N	102	104	103			0.443
EPA 365.1 Rev. 2.0	Total-P	106	96.0	97.6			1.54
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103	99.4	100			0.594
SM 2120 B	Color (true)					0.878	
SM 2320 B-97	Total Alkalinity	98.5				0.0771	
	Total Alkalinity	98.6				0.230	
SM 2540 C-97	TDS					1.72	
SM 2540 D-97	TSS					0.0	
	TSS					0.0	
SM 4500 F-C-97	Fluoride	98.6	98.2	98.2			0.0
	Fluoride	97.5	96.0	95.3			0.480
SM 5310 B-00	Organic Carbon	98.5	101				0.386
	Organic Carbon	96.1	95.2	95.5			0.233

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1853724, 1853725, 1853726, 1853733, 1853736
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1853744, 1853745
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1853744, 1853745
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1853733
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1853733
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1853727, 1853728, 1853729, 1853734, 1853737
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1853727, 1853728, 1853729, 1853734, 1853737
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1853727, 1853728, 1853729, 1853734, 1853737

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	1853727, 1853728, 1853729, 1853734, 1853737
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1853730, 1853731, 1853732, 1853735, 1853738
SM 2120 B / E31780	True Color measured at 450 nm	1853733
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1853724, 1853725, 1853726, 1853733, 1853736
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1853733
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1853724, 1853725, 1853726, 1853733, 1853736
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1853724, 1853725, 1853726, 1853733, 1853736
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1853727, 1853728, 1853729, 1853734, 1853737

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	12/01/2016			12/01/2016 16:32	Sima Feizi	1853724, 1853725, 1853726, 1853733, 1853736
EPA 200.7 Rev. 4.4	12/01/2016	12/05/2016	Elliott D. Healy	12/07/2016	Joshua Ayres	1853744
	12/01/2016	12/07/2016	Elliott D. Healy	12/09/2016	Joshua Ayres	1853745
EPA 200.8 Rev. 5.4	12/01/2016	12/05/2016	Elliott D. Healy	12/08/2016	Charles J. Peterson	1853744
	12/01/2016	12/07/2016	Elliott D. Healy	12/10/2016	Charles J. Peterson	1853745
	12/01/2016	12/07/2016	Elliott D. Healy	12/29/2016	Charles J. Peterson	1853745
EPA 300.0 Rev. 2.1	12/01/2016			12/15/2016	Ping Hua	1853733
EPA 350.1 Rev. 2.0	12/01/2016			12/05/2016	Sofia Elnemr	1853727, 1853728, 1853729, 1853734, 1853737
EPA 351.2 Rev. 2.0	12/01/2016	12/08/2016	Adrian Shelby	12/09/2016	Joseph Suarez	1853727
	12/01/2016	12/09/2016	Adrian Shelby	12/12/2016	Joseph Suarez	1853728, 1853729
	12/01/2016	12/09/2016	Martin Acosta	12/12/2016	Joseph Suarez	1853734
	12/01/2016	12/12/2016	Adrian Shelby	12/13/2016	Joseph Suarez	1853737
EPA 353.2 Rev. 2.0	12/01/2016			12/07/2016	Beverly Y. Sanders	1853727, 1853728, 1853729, 1853737
	12/01/2016			12/09/2016	Beverly Y. Sanders	1853734
EPA 365.1 Rev. 2.0	12/01/2016	12/07/2016	Vijayalakshmi Reddy	12/08/2016	Lipi Saha	1853734
	12/01/2016	12/07/2016	Vijayalakshmi Reddy	12/09/2016	Lipi Saha	1853727, 1853728, 1853729, 1853737
EPA 365.1 Rev. 2.0 dissolved	12/01/2016			12/01/2016 15:51	Julia Storbeck	1853730
	12/01/2016			12/01/2016 16:18	Julia Storbeck	1853731
	12/01/2016			12/01/2016 16:19	Julia Storbeck	1853732
	12/01/2016			12/01/2016 16:24	Julia Storbeck	1853735, 1853738
SM 2120 B	12/01/2016			12/01/2016 15:48	Jared I. Manley	1853733
SM 2320 B-97	12/01/2016			12/02/2016	Dale L. Simmons	1853733
	12/01/2016			12/03/2016	Dale L. Simmons	1853724, 1853725, 1853726, 1853736
SM 2540 C-97	12/01/2016			12/05/2016	Sima Feizi	1853733
SM 2540 D-97	12/01/2016			12/05/2016	Sima Feizi	1853724, 1853725, 1853726, 1853733, 1853736
SM 4500 F-C-97	12/01/2016			12/02/2016	Dale L. Simmons	1853733
	12/01/2016			12/03/2016	Dale L. Simmons	1853724, 1853725, 1853726, 1853736
SM 5310 B-00	12/01/2016			12/01/2016	Julie Michelle Frank	1853734
	12/01/2016			12/03/2016	Julie Michelle Frank	1853727, 1853728, 1853729, 1853737