

Chemical Analysis Report

NE-DIST-2018-07-26-01

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

Event Description: **LSJR SW**
Request ID: **RQ-2018-07-23-16**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
Attn: Jeremy Parrish

For additional information please contact
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Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 15-AUG-2018 16:02

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

NON-CONFORMANCE REPORT INCLUDED

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: PETERS CREEK CULVERT SR 315

Collection Date/Time: 07/25/2018 09:05

Field ID: 20030388

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2011098	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P349235	
	EPA 300.0 Rev. 2.1	Chloride	8.3		mg Cl/L	P349591	
		Sulfate	1.5		mg SO4/L	P349594	
		Color (true)	300		PCU	P349232	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P349484	
	SM 2540 C-97	TDS	82		mg/L	P349479	
	SM 2540 D-97	TSS	2	U	mg/L	P349435	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P349488	
2011100	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P349524	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P349441	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P349408	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P349512	
	SM 5310 B-00	Organic Carbon	29		mg C/L	P349689	
2011102	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P349240	
2011130	EPA 200.7 Rev. 4.4	Calcium	3.58		mg/L	P349462	
		Iron	1.03E+03		ug/L	P349462	
		Magnesium	0.72		mg/L	P349462	
		Potassium	0.30	U	mg/L	P349462	
		Sodium	5.9		mg/L	P349462	
		Zinc	5.0	U	ug/L	P349462	
	EPA 200.8 Rev. 5.4	Arsenic	0.45		ug/L	P349462	
		Cadmium	0.020	U	ug/L	P349462	
		Chromium	0.90	I	ug/L	P349462	
		Copper	0.20	U	ug/L	P349462	
		Lead	0.41		ug/L	P349462	
		Nickel	0.55	I	ug/L	P349462	
		Silver	0.010	U	ug/L	P349462	

Ref. Method and Comment:

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

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: PETERS CREEK @ SR 16

Collection Date/Time: 07/25/2018 09:25

Field ID: 20030403

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2011099	EPA 180.1 Rev. 2.0	Turbidity	1.5	A	NTU	P349236	
	EPA 300.0 Rev. 2.1	Chloride	7.6		mg Cl/L	P349591	
		Sulfate	1.6		mg SO4/L	P349594	
	SM 2120 B	Color (true)	270		PCU	P349232	
	SM 2320 B-97	Total Alkalinity	3.8		mg CaCO3/L	P349484	
	SM 2540 C-97	TDS	79		mg/L	P349479	
	SM 2540 D-97	TSS	2	U	mg/L	P349435	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P349488	
2011101	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	Y	mg N/L	P349524	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen		O	mg N/L	P349441	
	EPA 353.2 Rev. 2.0	NO2NO3-N		O	mg N/L	P349408	
	EPA 365.1 Rev. 2.0	Total-P	0.028	Y	mg P/L	P349512	
	SM 5310 B-00	Organic Carbon	25	Y	mg C/L	P349689	
2011103	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.019		mg P/L	P349240	
2011131	EPA 200.7 Rev. 4.4	Calcium	4.66		mg/L	P349462	
		Iron	770		ug/L	P349462	
		Magnesium	0.82		mg/L	P349462	
		Potassium	0.30	U	mg/L	P349462	
		Sodium	5.4		mg/L	P349462	
		Zinc	5.0	U	ug/L	P349462	
	EPA 200.8 Rev. 5.4	Arsenic	0.36		ug/L	P349462	
		Cadmium	0.020	U	ug/L	P349462	
		Chromium	0.68	I	ug/L	P349462	
		Copper	0.20	U	ug/L	P349462	
		Lead	0.41		ug/L	P349462	
		Nickel	0.42	I	ug/L	P349462	
		Silver	0.010	U	ug/L	P349462	

Ref. Method and Comment:

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

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

EPA 350.1 Rev. 2.0: Sample appears to have been preserved with nitric and sulfuric acid.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample. Sample appears to have been preserved with nitric and sulfuric acid.

EPA 353.2 Rev. 2.0: Sample appears to have been preserved with nitric and sulfuric acid.

EPA 365.1 Rev. 2.0: Total-P: Sample appears to have been preserved with nitric and sulfuric acid.

SM 5310 B-00: Sample appears to have been preserved with nitric and sulfuric acid.

Sample Location: UNNAMED BRANCH AT BRIT PLACE

Collection Date/Time: 07/25/2018 10:10

Field ID: G2NE1140

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2011086	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P349235	
	EPA 300.0 Rev. 2.1	Chloride	5.1		mg Cl/L	P349591	
		Sulfate	7.8		mg SO4/L	P349594	
	SM 2120 B	Color (true)	430		PCU	P349231	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P349482	
	SM 2540 C-97	TDS	92		mg/L	P349478	
	SM 2540 D-97	TSS	2	U	mg/L	P349435	
	SM 4500 F-C-97	Fluoride	0.066	I	mg F/L	P349486	
2011090	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P349525	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P349391	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P349408	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P349512	
	SM 5310 B-00	Organic Carbon	35		mg C/L	P349689	
2011094	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.17		mg P/L	P349240	

Ref. Method and Comment:

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

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

Sample Location: BULL CR NE CROSSING CR 215

Collection Date/Time: 07/25/2018 11:00

Field ID: 20030487

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2011087	EPA 180.1 Rev. 2.0	Turbidity	4.3		NTU	P349235	
	EPA 300.0 Rev. 2.1	Chloride	8.4		mg Cl/L	P349591	
		Sulfate	1.6		mg SO4/L	P349594	
		Color (true)	500		PCU	P349231	
	SM 2320 B-97	Total Alkalinity	3.4		mg CaCO3/L	P349482	
	SM 2540 C-97	TDS	99		mg/L	P349478	
	SM 2540 D-97	TSS	5	I	mg/L	P349435	
	SM 4500 F-C-97	Fluoride	0.063	I	mg F/L	P349486	
2011091	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P349524	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P349391	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.045		mg N/L	P349408	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P349512	
	SM 5310 B-00	Organic Carbon	37		mg C/L	P349689	
2011095	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P349240	

Ref. Method and Comment:

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

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

Sample Location: GROG BRANCH @ LONG BAY RD.

Collection Date/Time: 07/25/2018 11:20

Field ID: 20030833

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2011088	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P349235	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P349591	
		Sulfate	2.3		mg SO4/L	P349594	
	SM 2120 B	Color (true)	290		PCU	P349231	
	SM 2320 B-97	Total Alkalinity	27		mg CaCO3/L	P349484	
	SM 2540 C-97	TDS	116		mg/L	P349478	
	SM 2540 D-97	TSS	3	I	mg/L	P349435	
	SM 4500 F-C-97	Fluoride	0.041	I	mg F/L	P349488	
2011092	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P349524	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.98		mg N/L	P349441	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.052		mg N/L	P349408	
	EPA 365.1 Rev. 2.0	Total-P	0.052		mg P/L	P349512	
	SM 5310 B-00	Organic Carbon	27		mg C/L	P349689	
2011096	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.022		mg P/L	P349240	

Ref. Method and Comment:

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

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: LITTLE BLACK CREEK @ SR 220

Collection Date/Time: 07/25/2018 11:40

Field ID: 20030667

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2011089	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P349235	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P349591	
		Sulfate	5.2		mg SO4/L	P349594	
		Color (true)	210		PCU	P349231	
	SM 2320 B-97	Total Alkalinity	30		mg CaCO3/L	P349484	
	SM 2540 C-97	TDS	107		mg/L	P349479	
	SM 2540 D-97	TSS	2	U	mg/L	P349435	
	SM 4500 F-C-97	Fluoride	0.053	I	mg F/L	P349488	
2011093	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P349524	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P349441	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.050		mg N/L	P349408	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P349512	
	SM 5310 B-00	Organic Carbon	20		mg C/L	P349689	
2011097	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P349240	

Ref. Method and Comment:

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

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Non-Conformance Report

NCR ID: 7156

Event(s)

NE-DIST-2018-07-26-01

Job(s)

TLH-2018-07-26-45

Sample(s)

2011131

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Sample not preserved to pH < 2.

Resolution: Sample preserved in the laboratory with nitric acid 07/26/2018 at 11:31AM.

LOT:NA-8080070

EXP:03-21-2019

Authorized by/Date: Joshua Ayres 7/27/2018

NCR ID: 7161

Event(s)

NE-DIST-2018-07-26-01

Job(s)

TLH-2018-07-26-36

Sample(s)

2011101

Test(s)

NCR Type: SAMPLING

NCR Category: General

Observation: Sample 2011101 appears to be preserved with both nitric acid and sulfuric acid. Sample has a nitrite/nitrate concentration of 440 mg N/L and there is less than 0.05 mg N/L in the unpreserved aliquot (laboratory ID 2011099).

Resolution: Results for the NO₂NO₃-N and Kjeldahl Nitrogen components were reported as the non numeric qualifier O. Results for the other affected components were qualified with a Y qualifier for incorrect preservation.

Authorized by/Date: Dr. rer. nat. Bettina Steinbock 8/13/2018

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349235

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349236

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349462

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 200.8 Rev. 5.4
Batch ID: P349462

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349591

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349594

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349524

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349525

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349391

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349441

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349408

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349512

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349240

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

Reference Method: SM 2120 B
Batch ID: P349231

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P349232

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P349482

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P349484

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

Reference Method: SM 2540 C-97
Batch ID: P349478

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P349479

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P349435

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P349486

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P349488

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P349689

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: P349462

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	106		P	85 - 115
Iron	106		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	103		P	85 - 115
Sodium	105		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349462

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	101		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	93.7		P	85 - 115
Copper	95.9		P	85 - 115
Lead	97.2		P	85 - 115
Nickel	98.7		P	85 - 115
Silver	98.4		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349591

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349594

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349524

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349525

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349391

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: P349441

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.9		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349408

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: P349512

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349240

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.2		P	90 - 110

Reference Method: SM 2120 B
Batch ID: P349231

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.4		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P349232

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.5		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P349482

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P349484

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P349486

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.8		P	91 - 105

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P349488

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.6		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P349689

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349462

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2011598	Calcium	94.0		P	80 - 120
2011598	Iron	106		P	80 - 120
2011598	Magnesium	107		P	80 - 120
2011598	Potassium	101		P	80 - 120
2011598	Sodium	89.3		P	80 - 120
2011598	Zinc	106		P	80 - 120
2011701	Calcium	104		P	80 - 120
2011701	Iron	107	105	P/P	80 - 120
2011701	Magnesium	110	107	P/P	80 - 120
2011701	Potassium	105	103	P/P	80 - 120
2011701	Sodium	106	103	P/P	80 - 120
2011701	Zinc	103	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349462

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2011598	Arsenic	105		P	80 - 120
2011598	Cadmium	105		P	80 - 120
2011598	Chromium	94.9		P	80 - 120
2011598	Copper	97.1		P	80 - 120
2011598	Lead	100		P	80 - 120
2011598	Nickel	98.7		P	80 - 120
2011598	Silver	98.0		P	80 - 120
2011701	Arsenic	104	102	P/P	80 - 120
2011701	Cadmium	105	104	P/P	80 - 120
2011701	Chromium	97.5	95.8	P/P	80 - 120
2011701	Copper	98.8	96.6	P/P	80 - 120
2011701	Lead	98.3	97.9	P/P	80 - 120
2011701	Nickel	101	99.0	P/P	80 - 120
2011701	Silver	100	98.6	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2011059	Chloride	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349594

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2011059	Sulfate	96.6		P	90 - 110
2011141	Sulfate	98.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349524

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010937	Ammonia-N	100	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349525

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2011026	Ammonia-N	102	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349391

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010996	Kjeldahl Nitrogen	90.3	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2011060	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2011092	Total-P	91.3	92.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349240

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2011072	O-Phosphate-P	96.5	97.3	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P349486

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2011483	Fluoride	96.8	95.4	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P349488

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2011556	Fluoride	96.9	97.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P349689

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2011487	Organic Carbon	98.0	99.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349235

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011058	Turbidity	6.03	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349236

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011099	Turbidity	2.72	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011701	Calcium	1.75	Spike	P	0 - 20
2011701	Iron	1.91	Spike	P	0 - 20
2011701	Magnesium	2.84	Spike	P	0 - 20
2011701	Potassium	2.50	Spike	P	0 - 20
2011701	Sodium	1.88	Spike	P	0 - 20
2011701	Zinc	1.52	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011701	Arsenic	2.04	Spike	P	0 - 20
2011701	Cadmium	0.923	Spike	P	0 - 20
2011701	Chromium	1.82	Spike	P	0 - 20
2011701	Copper	2.21	Spike	P	0 - 20
2011701	Lead	0.389	Spike	P	0 - 20
2011701	Nickel	1.94	Spike	P	0 - 20
2011701	Silver	1.73	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011059	Chloride	1.90	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011059	Sulfate	2.43	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349524

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010937	Ammonia-N	1.92	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349525

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011026	Ammonia-N	1.63	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349391

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010996	Kjeldahl Nitrogen	6.79	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349441

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011175	Kjeldahl Nitrogen	0.809	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349408

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011060	NO2NO3-N	0.464	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011092	Total-P	1.19	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349240

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011072	O-Phosphate-P	0.504	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P349231

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010989	Color (true)	0.591	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P349232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011172	Color (true)	1.28	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P349482

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011483	Total Alkalinity	0.273	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P349484

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011556	Total Alkalinity	0.661	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P349478

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010992	TDS	3.06	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P349479

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011141	TDS	2.02	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P349486

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011483	Fluoride	0.959	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P349488

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011556	Fluoride	0.520	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P349689

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011487	Organic Carbon	1.07	Spike	P	0 - 20

Quality Assurance Report

Precision

* 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: A85507

Included Lab Sample IDs: 2011086, 2011087, 2011088, 2011089, 2011098, 2011099

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A85508

Included Lab Sample IDs: 2011086, 2011087, 2011088, 2011089, 2011098, 2011099

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	104	P/P	95 - 105
Turbidity	104	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A85510

Included Lab Sample IDs: 2011094, 2011095, 2011096, 2011097, 2011102, 2011103

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.1	97.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A85559

Included Lab Sample IDs: 2011090, 2011091, 2011092, 2011093, 2011100, 2011101

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A85560

Included Lab Sample IDs: 2011086, 2011087, 2011088, 2011089, 2011098, 2011099

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.1	99.5	P/P	90 - 110
Chloride	99.5	99.9	P/P	90 - 110
Sulfate	97.6	99.8	P/P	90 - 110
Sulfate	99.8	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A85594

Included Lab Sample IDs: 2011090, 2011091

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	91.4	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A85607

Included Lab Sample IDs: 2011086, 2011087, 2011088, 2011089, 2011098, 2011099

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110
Total Alkalinity	104	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A85607

Included Lab Sample IDs: 2011086, 2011087, 2011088, 2011089, 2011098, 2011099

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	99.1	P/P	90 - 110
Fluoride	98.6	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A85615

Included Lab Sample IDs: 2011092, 2011093, 2011100, 2011101

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.2	99.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A85619

Included Lab Sample IDs: 2011130, 2011131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	103	102	P/P	90 - 110
Iron	103	102	P/P	90 - 110
Magnesium	104	103	P/P	90 - 110
Potassium	100	97.9	P/P	90 - 110
Sodium	99.9	100	P/P	90 - 110
Zinc	102	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A85621

Included Lab Sample IDs: 2011090, 2011091, 2011092, 2011093, 2011100, 2011101

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A85630

Included Lab Sample IDs: 2011090, 2011091, 2011092

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	94.4	95.7	P/P	90 - 110
Total-P	95.7	94.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A85636

Included Lab Sample IDs: 2011093, 2011100, 2011101

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A85689

Included Lab Sample IDs: 2011130, 2011131

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A85689

Included Lab Sample IDs: 2011130, 2011131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	100	102	P/P	90 - 110
Chromium	94.2	96.2	P/P	90 - 110
Copper	98.0	98.5	P/P	90 - 110
Lead	99.1	98.1	P/P	90 - 110
Nickel	98.2	99.2	P/P	90 - 110
Silver	95.8	96.7	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A85704

Included Lab Sample IDs: 2011090, 2011091, 2011092, 2011093, 2011100, 2011101

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	99.0	P/P	90 - 110
Organic Carbon	99.0	99.7	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					6.03	
	Turbidity					2.72	
EPA 200.7 Rev. 4.4	Calcium	106	94.0	104			1.75
	Iron	106	106	107	105		1.91
	Magnesium	110	107	110	107		2.84
	Potassium	103	101	105	103		2.50
	Sodium	105	89.3	106	103		1.88
	Zinc	103	106	103	102		1.52
EPA 200.8 Rev. 5.4	Arsenic	101	105	104	102		2.04
	Cadmium	103	105	105	104		0.923
	Chromium	93.7	94.9	97.5	95.8		1.82
	Copper	95.9	97.1	98.8	96.6		2.21
	Lead	97.2	100	98.3	97.9		0.389
	Nickel	98.7	98.7	101	99.0		1.94
	Silver	98.4	98.0	100	98.6		1.73
EPA 300.0 Rev. 2.1	Chloride	105	98.6			1.90	
	Sulfate	105	96.6	98.3		2.43	
EPA 350.1 Rev. 2.0	Ammonia-N	103	100	102			1.92
	Ammonia-N	104	102	100			1.63
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	90.3	101			6.79
	Kjeldahl Nitrogen	98.9					0.809
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	102	102			0.464
EPA 365.1 Rev. 2.0	Total-P	96.2	91.3	92.6			1.19
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.2	96.5	97.3			0.504
SM 2120 B	Color (true)	98.4				0.591	
	Color (true)	97.5				1.28	
SM 2320 B-97	Total Alkalinity	103				0.273	
	Total Alkalinity	104				0.661	
SM 2540 C-97	TDS					3.06	
	TDS					2.02	
SM 4500 F-C-97	Fluoride	94.8	96.8	95.4			0.959
	Fluoride	97.6	96.9	97.7			0.520
SM 5310 B-00	Organic Carbon	95.9	98.0	99.1			1.07

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2011086, 2011087, 2011088, 2011089, 2011098, 2011099
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2011130, 2011131
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2011130, 2011131
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2011086, 2011087, 2011088, 2011089, 2011098, 2011099
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2011086, 2011087, 2011088, 2011089, 2011098, 2011099
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2011090, 2011091, 2011092, 2011093, 2011100, 2011101
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2011090, 2011091, 2011092, 2011093, 2011100, 2011101
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2011090, 2011091, 2011092, 2011093, 2011100, 2011101
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2011090, 2011091, 2011092, 2011093, 2011100, 2011101

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved / E31780 SM 2120 B / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L True Color measured at 450 nm	2011094, 2011095, 2011096, 2011097, 2011102, 2011103 2011086, 2011087, 2011088, 2011089, 2011098, 2011099
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2011086, 2011087, 2011088, 2011089, 2011098, 2011099
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2011086, 2011087, 2011088, 2011089, 2011098, 2011099
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2011086, 2011087, 2011088, 2011089, 2011098, 2011099
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2011086, 2011087, 2011088, 2011089, 2011098, 2011099
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2011090, 2011091, 2011092, 2011093, 2011100, 2011101

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	07/26/2018			07/26/2018 16:36	Blanca Fach	2011086, 2011087, 2011088, 2011089, 2011098, 2011099
EPA 200.7 Rev. 4.4	07/26/2018	07/31/2018 17:45	Elliott D. Healy	08/01/2018 15:30	Betina Topolski	2011130
	07/26/2018	07/31/2018 17:45	Elliott D. Healy	08/01/2018 15:38	Betina Topolski	2011131
EPA 200.8 Rev. 5.4	07/26/2018	07/31/2018 17:45	Elliott D. Healy	08/03/2018 18:36	Allison Taylor	2011130
	07/26/2018	07/31/2018 17:45	Elliott D. Healy	08/03/2018 18:46	Allison Taylor	2011131
EPA 300.0 Rev. 2.1	07/26/2018			08/02/2018 12:55	Lipi Saha	2011086
	07/26/2018			08/02/2018 13:07	Lipi Saha	2011087
	07/26/2018			08/02/2018 13:43	Lipi Saha	2011088
	07/26/2018			08/02/2018 13:55	Lipi Saha	2011089
	07/26/2018			08/02/2018 14:07	Lipi Saha	2011098
	07/26/2018			08/02/2018 14:19	Lipi Saha	2011099
EPA 350.1 Rev. 2.0	07/26/2018			08/01/2018 12:48	Ping Hua	2011091
	07/26/2018			08/01/2018 12:50	Ping Hua	2011092
	07/26/2018			08/01/2018 12:51	Ping Hua	2011093
	07/26/2018			08/01/2018 12:53	Ping Hua	2011100
	07/26/2018			08/01/2018 12:54	Ping Hua	2011101
	07/26/2018			08/01/2018 13:33	Ping Hua	2011090
EPA 351.2 Rev. 2.0	07/26/2018	07/30/2018 15:30	Adrian Shelby	07/31/2018 16:58	Joseph Suarez	2011090
	07/26/2018	07/30/2018 15:30	Adrian Shelby	07/31/2018 16:59	Joseph Suarez	2011091
	07/26/2018	07/31/2018 11:15	Adrian Shelby	08/01/2018 12:36	Joseph Suarez	2011092
	07/26/2018	07/31/2018 11:15	Adrian Shelby	08/01/2018 12:38	Joseph Suarez	2011093
	07/26/2018	07/31/2018 11:15	Adrian Shelby	08/01/2018 12:39	Joseph Suarez	2011100
	07/26/2018	07/31/2018 11:15	Adrian Shelby	08/01/2018 12:41	Joseph Suarez	2011101
EPA 353.2 Rev. 2.0	07/26/2018			07/30/2018 14:26	Lauren Bottorf	2011090
	07/26/2018			07/30/2018 14:27	Lauren Bottorf	2011091
	07/26/2018			07/30/2018 14:28	Lauren Bottorf	2011092
	07/26/2018			07/30/2018 14:29	Lauren Bottorf	2011093
	07/26/2018			07/30/2018 14:30	Lauren Bottorf	2011100
	07/26/2018			07/30/2018 14:59	Lauren Bottorf	2011101
EPA 365.1 Rev. 2.0	07/26/2018	08/01/2018 12:35	Sima Feizi	08/02/2018 08:53	Beverly Y. Sanders	2011092
	07/26/2018	08/01/2018 12:35	Sima Feizi	08/02/2018 08:59	Beverly Y. Sanders	2011090
	07/26/2018	08/01/2018 12:35	Sima Feizi	08/02/2018 09:00	Beverly Y. Sanders	2011091
	07/26/2018	08/01/2018 12:35	Sima Feizi	08/02/2018 11:39	Beverly Y. Sanders	2011093
	07/26/2018	08/01/2018 12:35	Sima Feizi	08/02/2018 11:40	Beverly Y. Sanders	2011100
	07/26/2018	08/01/2018 12:35	Sima Feizi	08/02/2018 11:41	Beverly Y. Sanders	2011101
EPA 365.1 Rev. 2.0 dissolved	07/26/2018			07/26/2018 17:08	Julia Storbeck	2011094, 2011095
	07/26/2018			07/26/2018 17:11	Julia Storbeck	2011096
	07/26/2018			07/26/2018 17:12	Julia Storbeck	2011097
	07/26/2018			07/26/2018 17:13	Julia Storbeck	2011102

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0 dissolved SM 2120 B	07/26/2018			07/26/2018 17:14	Julia Storbeck	2011103
	07/26/2018			07/26/2018 16:18	Tanya Welborn	2011086
	07/26/2018			07/26/2018 16:19	Tanya Welborn	2011087
	07/26/2018			07/26/2018 16:20	Tanya Welborn	2011088
	07/26/2018			07/26/2018 16:21	Tanya Welborn	2011089
	07/26/2018			07/26/2018 16:22	Tanya Welborn	2011098
SM 2320 B-97	07/26/2018			07/26/2018 16:23	Tanya Welborn	2011099
	07/26/2018			07/31/2018 23:05	Dale L. Simmons	2011086
	07/26/2018			07/31/2018 23:16	Dale L. Simmons	2011087
	07/26/2018			08/01/2018 01:13	Dale L. Simmons	2011088
	07/26/2018			08/01/2018 01:23	Dale L. Simmons	2011089
	07/26/2018			08/01/2018 01:32	Dale L. Simmons	2011098
SM 2540 C-97	07/26/2018			08/01/2018 01:43	Dale L. Simmons	2011099
SM 2540 D-97	07/26/2018			07/27/2018 14:45	William L. Brown IV	2011086, 2011087, 2011088, 2011089, 2011098, 2011099
SM 4500 F-C-97	07/26/2018			07/27/2018 14:57	William L. Brown IV	2011086, 2011087, 2011088, 2011089, 2011098, 2011099
SM 5310 B-00	07/26/2018			07/31/2018 23:05	Dale L. Simmons	2011086
	07/26/2018			07/31/2018 23:16	Dale L. Simmons	2011087
	07/26/2018			08/01/2018 01:13	Dale L. Simmons	2011088
	07/26/2018			08/01/2018 01:23	Dale L. Simmons	2011089
	07/26/2018			08/01/2018 01:32	Dale L. Simmons	2011098
	07/26/2018			08/01/2018 01:43	Dale L. Simmons	2011099
	07/26/2018			08/03/2018 16:16	Julia Storbeck	2011090
	07/26/2018			08/03/2018 16:59	Julia Storbeck	2011091
	07/26/2018			08/03/2018 17:13	Julia Storbeck	2011092
	07/26/2018			08/03/2018 17:26	Julia Storbeck	2011093
	07/26/2018			08/03/2018 17:40	Julia Storbeck	2011100
	07/26/2018			08/03/2018 17:54	Julia Storbeck	2011101