

Chemical Analysis Report

NE-DIST-2019-07-12-01

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

Event Description: **LSJR South West**
Request ID: **RQ-2019-07-08-16**
Customer: **NE-DIST**
Project ID: **SMP**

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

Date Certified: 09-AUG-2019 09:09

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Swimming Pen CR @ SR 220

Collection Date/Time: 07/11/2019 09:05

Field ID: 20030191

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2102611	EPA 180.1 Rev. 2.0	Turbidity	6.6		NTU	P367175	
	EPA 300.0 Rev. 2.1	Chloride	1.2E+03		mg Cl/L	P367341	
		Sulfate	190		mg SO4/L	P367343	
		Color (true)	64		PCU	P367164	
	SM 2120 B	Total Alkalinity	57		mg CaCO3/L	P367554	
	SM 2540 C-97	TDS	2.14E+03		mg/L	P367545	
	SM 2540 D-97	TSS	11		mg/L	P367572	
	SM 4500 F-C-97	Fluoride	0.20		mg F/L	P367559	
2102615	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P367631	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P367200	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P367261	
	EPA 365.1 Rev. 2.0	Total-P	0.091		mg P/L	P367216	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P367489	
2102619	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.010	I	mg P/L	P367173	
2102636	EPA 200.7 Rev. 4.4	Barium	29.5		ug/L	P367293	
		Calcium	55.8		mg/L	P367293	
		Iron	79	I	ug/L	P367293	
		Magnesium	79.1		mg/L	P367293	
		Potassium	22.3		mg/L	P367293	
		Sodium	648		mg/L	P367293	
		Zinc	5.0	U	ug/L	P367293	
	EPA 200.8 Rev. 5.4	Aluminum	72		ug/L	P367293	
		Antimony	0.19	I	ug/L	P367293	
		Arsenic	3.55		ug/L	P367293	
		Boron**	295		ug/L	P367293	
		Cadmium	0.020	U	ug/L	P367293	
		Chromium	0.40	U	ug/L	P367293	
		Copper	0.96		ug/L	P367293	
		Lead	0.39	I	ug/L	P367293	
		Nickel	0.50	U	ug/L	P367293	
		Selenium	0.20	U	ug/L	P367293	
		Silver	0.010	U	ug/L	P367293	
		Thallium	0.10	U	ug/L	P367293	

Sample Location: Swimming Pen Creek at Eagles Creek Dr.

Collection Date/Time: 07/11/2019 09:40

Field ID: G2NE1188

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2102612	EPA 180.1 Rev. 2.0	Turbidity	20	A	NTU	P367175	
	EPA 300.0 Rev. 2.1	Chloride	24	A	mg Cl/L	P367341	
		Sulfate	12	A	mg SO4/L	P367343	
		Color (true)	25	A	PCU	P367167	
	SM 2120 B	Total Alkalinity	81		mg CaCO3/L	P367554	
	SM 2540 C-97	TDS	146		mg/L	P367545	
	SM 2540 D-97	TSS	39		mg/L	P367572	
	SM 4500 F-C-97	Fluoride	0.091	I	mg F/L	P367559	
2102616	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P367750	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P367200	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.087		mg N/L	P367261	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P367216	
	SM 5310 B-00	Organic Carbon	8.9		mg C/L	P367489	
2102620	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.018		mg P/L	P367173	
2102637	EPA 200.7 Rev. 4.4	Barium	28.7		ug/L	P367293	
		Calcium	28.5		mg/L	P367293	
		Iron	1.76E+03		ug/L	P367293	
		Magnesium	3.81		mg/L	P367293	
		Potassium	3.0		mg/L	P367293	
		Sodium	18.9		mg/L	P367293	
		Zinc	7.0	I	ug/L	P367293	
	EPA 200.8 Rev. 5.4	Aluminum	842		ug/L	P367293	
		Antimony	0.19	I	ug/L	P367293	
		Arsenic	1.14		ug/L	P367293	
		Boron**	40.4		ug/L	P367293	
		Cadmium	0.038	I	ug/L	P367293	
		Chromium	1.3	I	ug/L	P367293	
		Copper	23.7		ug/L	P367293	
		Lead	1.24		ug/L	P367293	
		Nickel	1.1	I	ug/L	P367293	
		Selenium	0.20	U	ug/L	P367293	
		Silver	0.010	U	ug/L	P367293	
		Thallium	0.10	U	ug/L	P367293	

Ref. Method and Comment:

EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 08/02/2019.

Sample Location: Bull CR NE Crossing CR 215

Collection Date/Time: 07/11/2019 11:05

Field ID: 20030487

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2102613	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P367175	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P367341	
		Sulfate	7.2		mg SO4/L	P367343	
	SM 2120 B	Color (true)	260		PCU	P367165	
	SM 2320 B-97	Total Alkalinity	8.7		mg CaCO3/L	P367554	
	SM 2540 C-97	TDS	101		mg/L	P367546	
	SM 2540 D-97	TSS	2	I	mg/L	P367573	
	SM 4500 F-C-97	Fluoride	0.089	I	mg F/L	P367559	
2102617	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P367750	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P367200	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.070		mg N/L	P367261	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P367216	
	SM 5310 B-00	Organic Carbon	25		mg C/L	P367489	
2102621	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P367173	
2102638	EPA 200.7 Rev. 4.4	Barium	10.9		ug/L	P367293	
		Calcium	7.40		mg/L	P367293	
		Iron	660		ug/L	P367293	
		Magnesium	2.44		mg/L	P367293	
		Potassium	0.30	U	mg/L	P367293	
		Sodium	7.4		mg/L	P367293	
		Zinc	5.0	U	ug/L	P367293	
		Aluminum	450		ug/L	P367293	
	EPA 200.8 Rev. 5.4	Antimony	0.066	I	ug/L	P367293	
		Arsenic	0.62		ug/L	P367293	
		Boron**	19.0		ug/L	P367293	
		Cadmium	0.020	U	ug/L	P367293	
		Chromium	0.71	I	ug/L	P367293	
		Copper	0.88		ug/L	P367293	
		Lead	0.44		ug/L	P367293	
		Nickel	0.50	U	ug/L	P367293	
		Selenium	0.20	U	ug/L	P367293	
		Silver	0.010	U	ug/L	P367293	
		Thallium	0.10	U	ug/L	P367293	

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: Unnamed Branch at Brit Place

Collection Date/Time: 07/11/2019 12:00

Field ID: G2NE1140

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2102614	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P367175	
	EPA 300.0 Rev. 2.1	Chloride	6.4		mg Cl/L	P367341	
		Sulfate	11		mg SO4/L	P367343	
		Color (true)	120		PCU	P367165	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P367554	
	SM 2540 C-97	TDS	57		mg/L	P367546	
	SM 2540 D-97	TSS	2	U	mg/L	P367573	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P367559	
2102618	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P367750	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37		mg N/L	P367200	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P367261	
	EPA 365.1 Rev. 2.0	Total-P	0.41		mg P/L	P367216	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P367489	
2102622	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.37		mg P/L	P367173	
2102639	EPA 200.7 Rev. 4.4	Barium	5.2		ug/L	P367293	
		Calcium	4.17		mg/L	P367293	
		Iron	290		ug/L	P367293	
		Magnesium	1.22		mg/L	P367293	
		Potassium	0.30	U	mg/L	P367293	
		Sodium	4.8		mg/L	P367293	
		Zinc	7.5	I	ug/L	P367293	
		Aluminum	293		ug/L	P367293	
		Antimony	0.050	U	ug/L	P367293	
		Arsenic	0.20		ug/L	P367293	
	EPA 200.8 Rev. 5.4	Boron**	12.7		ug/L	P367293	
		Cadmium	0.020	U	ug/L	P367293	
		Chromium	0.45	I	ug/L	P367293	
		Copper	0.40	U	ug/L	P368439	
		Lead	0.44		ug/L	P367293	
		Nickel	0.50	U	ug/L	P367293	
		Selenium	0.20	U	ug/L	P367293	
		Silver	0.010	U	ug/L	P367293	
		Thallium	0.10	U	ug/L	P367293	

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: Mill CR @ SR 16

Collection Date/Time: 07/11/2019 13:15

Field ID: 20030474

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2102623	EPA 180.1 Rev. 2.0	Turbidity	4.2		NTU	P367176	
	EPA 300.0 Rev. 2.1	Chloride	80		mg Cl/L	P367341	
		Sulfate	61		mg SO4/L	P367343	
	SM 2120 B	Color (true)	36		PCU	P367165	
	SM 2320 B-97	Total Alkalinity	102		mg CaCO3/L	P367554	
	SM 2540 C-97	TDS	364	A	mg/L	P367546	
	SM 2540 D-97	TSS	7	IA	mg/L	P367573	
	SM 4500 F-C-97	Fluoride	0.25		mg F/L	P367559	
2102624	EPA 350.1 Rev. 2.0	Ammonia-N	0.082		mg N/L	P367750	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P367200	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.23		mg N/L	P367261	
	EPA 365.1 Rev. 2.0	Total-P	0.36		mg P/L	P367216	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P367489	
2102625	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.27		mg P/L	P367173	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P367175

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P367176

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P367293

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: P367293

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 200.8 Rev. 5.4
Batch ID: P368439

Component	Result	Code	Units
Copper	0.40	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367341

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367343

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367631

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367750

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367200

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367261

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P367216

Component	Result	Code	Units
Total-P	0.005	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367173

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

Reference Method: SM 2120 B
Batch ID: P367164

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P367165

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P367167

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P367554

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

Reference Method: SM 2540 C-97
Batch ID: P367545

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P367546

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P367572

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P367573

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P367559

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P367489

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: P367293

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	96.0		P	85 - 115
Iron	101		P	85 - 115
Magnesium	97.4		P	85 - 115
Potassium	104		P	85 - 115
Sodium	97.0		P	85 - 115
Zinc	99.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P367293

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	91.1		P	85 - 115
Antimony	106		P	85 - 115
Arsenic	95.1		P	85 - 115
Boron	93.8		P	85 - 115
Cadmium	94.3		P	85 - 115
Chromium	105		P	85 - 115
Copper	110		P	85 - 115
Lead	93.9		P	85 - 115
Nickel	108		P	85 - 115
Selenium	110		P	85 - 115
Silver	99.5		P	85 - 115
Thallium	97.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P368439

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Copper	99.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367341

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367343

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367631

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367750

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	109		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367200

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: P367261

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: P367216

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367173

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

Reference Method: SM 2120 B
Batch ID: P367164

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.3		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P367165

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.9		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P367167

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

Reference Method: SM 2320 B-97
Batch ID: P367554

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P367559

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P367489

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P367293

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102743	Barium	98.6	98.2	P/P	80 - 120
2102743	Calcium	97.0		P	80 - 120
2102743	Iron	98.6	99.5	P/P	80 - 120
2102743	Magnesium	97.0		P	80 - 120
2102743	Potassium	93.1	101	P/P	80 - 120
2102743	Sodium	98.0		P	80 - 120
2102743	Zinc	99.0	98.0	P/P	80 - 120
2102908	Barium	97.3		P	80 - 120
2102908	Calcium	96.2		P	80 - 120
2102908	Iron	98.7		P	80 - 120
2102908	Magnesium	101		P	80 - 120
2102908	Potassium	104		P	80 - 120
2102908	Sodium	100		P	80 - 120
2102908	Zinc	96.0		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P367293

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102743	Aluminum	90.0	90.2	P/P	80 - 120
2102743	Antimony	107	107	P/P	80 - 120
2102743	Arsenic	94.6	95.1	P/P	80 - 120
2102743	Boron	97.5	96.7	P/P	80 - 120
2102743	Cadmium	93.8	94.7	P/P	80 - 120
2102743	Chromium	106	107	P/P	80 - 120
2102743	Copper	107	110	P/P	80 - 120
2102743	Lead	94.5	94.9	P/P	80 - 120
2102743	Nickel	105	110	P/P	80 - 120
2102743	Selenium	108	110	P/P	80 - 120
2102743	Silver	98.1	100	P/P	80 - 120
2102743	Thallium	98.3	100	P/P	80 - 120
2102908	Aluminum	94.0		P	80 - 120
2102908	Antimony	105		P	80 - 120
2102908	Arsenic	93.4		P	80 - 120
2102908	Boron	96.8		P	80 - 120
2102908	Cadmium	94.8		P	80 - 120
2102908	Chromium	106		P	80 - 120
2102908	Copper	106		P	80 - 120
2102908	Lead	95.6		P	80 - 120
2102908	Nickel	109		P	80 - 120
2102908	Selenium	108		P	80 - 120
2102908	Silver	100		P	80 - 120
2102908	Thallium	99.7		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P368439

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2107205	Copper	99.7	101	P/P	80 - 120
2107878	Copper	99.1		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367341

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102612	Chloride	101		P	90 - 110
2102723	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102612	Sulfate	101		P	90 - 110
2102723	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367631

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102479	Ammonia-N	104	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367750

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102616	Ammonia-N	107	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367200

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102561	Kjeldahl Nitrogen	101	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367261

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102481	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P367216

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102561	Total-P	102	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367173

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102620	O-Phosphate-P	93.4	94.3	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P367559

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102698	Fluoride	95.9	95.3	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P367489

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102895	Organic Carbon	98.3	99.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P367175

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102612	Turbidity	7.07	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P367176

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102763	Turbidity	1.92	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P367293

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102743	Barium	0.324	Spike	P	0 - 20
2102743	Calcium	0.607	Spike	P	0 - 20
2102743	Iron	0.813	Spike	P	0 - 20
2102743	Magnesium	0.117	Spike	P	0 - 20
2102743	Potassium	5.27	Spike	P	0 - 20
2102743	Sodium	0.382	Spike	P	0 - 20
2102743	Zinc	0.987	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P367293

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102743	Aluminum	0.219	Spike	P	0 - 20
2102743	Antimony	0.485	Spike	P	0 - 20
2102743	Arsenic	0.601	Spike	P	0 - 20
2102743	Boron	0.631	Spike	P	0 - 20
2102743	Cadmium	0.970	Spike	P	0 - 20
2102743	Chromium	1.02	Spike	P	0 - 20
2102743	Copper	2.49	Spike	P	0 - 20
2102743	Lead	0.436	Spike	P	0 - 20
2102743	Nickel	4.49	Spike	P	0 - 20
2102743	Selenium	1.74	Spike	P	0 - 20
2102743	Silver	1.95	Spike	P	0 - 20
2102743	Thallium	1.86	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P368439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2107205	Copper	1.70	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102612	Chloride	0.101	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102612	Sulfate	0.645	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367631

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102479	Ammonia-N	1.13	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367750

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102616	Ammonia-N	0.182	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102561	Kjeldahl Nitrogen	2.41	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102481	NO2NO3-N	0.793	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P367216

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102561	Total-P	1.58	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367173

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102620	O-Phosphate-P	0.804	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P367164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102559	Color (true)	2.19	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P367165

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102651	Color (true)	4.08	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P367167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102612	Color (true)	5.36	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P367554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102698	Total Alkalinity	0.672	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P367545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102555	TDS	4.44	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P367546

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102623	TDS	6.88	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P367572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102555	TSS	6.45	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P367559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102698	Fluoride	0.476	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P367489

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102895	Organic Carbon	0.575	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: A92738

Included Lab Sample IDs: 2102611, 2102612, 2102613, 2102614, 2102623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115
Color (true)	101	101	P/P	90 - 115
Color (true)	98.8	100	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A92740

Included Lab Sample IDs: 2102619, 2102620, 2102621, 2102622, 2102625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.2	97.3	P/P	90 - 110
O-Phosphate-P	98.1	98.4	P/P	90 - 110
O-Phosphate-P	99.8	98.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A92741

Included Lab Sample IDs: 2102611, 2102612, 2102613, 2102614, 2102623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	102	P/P	95 - 105
Turbidity	102	101	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A92780

Included Lab Sample IDs: 2102615, 2102616, 2102617, 2102618, 2102624

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A92781

Included Lab Sample IDs: 2102615, 2102616, 2102617, 2102618, 2102624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.9	96.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A92785

Included Lab Sample IDs: 2102615, 2102616, 2102617, 2102618, 2102624

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A92796

Included Lab Sample IDs: 2102611, 2102612, 2102613, 2102614, 2102623

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A92843

Included Lab Sample IDs: 2102636, 2102637, 2102638, 2102639

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	99.6	P/P	90 - 110
Barium	101	101	P/P	90 - 110
Calcium	98.1	97.1	P/P	90 - 110
Calcium	98.7	98.1	P/P	90 - 110
Iron	98.2	97.2	P/P	90 - 110
Iron	98.4	98.2	P/P	90 - 110
Magnesium	99.1	98.3	P/P	90 - 110
Magnesium	99.5	99.1	P/P	90 - 110
Potassium	97.8	95.5	P/P	90 - 110
Sodium	99.9	97.9	P/P	90 - 110
Zinc	101	101	P/P	90 - 110
Zinc	101	99.8	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A92860

Included Lab Sample IDs: 2102615, 2102616, 2102617, 2102618, 2102624

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A92881

Included Lab Sample IDs: 2102636

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Potassium	98.0	97.0	P/P	95 - 105
Sodium	97.4	101	P/P	95 - 105

Reference Method: SM 2320 B-97

Run ID: A92887

Included Lab Sample IDs: 2102611, 2102612, 2102613, 2102614, 2102623

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

Reference Method: SM 4500 F-C-97

Run ID: A92887

Included Lab Sample IDs: 2102611, 2102612, 2102613, 2102614, 2102623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A92906

Included Lab Sample IDs: 2102615, 2102616, 2102617, 2102618, 2102624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	104	P/P	90 - 110
Ammonia-N	105	106	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A92994

Included Lab Sample IDs: 2102636, 2102637, 2102638, 2102639

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	94.3	93.5	P/P	90 - 110
Aluminum	94.3	94.3	P/P	90 - 110
Arsenic	95.2	94.5	P/P	90 - 110
Arsenic	96.6	95.2	P/P	90 - 110
Boron	96.2	98.0	P/P	90 - 110
Boron	98.0	98.4	P/P	90 - 110
Cadmium	92.8	95.0	P/P	90 - 110
Cadmium	95.0	92.8	P/P	90 - 110
Lead	95.1	97.2	P/P	90 - 110
Lead	96.3	95.1	P/P	90 - 110
Silver	101	99.1	P/P	90 - 110
Silver	99.1	100	P/P	90 - 110
Thallium	94.2	95.3	P/P	90 - 110
Thallium	95.2	94.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A93117

Included Lab Sample IDs: 2102636, 2102637, 2102638, 2102639

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	97.2	97.9	P/P	90 - 110
Chromium	100	101	P/P	90 - 110
Copper	101	103	P/P	90 - 110
Nickel	101	102	P/P	90 - 110
Selenium	102	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A93176

Included Lab Sample IDs: 2102638

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	109	109	P/P	90 - 110
Nickel	107	108	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A93366

Included Lab Sample IDs: 2102639

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	100	101	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					7.07	
	Turbidity					1.92	
EPA 200.7 Rev. 4.4	Barium	101	98.6	98.2	97.3		0.324
	Calcium	96.0	97.0	96.2			0.607
	Iron	101	98.6	99.5	98.7		0.813
	Magnesium	97.4	97.0	101			0.117
	Potassium	104	93.1	101	104		5.27
	Sodium	97.0	98.0	100			0.382
	Zinc	99.8	99.0	98.0	96.0		0.987
EPA 200.8 Rev. 5.4	Aluminum	91.1	90.0	90.2	94.0		0.219
	Antimony	106	107	107	105		0.485
	Arsenic	95.1	94.6	95.1	93.4		0.601
	Boron	93.8	97.5	96.7	96.8		0.631
	Cadmium	94.3	93.8	94.7	94.8		0.970
	Chromium	105	106	107	106		1.02
	Copper	110	107	110	106		2.49
	Copper	99.6	99.7	101	99.1		1.70
	Lead	93.9	94.5	94.9	95.6		0.436
	Nickel	108	105	110	109		4.49
	Selenium	110	108	110	108		1.74
	Silver	99.5	98.1	100	100		1.95
	Thallium	97.3	98.3	100	99.7		1.86
EPA 300.0 Rev. 2.1	Chloride	102	101	102		0.101	
	Sulfate	102	101	104		0.645	
EPA 350.1 Rev. 2.0	Ammonia-N	106	104	103			1.13
	Ammonia-N	109	107	107			0.182
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	101	105			2.41
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	102	101			0.793
EPA 365.1 Rev. 2.0	Total-P	105	102	104			1.58
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.1	93.4	94.3			0.804
SM 2120 B	Color (true)	98.3				2.19	
	Color (true)	97.9				4.08	
	Color (true)	101				5.36	
SM 2320 B-97	Total Alkalinity	104				0.672	
SM 2540 C-97	TDS					4.44	
	TDS					6.88	
SM 2540 D-97	TSS					6.45	
SM 4500 F-C-97	Fluoride	96.4	95.9	95.3			0.476
SM 5310 B-00	Organic Carbon	98.4	98.3	99.0			0.575

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2102611, 2102612, 2102613, 2102614, 2102623
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2102636, 2102637, 2102638, 2102639
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2102636, 2102637, 2102638, 2102639
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2102611, 2102612, 2102613, 2102614, 2102623
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2102611, 2102612, 2102613, 2102614, 2102623

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2102615, 2102616, 2102617, 2102618, 2102624
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2102615, 2102616, 2102617, 2102618, 2102624
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2102615, 2102616, 2102617, 2102618, 2102624
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2102615, 2102616, 2102617, 2102618, 2102624
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2102619, 2102620, 2102621, 2102622, 2102625
SM 2120 B / E31780	True Color measured at 450 nm	2102611, 2102612, 2102613, 2102614, 2102623
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2102611, 2102612, 2102613, 2102614, 2102623
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2102611, 2102612, 2102613, 2102614, 2102623
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2102611, 2102612, 2102613, 2102614, 2102623
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2102611, 2102612, 2102613, 2102614, 2102623
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2102615, 2102616, 2102617, 2102618, 2102624

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	07/12/2019			07/12/2019 16:46	Samantha Davila	2102611, 2102612, 2102613, 2102614, 2102623
EPA 200.7 Rev. 4.4	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/17/2019 17:42	Betina Topolski	2102636
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/17/2019 18:13	Betina Topolski	2102637
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/17/2019 18:19	Betina Topolski	2102638
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/17/2019 18:25	Betina Topolski	2102639
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/18/2019 13:50	Betina Topolski	2102636
EPA 200.8 Rev. 5.4	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/24/2019 04:37	Robert K Palmer	2102636
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/24/2019 04:47	Robert K Palmer	2102637
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/24/2019 04:56	Robert K Palmer	2102638
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/24/2019 05:36	Robert K Palmer	2102639
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/29/2019 13:22	Robert K Palmer	2102636
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/29/2019 13:29	Robert K Palmer	2102637
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/29/2019 13:37	Robert K Palmer	2102638
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/29/2019 13:45	Robert K Palmer	2102639
	07/12/2019	07/16/2019 16:25	Elliott D. Healy	07/31/2019 16:52	Robert K Palmer	2102638
	07/12/2019	08/05/2019 13:30	Elliott D. Healy	08/07/2019 12:37	Robert K Palmer	2102639
EPA 300.0 Rev. 2.1	07/12/2019			07/16/2019 22:33	Jhamieka S. Greenwood	2102612
	07/12/2019			07/16/2019 23:34	Jhamieka S. Greenwood	2102611
	07/12/2019			07/16/2019 23:46	Jhamieka S. Greenwood	2102613
	07/12/2019			07/16/2019 23:58	Jhamieka S. Greenwood	2102614
	07/12/2019			07/17/2019 00:10	Jhamieka S. Greenwood	2102623
EPA 350.1 Rev. 2.0	07/12/2019			07/19/2019 13:40	Virginia P. Brown	2102624
	07/12/2019			07/19/2019 13:45	Virginia P. Brown	2102616
	07/12/2019			07/19/2019 13:46	Virginia P. Brown	2102617
	07/12/2019			07/19/2019 13:48	Virginia P. Brown	2102618
	07/12/2019			07/19/2019 15:34	Virginia P. Brown	2102615
EPA 351.2 Rev. 2.0	07/12/2019	07/15/2019 12:00	Sima Feizi	07/16/2019 09:21	Joseph Suarez	2102615
	07/12/2019	07/15/2019 12:00	Sima Feizi	07/16/2019 09:23	Joseph Suarez	2102616
	07/12/2019	07/15/2019 12:00	Sima Feizi	07/16/2019 09:25	Joseph Suarez	2102617
	07/12/2019	07/15/2019 12:00	Sima Feizi	07/16/2019 09:26	Joseph Suarez	2102618
	07/12/2019	07/15/2019 12:00	Sima Feizi	07/16/2019 09:28	Joseph Suarez	2102624
EPA 353.2 Rev. 2.0	07/12/2019			07/16/2019 09:33	Beverly Y. Sanders	2102615
	07/12/2019			07/16/2019 09:34	Beverly Y. Sanders	2102616
	07/12/2019			07/16/2019 09:35	Beverly Y. Sanders	2102617
	07/12/2019			07/16/2019 09:36	Beverly Y. Sanders	2102618
	07/12/2019			07/16/2019 09:37	Beverly Y. Sanders	2102624
EPA 365.1 Rev. 2.0	07/12/2019	07/15/2019 12:55	Sima Feizi	07/16/2019 09:15	Lipi Saha	2102615
	07/12/2019	07/15/2019 12:55	Sima Feizi	07/16/2019 09:16	Lipi Saha	2102616
	07/12/2019	07/15/2019 12:55	Sima Feizi	07/16/2019 09:17	Lipi Saha	2102617

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	07/12/2019	07/15/2019 12:55	Sima Feizi	07/16/2019 09:19	Lipi Saha	2102618
	07/12/2019	07/15/2019 12:55	Sima Feizi	07/16/2019 09:20	Lipi Saha	2102624
EPA 365.1 Rev. 2.0 dissolved	07/12/2019			07/12/2019 15:53	Jhamieka S. Greenwood	2102620
	07/12/2019			07/12/2019 16:05	Jhamieka S. Greenwood	2102625
	07/12/2019			07/12/2019 16:08	Jhamieka S. Greenwood	2102621
	07/12/2019			07/12/2019 16:10	Jhamieka S. Greenwood	2102619
	07/12/2019			07/12/2019 16:44	Jhamieka S. Greenwood	2102622
SM 2120 B	07/12/2019			07/12/2019 15:57	Madeline Funaro	2102611
	07/12/2019			07/12/2019 16:02	Madeline Funaro	2102614
	07/12/2019			07/12/2019 16:03	Madeline Funaro	2102623
	07/12/2019			07/12/2019 16:24	Madeline Funaro	2102612
	07/12/2019			07/12/2019 16:26	Madeline Funaro	2102613
SM 2320 B-97	07/12/2019			07/18/2019 15:12	Dale L. Simmons	2102612
	07/12/2019			07/18/2019 15:23	Dale L. Simmons	2102613
	07/12/2019			07/18/2019 15:32	Dale L. Simmons	2102614
	07/12/2019			07/18/2019 15:44	Dale L. Simmons	2102623
	07/12/2019			07/18/2019 16:08	Dale L. Simmons	2102611
SM 2540 C-97	07/12/2019			07/16/2019 21:03	Yijie Li	2102611, 2102612, 2102613, 2102614, 2102623
SM 2540 D-97	07/12/2019			07/16/2019 21:03	Yijie Li	2102611, 2102612, 2102613, 2102614, 2102623
SM 4500 F-C-97	07/12/2019			07/18/2019 15:12	Dale L. Simmons	2102612
	07/12/2019			07/18/2019 15:23	Dale L. Simmons	2102613
	07/12/2019			07/18/2019 15:32	Dale L. Simmons	2102614
	07/12/2019			07/18/2019 15:44	Dale L. Simmons	2102623
	07/12/2019			07/18/2019 16:08	Dale L. Simmons	2102611
SM 5310 B-00	07/12/2019			07/17/2019 23:54	Madeline Funaro	2102615
	07/12/2019			07/18/2019 00:06	Madeline Funaro	2102616
	07/12/2019			07/18/2019 00:18	Madeline Funaro	2102617
	07/12/2019			07/18/2019 00:30	Madeline Funaro	2102618
	07/12/2019			07/18/2019 00:42	Madeline Funaro	2102624