

Chemical Analysis Report

NE-DIST-2020-11-17-01

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

Event Description: **Nassau North makeups**
Request ID: **RQ-2020-11-16-10**
Customer: **NE-DIST**
Project ID: **SMP**

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Date Certified: 14-DEC-2020 15:54



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: Egan Creek At Atlantic

Collection Date/Time: 11/16/2020 12:20

Field ID: G4NE0285

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2208016	EPA 180.1 Rev. 2.0	Turbidity	5.7	A	NTU	P390183	
	EPA 300.0 Rev. 2.1	Bromide	56		mg Br/L	P390373	
	SM 2320 B-2011	Total Alkalinity	120		mg CaCO3/L	P390266	
	SM 2540 D-2011	TSS	9	I	mg/L	P390458	
	SM 4500 F-C-2011	Fluoride	1.1		mg F/L	P390378	
2208018	EPA 350.1 Rev. 2.0	Ammonia-N	0.064		mg N/L	P390292	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P390519	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.025		mg N/L	P390327	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P390222	
	SM 5310 B-2011	Organic Carbon	6.1		mg C/L	P390309	
2208020	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.093		mg P/L	P390191	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Egans Creek At N. 14th

Collection Date/Time: 11/16/2020 11:50

Field ID: G4NE0290

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2208017	EPA 180.1 Rev. 2.0	Turbidity	25		NTU	P390183	
	EPA 300.0 Rev. 2.1	Bromide	62		mg Br/L	P390373	
	SM 2320 B-2011	Total Alkalinity	113		mg CaCO3/L	P390266	
	SM 2540 D-2011	TSS	57		mg/L	P390458	
	SM 4500 F-C-2011	Fluoride	1.2		mg F/L	P390378	
2208019	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P390292	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P390519	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P390327	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P390222	
	SM 5310 B-2011	Organic Carbon	2.8		mg C/L	P390309	
2208021	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.020		mg P/L	P390191	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: FB111620

Collection Date/Time: 11/16/2020 11:55

Field ID: FB111620

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2208022	EPA 300.0 Rev. 2.1	Bromide	0.013	U	mg Br/L	P390373	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P390265	
	SM 2540 D-2011	TSS	2	U	mg/L	P390455	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P390400	
2208023	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P390352	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P390277	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P390415	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P390226	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P390308	
2208024	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P390190	

Ref. Method and Comment:

SM 2540 D-2011: 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: St. Marys River at Tracy Ferry Bt.rmp.

Collection Date/Time: 11/16/2020 10:15

Field ID: G4NE0296

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2208013	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P390182	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P390445	
		Sulfate	1.5		mg SO4/L	P390448	
		Color (true)	380		PCU	P390188	
	SM 2320 B-2011	Total Alkalinity	7.2		mg CaCO3/L	P390265	
	SM 2540 C-2011	TDS	109		mg/L	P390462	
	SM 2540 D-2011	TSS	5	I	mg/L	P390454	
2208014	SM 4500 F-C-2011	Fluoride	0.041	I	mg F/L	P390400	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P390352	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P390508	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038		mg N/L	P390415	
	EPA 365.1 Rev. 2.0	Total-P	0.052		mg P/L	P390226	
2208015	SM 5310 B-2011	Organic Carbon	32		mg C/L	P390308	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.025		mg P/L	P390190	
2208045	EPA 200.7 Rev. 4.4	Barium	19.1		ug/L	P390167	
		Calcium	6.18		mg/L	P390167	
		Iron	1.10E+03		ug/L	P390167	
		Magnesium	1.96		mg/L	P390167	
		Potassium	1.1	I	mg/L	P390167	
		Sodium	7.3		mg/L	P390167	
		Zinc	5.0	U	ug/L	P390167	
	EPA 200.8 Rev. 5.4	Aluminum	428		ug/L	P390167	
		Antimony	0.050	U	ug/L	P390167	
		Arsenic	0.54		ug/L	P390167	
		Beryllium	0.033	I	ug/L	P390167	
		Boron**	24.5		ug/L	P390167	
		Cadmium	0.020	U	ug/L	P390167	
		Chromium	0.75	I	ug/L	P390167	
		Copper	0.55	I	ug/L	P390167	
		Lead	0.63		ug/L	P390167	
		Nickel	0.80	I	ug/L	P390167	
		Selenium	0.20	U	ug/L	P390167	
		Silver	0.010	U	ug/L	P390167	
		Thallium	0.10	U	ug/L	P390167	
	SM 2340B	Hardness	23.5		mg/L	P390167	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference and batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 11/25/2020.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P390182

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P390183

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P390167

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: P390167

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390373

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390445

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: P390448

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390292

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390352

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390277

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390508

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390519

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390327

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390415

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390222

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390226

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390190

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390191

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

Reference Method: SM 2120 B-2011
Batch ID: P390188

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P390265

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

Reference Method: SM 2320 B-2011
Batch ID: P390266

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

Reference Method: SM 2540 C-2011
Batch ID: P390462

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P390454

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P390455

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P390458

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P390378

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P390400

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P390308

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

Reference Method: SM 5310 B-2011
Batch ID: P390309

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: P390167

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	98.9		P	85 - 115
Calcium	104		P	85 - 115
Iron	103		P	85 - 115
Magnesium	101		P	85 - 115
Potassium	96.7		P	85 - 115
Sodium	99.9		P	85 - 115
Zinc	97.6		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P390167

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	95.3		P	85 - 115
Antimony	95.5		P	85 - 115
Arsenic	98.2		P	85 - 115
Beryllium	96.8		P	85 - 115
Boron	95.4		P	85 - 115
Cadmium	96.6		P	85 - 115
Chromium	94.1		P	85 - 115
Copper	95.5		P	85 - 115
Lead	98.7		P	85 - 115
Nickel	96.2		P	85 - 115
Selenium	97.7		P	85 - 115
Silver	103		P	85 - 115
Thallium	96.4		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390373

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390445

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390448

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390292

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390352

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390277

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390508

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390519

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390327

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390415

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: P390222

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390226

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390190

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.5		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390191

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

Reference Method: SM 2120 B-2011
Batch ID: P390188

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	104		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P390265

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.4		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P390266

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P390378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.5		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P390400

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.9		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P390308

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

Reference Method: SM 5310 B-2011
Batch ID: P390309

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P390167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2207939	Barium	97.1		P	80 - 120
2207939	Calcium	114		P	80 - 120
2207939	Iron	104		P	80 - 120
2207939	Magnesium	103		P	80 - 120
2207939	Potassium	104		P	80 - 120
2207939	Sodium	105		P	80 - 120
2207939	Zinc	95.8		P	80 - 120
2207958	Barium	102	96.4	P/P	80 - 120
2207958	Calcium	110	102	P/P	80 - 120
2207958	Iron	109	104	P/P	80 - 120
2207958	Magnesium	106	100	P/P	80 - 120
2207958	Potassium	99.7	95.1	P/P	80 - 120
2207958	Sodium	97.4		P	80 - 120
2207958	Zinc	102	96.0	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P390167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2207939	Aluminum	95.3		P	80 - 120
2207939	Antimony	98.3		P	80 - 120
2207939	Arsenic	101		P	80 - 120
2207939	Beryllium	96.1		P	80 - 120
2207939	Boron	97.6		P	80 - 120
2207939	Cadmium	99.8		P	80 - 120
2207939	Chromium	97.8		P	80 - 120
2207939	Copper	96.8		P	80 - 120
2207939	Lead	101		P	80 - 120
2207939	Nickel	98.1		P	80 - 120
2207939	Selenium	97.3		P	80 - 120
2207939	Silver	104		P	80 - 120
2207939	Thallium	103		P	80 - 120
2207958	Aluminum	95.8	94.8	P/P	80 - 120
2207958	Antimony	98.4	98.1	P/P	80 - 120
2207958	Arsenic	99.4	100	P/P	80 - 120
2207958	Beryllium	95.4	93.3	P/P	80 - 120
2207958	Boron	97.3	93.6	P/P	80 - 120
2207958	Cadmium	97.1	97.1	P/P	80 - 120
2207958	Chromium	96.6	95.8	P/P	80 - 120
2207958	Copper	106	107	P/P	80 - 120
2207958	Lead	100	101	P/P	80 - 120
2207958	Nickel	98.7	98.5	P/P	80 - 120
2207958	Selenium	96.1	96.1	P/P	80 - 120
2207958	Silver	101	102	P/P	80 - 120
2207958	Thallium	99.1	99.9	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390373

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208661	Bromide	99.9	99.4	P/P	90 - 110
2208690	Bromide	100		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390445

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208006	Chloride	102		P	90 - 110
2208246	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390448

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208246	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390292

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208019	Ammonia-N	104	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390352

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208014	Ammonia-N	99.4	96.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390508

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208314	Kjeldahl Nitrogen	101	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390519

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208139	Kjeldahl Nitrogen	104	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390327

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2207978	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390415

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208071	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2207978	Total-P	105	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390226

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2207992	Total-P	105	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2207910	O-Phosphate-P	97.9	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390191

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2207980	O-Phosphate-P	97.9	97.1	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P390378

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208186	Fluoride	102	103	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P390400

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208929	Fluoride	98.5	98.5	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P390308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208137	Organic Carbon	102	103	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P390309

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208134	Organic Carbon	97.5	97.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P390182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207900	Turbidity	3.84	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P390183

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208016	Turbidity	5.41	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P390167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207958	Barium	5.50	Spike	P	0 - 20
2207958	Calcium	4.40	Spike	P	0 - 20
2207958	Iron	3.92	Spike	P	0 - 20
2207958	Magnesium	3.58	Spike	P	0 - 20
2207958	Potassium	3.24	Spike	P	0 - 20
2207958	Sodium	2.94	Spike	P	0 - 20
2207958	Zinc	5.68	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P390167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207958	Aluminum	0.971	Spike	P	0 - 20
2207958	Antimony	0.266	Spike	P	0 - 20
2207958	Arsenic	0.691	Spike	P	0 - 20
2207958	Beryllium	2.01	Spike	P	0 - 20
2207958	Boron	2.68	Spike	P	0 - 20
2207958	Cadmium	0.0461	Spike	P	0 - 20
2207958	Chromium	0.823	Spike	P	0 - 20
2207958	Copper	1.14	Spike	P	0 - 20
2207958	Lead	0.284	Spike	P	0 - 20
2207958	Nickel	0.232	Spike	P	0 - 20
2207958	Selenium	0.00414	Spike	P	0 - 20
2207958	Silver	0.538	Spike	P	0 - 20
2207958	Thallium	0.859	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208661	Bromide	0.482	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390445

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208006	Chloride	0.158	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390292

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208019	Ammonia-N	0.712	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390352

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208014	Ammonia-N	2.13	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390277

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207996	Kjeldahl Nitrogen	1.65	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390508

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208314	Kjeldahl Nitrogen	0.735	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390519

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208139	Kjeldahl Nitrogen	2.63	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390327

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207978	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390415

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208071	NO2NO3-N	0.995	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207978	Total-P	1.77	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390226

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207992	Total-P	0.382	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390190

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207910	O-Phosphate-P	0.191	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390191

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207980	O-Phosphate-P	0.821	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P390188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208070	Color (true)	1.09	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P390265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208099	Total Alkalinity	0.919	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P390266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208186	Total Alkalinity	1.17	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P390462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208099	TDS	0.374	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P390378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208186	Fluoride	0.940	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P390400

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208929	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P390308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208137	Organic Carbon	0.385	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P390309

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208134	Organic Carbon	0.190	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A102164

Included Lab Sample IDs: 2208016, 2208017, 2208022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	97.6	97.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A102180

Included Lab Sample IDs: 2208013, 2208016, 2208017

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A102182

Included Lab Sample IDs: 2208015, 2208020, 2208021, 2208024

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.0	98.5	P/P	90 - 110
O-Phosphate-P	98.5	98.4	P/P	90 - 110
O-Phosphate-P	99.0	98.6	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A102183

Included Lab Sample IDs: 2208013

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	104	106	P/P	90 - 115

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A102200

Included Lab Sample IDs: 2208045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	99.4	99.2	P/P	90 - 110
Calcium	102	101	P/P	90 - 110
Iron	101	99.5	P/P	90 - 110
Magnesium	97.9	97.5	P/P	90 - 110
Potassium	97.7	97.1	P/P	90 - 110
Sodium	98.2	99.2	P/P	90 - 110
Zinc	100	100	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A102207

Included Lab Sample IDs: 2208013, 2208016, 2208017, 2208022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	98.5	P/P	90 - 110
Total Alkalinity	97.6	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A102210

Included Lab Sample IDs: 2208018

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A102210

Included Lab Sample IDs: 2208018

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.4	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A102212

Included Lab Sample IDs: 2208014, 2208019, 2208023

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.8	98.5	P/P	90 - 110
Total-P	99.5	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A102217

Included Lab Sample IDs: 2208018, 2208019

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102225

Included Lab Sample IDs: 2208023

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

Reference Method: SM 5310 B-2011

Run ID: A102227

Included Lab Sample IDs: 2208014, 2208018, 2208019, 2208023

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	101	P/P	90 - 110
Organic Carbon	98.0	96.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102236

Included Lab Sample IDs: 2208018, 2208019

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A102243

Included Lab Sample IDs: 2208014, 2208023

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.6	100	P/P	90 - 110
Ammonia-N	100	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-2011

Run ID: A102258

Included Lab Sample IDs: 2208016, 2208017

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.7	99.0	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A102272

Included Lab Sample IDs: 2208013, 2208022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.0	96.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102282

Included Lab Sample IDs: 2208014, 2208023

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A102292

Included Lab Sample IDs: 2208045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.3	98.2	P/P	90 - 110
Antimony	95.0	93.8	P/P	90 - 110
Arsenic	99.2	99.5	P/P	90 - 110
Beryllium	96.3	98.1	P/P	90 - 110
Boron	97.4	99.5	P/P	90 - 110
Cadmium	98.8	98.1	P/P	90 - 110
Chromium	97.7	97.0	P/P	90 - 110
Lead	102	101	P/P	90 - 110
Nickel	98.0	98.1	P/P	90 - 110
Selenium	98.6	96.8	P/P	90 - 110
Silver	102	101	P/P	90 - 110
Thallium	103	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A102298

Included Lab Sample IDs: 2208013

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.6	99.9	P/P	90 - 110
Sulfate	99.7	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A102340

Included Lab Sample IDs: 2208045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	99.0	98.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102350

Included Lab Sample IDs: 2208014, 2208018, 2208019

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	97.0	P/P	90 - 110
Kjeldahl Nitrogen	97.0	95.9	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 SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					3.84	
	Turbidity					5.41	
EPA 200.7 Rev. 4.4	Barium	98.9	97.1	102	96.4		5.50
	Calcium	104	114	110	102		4.40
	Iron	103	104	109	104		3.92
	Magnesium	101	103	106	100		3.58
	Potassium	96.7	104	99.7	95.1		3.24
	Sodium	99.9	105	97.4			2.94
	Zinc	97.6	95.8	102	96.0		5.68
EPA 200.8 Rev. 5.4	Aluminum	95.3	95.3	95.8	94.8		0.971
	Antimony	95.5	98.3	98.4	98.1		0.266
	Arsenic	98.2	101	99.4	100		0.691
	Beryllium	96.8	96.1	95.4	93.3		2.01
	Boron	95.4	97.6	97.3	93.6		2.68
	Cadmium	96.6	99.8	97.1	97.1		0.0461
	Chromium	94.1	97.8	96.6	95.8		0.823
	Copper	95.5	96.8	106	107		1.14
	Lead	98.7	101	100	101		0.284
	Nickel	96.2	98.1	98.7	98.5		0.232
	Selenium	97.7	97.3	96.1	96.1		0.0041
	Silver	103	104	101	102		0.538
	Thallium	96.4	103	99.1	99.9		0.859
EPA 300.0 Rev. 2.1	Bromide	100	99.9	99.4	100		0.482
	Chloride	102	102	102		0.158	
	Sulfate	102	101				
EPA 350.1 Rev. 2.0	Ammonia-N	101	104	103			0.712
	Ammonia-N	100	99.4	96.5			2.13
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.4					1.65
	Kjeldahl Nitrogen	102	101	99.7			0.735
	Kjeldahl Nitrogen	101	104	101			2.63
EPA 353.2 Rev. 2.0	NO2NO3-N	100	100	100			0.0
	NO2NO3-N	102	101	100			0.995
EPA 365.1 Rev. 2.0	Total-P	103	105	103			1.77
	Total-P	102	105	104			0.382
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.5	97.9	98.1			0.191
	O-Phosphate-P	99.1	97.9	97.1			0.821
SM 2120 B-2011	Color (true)	104				1.09	
SM 2320 B-2011	Total Alkalinity	99.4				0.919	
	Total Alkalinity	103				1.17	
SM 2540 C-2011	TDS					0.374	
SM 4500 F-C-2011	Fluoride	94.5	102	103			0.940
	Fluoride	95.9	98.5	98.5			0.0
SM 5310 B-2011	Organic Carbon	103	102	103			0.385
	Organic Carbon	103	97.5	97.3			0.190

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2208013, 2208016, 2208017
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2208045
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2208045

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2208016, 2208017, 2208022
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2208013
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2208013
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2208014, 2208018, 2208019, 2208023
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2208014, 2208018, 2208019, 2208023
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2208014, 2208018, 2208019, 2208023
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2208014, 2208018, 2208019, 2208023
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2208015, 2208020, 2208021, 2208024
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2208013
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2208013, 2208016, 2208017, 2208022
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2208045
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2208013
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2208013, 2208016, 2208017, 2208022
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2208013, 2208016, 2208017, 2208022
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2208014, 2208018, 2208019, 2208023

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	11/17/2020			11/17/2020 16:56	Yen Ta	2208013, 2208016, 2208017
EPA 200.7 Rev. 4.4	11/17/2020	11/17/2020 15:35	Elliott D. Healy	11/18/2020 16:57	Betina Topolski	2208045
EPA 200.8 Rev. 5.4	11/17/2020	11/17/2020 15:35	Elliott D. Healy	11/24/2020 21:49	Alexander Thompson	2208045
	11/17/2020	11/17/2020 15:35	Elliott D. Healy	11/30/2020 19:48	Alexander Thompson	2208045
EPA 300.0 Rev. 2.1	11/17/2020			11/20/2020 14:09	Lipi Saha	2208016
	11/17/2020			11/20/2020 14:27	Lipi Saha	2208017
	11/17/2020			11/20/2020 14:45	Lipi Saha	2208022
	11/17/2020			11/24/2020 07:41	Lipi Saha	2208013
EPA 350.1 Rev. 2.0	11/17/2020			11/19/2020 16:00	Ping Hua	2208019
	11/17/2020			11/19/2020 16:16	Ping Hua	2208018
	11/17/2020			11/21/2020 12:52	Ping Hua	2208014
	11/17/2020			11/21/2020 14:34	Ping Hua	2208023
EPA 351.2 Rev. 2.0	11/17/2020	11/19/2020 13:20	David Boose	11/20/2020 11:14	Elliott Rodriguez	2208023
	11/17/2020	11/30/2020 12:45	Elliott Rodriguez	12/01/2020 11:57	Elliott Rodriguez	2208014
	11/17/2020	11/30/2020 12:45	Elliott Rodriguez	12/01/2020 12:21	Elliott Rodriguez	2208018
	11/17/2020	11/30/2020 12:45	Elliott Rodriguez	12/01/2020 12:23	Elliott Rodriguez	2208019
EPA 353.2 Rev. 2.0	11/17/2020			11/20/2020 12:47	Beverly Y. Sanders	2208018
	11/17/2020			11/20/2020 12:48	Beverly Y. Sanders	2208019
	11/17/2020			11/24/2020 11:05	Beverly Y. Sanders	2208014
	11/17/2020			11/24/2020 11:06	Beverly Y. Sanders	2208023
EPA 365.1 Rev. 2.0	11/17/2020	11/18/2020 13:03	Yen Ta	11/19/2020 11:07	Benjamin T. Nordmann	2208018
	11/17/2020	11/18/2020 13:03	Yen Ta	11/19/2020 13:35	Shengyu Wang	2208019
	11/17/2020	11/18/2020 13:03	Yen Ta	11/19/2020 14:21	Shengyu Wang	2208023
	11/17/2020	11/18/2020 13:03	Yen Ta	11/19/2020 14:25	Shengyu Wang	2208014
EPA 365.1 Rev. 2.0 dissolved	11/17/2020			11/17/2020 16:15	Virginia P. Brown	2208015
	11/17/2020			11/17/2020 16:16	Virginia P. Brown	2208024
	11/17/2020			11/17/2020 16:31	Virginia P. Brown	2208021
	11/17/2020			11/17/2020 16:52	Virginia P. Brown	2208020
SM 2120 B-2011	11/17/2020			11/17/2020 17:20	Benjamin T. Nordmann	2208013
SM 2320 B-2011	11/17/2020			11/19/2020 03:22	Dale L. Simmons	2208013
	11/17/2020			11/19/2020 03:31	Dale L. Simmons	2208022
	11/17/2020			11/19/2020 07:19	Dale L. Simmons	2208016
	11/17/2020			11/19/2020 07:31	Dale L. Simmons	2208017
SM 2340B	11/17/2020			11/18/2020 16:57	Betina Topolski	2208045
SM 2540 C-2011	11/17/2020			11/19/2020 15:12	Yijie Li	2208013
SM 2540 D-2011	11/17/2020			11/19/2020 15:12	Yijie Li	2208013, 2208016, 2208017, 2208022
SM 4500 F-C-2011	11/17/2020			11/20/2020 21:07	Dale L. Simmons	2208016
	11/17/2020			11/20/2020 21:12	Dale L. Simmons	2208017
	11/17/2020			11/23/2020 14:44	Dale L. Simmons	2208013
	11/17/2020			11/23/2020 14:49	Dale L. Simmons	2208022

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	11/17/2020			11/19/2020 04:17	Touraj Touran	2208014
	11/17/2020			11/19/2020 04:29	Touraj Touran	2208023
	11/17/2020			11/19/2020 09:12	Touraj Touran	2208018
	11/17/2020			11/19/2020 09:37	Touraj Touran	2208019