

Chemical Analysis Report

NE-DIST-2022-01-14-02

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

Event Description: **LSJR West Boat 2022**

Request ID: **RQ-2022-01-10-22**

Customer: **NE-DIST**

Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 10-FEB-2022 08:46

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Yellow Water CR at SR 228

Collection Date/Time: 01/13/2022 12:55

Field ID: 20030549

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2299926	EPA 200.7 Rev. 4.4	Calcium	10.3		mg/L	P408711	
		Iron	900		ug/L	P408711	
		Magnesium	2.06		mg/L	P408711	
		Potassium	0.49	I	mg/L	P408711	
		Sodium	8.3		mg/L	P408711	
		Strontium	48.3		ug/L	P408711	
		Tin	3.0	U	ug/L	P408711	
		Titanium	1.3	I	ug/L	P408711	
		Vanadium	2.0	U	ug/L	P408711	
		Zinc	7.1	I	ug/L	P408711	
	EPA 200.8 Rev. 5.4	Aluminum	226		ug/L	P408711	
		Antimony	0.050	U	ug/L	P408711	
		Arsenic	0.33		ug/L	P408711	
		Barium	15.4		ug/L	P408711	
		Beryllium	0.019	I	ug/L	P408711	
		Boron**	17.0		ug/L	P408711	
		Cadmium	0.020	U	ug/L	P408711	
		Chromium	0.67	I	ug/L	P408711	
		Cobalt	0.092		ug/L	P408711	
		Copper	0.96		ug/L	P408711	
		Lead	0.59		ug/L	P408711	
		Manganese	6.37		ug/L	P408711	
		Molybdenum	0.15	U	ug/L	P408711	
		Nickel	0.69	I	ug/L	P408711	
		Selenium	0.20	U	ug/L	P408711	
		Silver	0.010	U	ug/L	P408711	
		Thallium	0.10	U	ug/L	P408711	
	SM 2340B	Hardness	34.2		mg/L	P408711	

Sample Location: Butcher Pen CR at Confederate PT Road

Collection Date/Time: 01/13/2022 14:35

Field ID: 20030082

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2299909	EPA 180.1 Rev. 2.0	Turbidity	4.9		NTU	P408562	
	EPA 300.0 Rev. 2.1	Chloride	820		mg Cl/L	P409187	
		Sulfate	130		mg SO4/L	P409193	
		Color (true)**	46		PCU	P408554	
	SM 2320 B-2011	Total Alkalinity	101		mg CaCO3/L	P408794	
	SM 2540 C-2011	TDS	1.45E+03		mg/L	P408977	
	SM 2540 D-2011	TSS	7	I	mg/L	P408950	
	SM 4500 F-C-2011	Fluoride	0.17		mg F/L	P408797	
2299910	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P409023	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.83		mg N/L	P408888	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P409609	
	EPA 365.1 Rev. 2.0	Total-P	0.091		mg P/L	P408649	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P408838	
2299911	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.017		mg P/L	P408551	

Ref. Method and Comment:

SM 2540 C-2011: The reported result is consistent with the conductivity measured in the laboratory, 2990 umhos/cm.

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

Sample Location: Cedar CR Blanding BLVD BR RT 21

Collection Date/Time: 01/13/2022 10:35

Field ID: 20030083

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2299925	EPA 200.7 Rev. 4.4	Calcium	72.6		mg/L	P408711	
		Iron	300		ug/L	P408711	
		Magnesium	109		mg/L	P408711	
		Strontium	1.01E+03		ug/L	P408711	
		Tin	3.0	U	ug/L	P408711	
		Vanadium	2.0	U	ug/L	P408711	
	EPA 200.8 Rev. 5.4	Zinc	11	I	ug/L	P408711	
		Aluminum	85		ug/L	P408711	
		Antimony	0.18	I	ug/L	P408711	
		Arsenic	1.62		ug/L	P408711	
		Beryllium	0.010	U	ug/L	P408711	
		Cadmium	0.020	U	ug/L	P408711	
		Chromium	0.40	U	ug/L	P408711	
		Cobalt	0.135		ug/L	P408711	
		Copper	1.99		ug/L	P408711	
		Lead	1.22		ug/L	P408711	
		Manganese	36.0		ug/L	P408711	
		Molybdenum	1.81		ug/L	P408711	
		Nickel	0.70	I	ug/L	P408711	
		Selenium	0.20	U	ug/L	P408711	
		Silver	0.010	U	ug/L	P408711	

Sample Location: Butcher Pen CR. at Blanding BLVD

Collection Date/Time: 01/13/2022 14:15

Field ID: 20030580

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2299927	EPA 200.7 Rev. 4.4	Calcium	51.9		mg/L	P408711	
		Iron	1.36E+03		ug/L	P408711	
		Magnesium	6.08		mg/L	P408711	
		Potassium	1.6		mg/L	P408711	
		Sodium	21.8		mg/L	P408711	
		Strontium	376		ug/L	P408711	
		Tin	3.0	U	ug/L	P408711	
		Titanium	1.3	I	ug/L	P408711	
		Vanadium	2.0	U	ug/L	P408711	
	EPA 200.8 Rev. 5.4	Zinc	6.5	I	ug/L	P408711	
		Aluminum	19	I	ug/L	P408711	
		Antimony	0.12	I	ug/L	P408711	
		Arsenic	0.70		ug/L	P408711	
		Barium	40.8		ug/L	P408711	
		Beryllium	0.010	U	ug/L	P408711	
		Boron**	32.7		ug/L	P408711	
		Cadmium	0.020	U	ug/L	P408711	
		Chromium	0.47	I	ug/L	P408711	
		Cobalt	0.144		ug/L	P408711	
		Copper	0.69	I	ug/L	P408711	
		Lead	0.20	U	ug/L	P408711	
		Manganese	28.9		ug/L	P408711	
		Molybdenum	0.37	I	ug/L	P408711	
		Nickel	0.75	I	ug/L	P408711	
		Selenium	0.20	U	ug/L	P408711	
		Silver	0.010	U	ug/L	P408711	
		Thallium	0.10	U	ug/L	P408711	
	SM 2340B	Hardness	155		mg/L	P408711	

Sample Location: Butcher Pen CR at Wesconnett

Collection Date/Time: 01/13/2022 14:00

Field ID: 20030760

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2299928	EPA 200.7 Rev. 4.4	Calcium	50.4		mg/L	P408711	
		Iron	1.25E+03		ug/L	P408711	
		Magnesium	6.68		mg/L	P408711	
		Potassium	2.0		mg/L	P408711	
		Sodium	38.2		mg/L	P408711	
		Strontium	553		ug/L	P408711	
		Tin	3.0	U	ug/L	P408711	
		Titanium	1.7	I	ug/L	P408711	
		Vanadium	2.0	U	ug/L	P408711	
	EPA 200.8 Rev. 5.4	Zinc	10	I	ug/L	P408711	
		Aluminum	47		ug/L	P408711	
		Antimony	0.11	I	ug/L	P408711	
		Arsenic	0.54		ug/L	P408711	
		Barium	42.7		ug/L	P408711	
		Beryllium	0.010	U	ug/L	P408711	
		Boron**	50.5		ug/L	P408711	
		Cadmium	0.020	U	ug/L	P408711	
		Chromium	0.42	I	ug/L	P408711	
		Cobalt	0.123		ug/L	P408711	
		Copper	1.17		ug/L	P408711	
		Lead	0.25	I	ug/L	P408711	
		Manganese	26.3		ug/L	P408711	
		Molybdenum	0.44	I	ug/L	P408711	
		Nickel	0.60	I	ug/L	P408711	
		Selenium	0.20	U	ug/L	P408711	
		Silver	0.010	U	ug/L	P408711	
		Thallium	0.10	U	ug/L	P408711	
	SM 2340B	Hardness	153		mg/L	P408711	

Sample Location: Wills BR at Watergate Rd.

Collection Date/Time: 01/13/2022 12:05

Field ID: G2NE1183

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2299906	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P408562	
	EPA 300.0 Rev. 2.1	Chloride	190		mg Cl/L	P409187	
		Sulfate	42		mg SO4/L	P409193	
	SM 2120 B-2011	Color (true)**	37	A	PCU	P408554	
	SM 2320 B-2011	Total Alkalinity	90		mg CaCO3/L	P408794	
	SM 2540 C-2011	TDS	426	A	mg/L	P408977	
	SM 2540 D-2011	TSS	3	IA	mg/L	P408950	
	SM 4500 F-C-2011	Fluoride	0.11		mg F/L	P408797	
2299907	EPA 350.1 Rev. 2.0	Ammonia-N	0.085		mg N/L	P409024	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P408850	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.37		mg N/L	P408733	
	EPA 365.1 Rev. 2.0	Total-P	0.079		mg P/L	P408653	MS
	SM 5310 B-2011	Organic Carbon	7.7		mg C/L	P408838	
2299908	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.048		mg P/L	P408550	

Ref. Method and Comment:

SM 2540 D-2011: 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: P408562

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P408711

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
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P408711

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	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
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	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: P409187

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409193

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409023

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409024

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P408850

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P408888

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408733

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409609

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408649

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408653

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408550

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408551

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

Reference Method: SM 2120 B-2011
Batch ID: P408554

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P408794

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

Reference Method: SM 2540 C-2011
Batch ID: P408977

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P408950

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P408797

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P408838

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: P408711

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	106		P	85 - 115
Iron	107		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	104		P	85 - 115
Sodium	106		P	85 - 115
Strontium	105		P	85 - 115
Tin	107		P	85 - 115
Titanium	107		P	85 - 115
Vanadium	105		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P408711

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.4		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	101		P	85 - 115
Barium	104		P	85 - 115
Beryllium	99.7		P	85 - 115
Boron	94.1		P	85 - 115
Cadmium	98.6		P	85 - 115
Chromium	100		P	85 - 115
Cobalt	98.1		P	85 - 115
Copper	100		P	85 - 115
Lead	94.1		P	85 - 115
Manganese	99.2		P	85 - 115
Molybdenum	101		P	85 - 115
Nickel	101		P	85 - 115
Selenium	98.8		P	85 - 115
Silver	99.9		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P409187

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P409193

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P409023

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409024

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: P408850

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P408888

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.3		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408733

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409609

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408649

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408653

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	107		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408550

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408551

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.0		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P408554

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

Reference Method: SM 2320 B-2011
Batch ID: P408794

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.6		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P408797

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P408838

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P408711

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299928	Calcium	101		P	80 - 120
2299928	Iron	110		P	80 - 120
2299928	Magnesium	104		P	80 - 120
2299928	Potassium	106		P	80 - 120
2299928	Sodium	104		P	80 - 120
2299928	Strontium	108		P	80 - 120
2299928	Tin	110		P	80 - 120
2299928	Titanium	111		P	80 - 120
2299928	Vanadium	110		P	80 - 120
2299928	Zinc	107		P	80 - 120
2299995	Calcium	108	105	P/P	80 - 120
2299995	Iron	108	107	P/P	80 - 120
2299995	Magnesium	108	106	P/P	80 - 120
2299995	Potassium	104	104	P/P	80 - 120
2299995	Sodium	104	103	P/P	80 - 120
2299995	Strontium	107	106	P/P	80 - 120
2299995	Tin	109	109	P/P	80 - 120
2299995	Titanium	109	109	P/P	80 - 120
2299995	Vanadium	106	106	P/P	80 - 120
2299995	Zinc	105	104	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P408711

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299928	Aluminum	98.0		P	80 - 120
2299928	Antimony	103		P	80 - 120
2299928	Arsenic	103		P	80 - 120
2299928	Barium	106		P	80 - 120
2299928	Beryllium	101		P	80 - 120
2299928	Boron	98.4		P	80 - 120
2299928	Cadmium	101		P	80 - 120
2299928	Chromium	103		P	80 - 120
2299928	Cobalt	98.0		P	80 - 120
2299928	Copper	97.9		P	80 - 120
2299928	Lead	95.4		P	80 - 120
2299928	Manganese	101		P	80 - 120
2299928	Molybdenum	103		P	80 - 120
2299928	Nickel	99.1		P	80 - 120
2299928	Selenium	99.5		P	80 - 120
2299928	Silver	98.6		P	80 - 120
2299928	Thallium	105		P	80 - 120
2299995	Aluminum	101	101	P/P	80 - 120
2299995	Antimony	101	98.7	P/P	80 - 120
2299995	Arsenic	101	99.2	P/P	80 - 120
2299995	Barium	107	104	P/P	80 - 120
2299995	Beryllium	100	95.0	P/P	80 - 120
2299995	Boron	97.8	95.7	P/P	80 - 120
2299995	Cadmium	101	97.9	P/P	80 - 120
2299995	Chromium	102	100	P/P	80 - 120
2299995	Cobalt	99.0	96.3	P/P	80 - 120
2299995	Copper	102	99.6	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P408711

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299995	Lead	95.9	95.2	P/P	80 - 120
2299995	Manganese	104	101	P/P	80 - 120
2299995	Molybdenum	101	99.0	P/P	80 - 120
2299995	Nickel	102	99.9	P/P	80 - 120
2299995	Selenium	98.9	97.2	P/P	80 - 120
2299995	Silver	101	97.6	P/P	80 - 120
2299995	Thallium	106	106	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409187

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299916	Chloride	103		P	90 - 110
2299975	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409193

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299916	Sulfate	98.0		P	90 - 110
2299975	Sulfate	98.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299533	Ammonia-N	103	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409024

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299859	Ammonia-N	98.6	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P408850

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299453	Kjeldahl Nitrogen	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P408888

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299910	Kjeldahl Nitrogen	94.5	97.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408733

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299720	NO2NO3-N	102	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409609

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303281	NO2NO3-N	98.1	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299870	Total-P	105	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408653

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299880	Total-P	104	110	P/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408550

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299860	O-Phosphate-P	99.8	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408551

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299871	O-Phosphate-P	97.6	99.4	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P408797

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300414	Fluoride	97.5	96.9	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P408838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299901	Organic Carbon	95.4		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P408562

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299828	Turbidity	3.24	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P408711

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299995	Calcium	1.52	Spike	P	0 - 20
2299995	Iron	1.25	Spike	P	0 - 20
2299995	Magnesium	1.40	Spike	P	0 - 20
2299995	Potassium	0.0952	Spike	P	0 - 20
2299995	Sodium	0.434	Spike	P	0 - 20
2299995	Strontium	0.761	Spike	P	0 - 20
2299995	Tin	0.152	Spike	P	0 - 20
2299995	Titanium	0.292	Spike	P	0 - 20
2299995	Vanadium	0.0282	Spike	P	0 - 20
2299995	Zinc	0.728	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P408711

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299995	Aluminum	0.00639	Spike	P	0 - 20
2299995	Antimony	2.74	Spike	P	0 - 20
2299995	Arsenic	1.84	Spike	P	0 - 20
2299995	Barium	1.61	Spike	P	0 - 20
2299995	Beryllium	5.02	Spike	P	0 - 20
2299995	Boron	1.88	Spike	P	0 - 20
2299995	Cadmium	3.05	Spike	P	0 - 20
2299995	Chromium	1.93	Spike	P	0 - 20
2299995	Cobalt	2.77	Spike	P	0 - 20
2299995	Copper	2.53	Spike	P	0 - 20
2299995	Lead	0.764	Spike	P	0 - 20
2299995	Manganese	2.06	Spike	P	0 - 20
2299995	Molybdenum	2.12	Spike	P	0 - 20
2299995	Nickel	2.27	Spike	P	0 - 20
2299995	Selenium	1.75	Spike	P	0 - 20
2299995	Silver	3.30	Spike	P	0 - 20
2299995	Thallium	0.293	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299916	Chloride	1.65	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299916	Sulfate	0.575	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299533	Ammonia-N	0.175	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299859	Ammonia-N	0.151	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P408850

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299453	Kjeldahl Nitrogen	1.21	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P408888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299910	Kjeldahl Nitrogen	2.35	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299720	NO2NO3-N	0.976	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409609

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303281	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299870	Total-P	2.09	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P408653

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299880	Total-P	4.34	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P408550

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299860	O-Phosphate-P	0.997	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P408551

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299871	O-Phosphate-P	1.33	Spike	P	0 - 20

Reference Method: SM 2120 B-2011

Batch ID: P408554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299906	Color (true)	1.53	Sample	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P408794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300414	Total Alkalinity	4.54	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011

Batch ID: P408977

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299906	TDS	7.29	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011

Batch ID: P408797

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300414	Fluoride	0.490	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011

Batch ID: P408838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299901	Organic Carbon	1.01	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A109883

Included Lab Sample IDs: 2299908, 2299911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.7	P/P	90 - 110
O-Phosphate-P	99.7	101	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A109885

Included Lab Sample IDs: 2299906, 2299909

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.6	101	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A109889

Included Lab Sample IDs: 2299906, 2299909

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.0	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A109944

Included Lab Sample IDs: 2299907

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A109953

Included Lab Sample IDs: 2299925, 2299926, 2299927, 2299928

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.9	99.0	P/P	90 - 110
Aluminum	99.0	99.7	P/P	90 - 110
Aluminum	99.7	100	P/P	90 - 110
Antimony	101	101	P/P	90 - 110
Antimony	101	102	P/P	90 - 110
Antimony	99.2	101	P/P	90 - 110
Arsenic	101	99.5	P/P	90 - 110
Arsenic	102	102	P/P	90 - 110
Arsenic	99.5	102	P/P	90 - 110
Barium	100	101	P/P	90 - 110
Barium	101	101	P/P	90 - 110
Barium	101	102	P/P	90 - 110
Beryllium	101	101	P/P	90 - 110
Beryllium	101	101	P/P	90 - 110
Beryllium	99.2	101	P/P	90 - 110
Boron	93.2	97.0	P/P	90 - 110
Boron	96.9	95.1	P/P	90 - 110
Boron	97.0	96.9	P/P	90 - 110
Cadmium	100	100	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Cadmium	98.6	100	P/P	90 - 110
Chromium	100	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A109953

Included Lab Sample IDs: 2299925, 2299926, 2299927, 2299928

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	101	101	P/P	90 - 110
Chromium	98.8	100	P/P	90 - 110
Cobalt	94.5	96.2	P/P	90 - 110
Cobalt	95.2	94.5	P/P	90 - 110
Cobalt	96.2	95.7	P/P	90 - 110
Copper	96.3	99.1	P/P	90 - 110
Copper	98.6	96.3	P/P	90 - 110
Copper	99.1	98.6	P/P	90 - 110
Lead	91.3	92.0	P/P	90 - 110
Lead	92.0	92.2	P/P	90 - 110
Lead	92.2	92.8	P/P	90 - 110
Manganese	100	101	P/P	90 - 110
Manganese	101	101	P/P	90 - 110
Manganese	98.1	100	P/P	90 - 110
Molybdenum	98.6	99.3	P/P	90 - 110
Molybdenum	99.1	98.6	P/P	90 - 110
Molybdenum	99.3	99.1	P/P	90 - 110
Nickel	97.0	98.9	P/P	90 - 110
Nickel	98.8	97.0	P/P	90 - 110
Nickel	98.9	98.1	P/P	90 - 110
Selenium	100	101	P/P	90 - 110
Selenium	101	101	P/P	90 - 110
Selenium	101	100	P/P	90 - 110
Silver	98.3	99.0	P/P	90 - 110
Silver	99.0	99.0	P/P	90 - 110
Silver	99.0	99.4	P/P	90 - 110
Thallium	101	103	P/P	90 - 110
Thallium	103	103	P/P	90 - 110
Thallium	103	103	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A109978

Included Lab Sample IDs: 2299906, 2299909

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.5	96.8	P/P	90 - 110
Total Alkalinity	98.3	97.5	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A109978

Included Lab Sample IDs: 2299906, 2299909

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

Reference Method: SM 5310 B-2011

Run ID: A109998

Included Lab Sample IDs: 2299907, 2299910

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

Reference Method: SM 5310 B-2011

Run ID: A109998

Included Lab Sample IDs: 2299907, 2299910

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	96.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A110001

Included Lab Sample IDs: 2299925, 2299926, 2299927, 2299928

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	102	P/P	90 - 110
Calcium	102	101	P/P	90 - 110
Iron	101	103	P/P	90 - 110
Iron	103	102	P/P	90 - 110
Magnesium	100	102	P/P	90 - 110
Magnesium	102	101	P/P	90 - 110
Potassium	99.1	99.2	P/P	90 - 110
Potassium	99.2	99.1	P/P	90 - 110
Sodium	102	102	P/P	90 - 110
Sodium	102	103	P/P	90 - 110
Strontium	105	105	P/P	90 - 110
Strontium	105	105	P/P	90 - 110
Tin	101	103	P/P	90 - 110
Tin	103	103	P/P	90 - 110
Titanium	103	103	P/P	90 - 110
Titanium	99.4	103	P/P	90 - 110
Vanadium	101	102	P/P	90 - 110
Vanadium	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A110004

Included Lab Sample IDs: 2299907

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A110013

Included Lab Sample IDs: 2299910

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A110025

Included Lab Sample IDs: 2299907

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.3	96.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A110045

Included Lab Sample IDs: 2299925, 2299926, 2299927, 2299928

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A110064

Included Lab Sample IDs: 2299907, 2299910

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	107	P/P	90 - 110
Ammonia-N	107	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A110092

Included Lab Sample IDs: 2299910

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.6	94.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A110301

Included Lab Sample IDs: 2299910

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A11040

Included Lab Sample IDs: 2299906, 2299909

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	104	P/P	90 - 110
Chloride	104	103	P/P	90 - 110
Sulfate	98.8	99.8	P/P	90 - 110
Sulfate	99.8	99.2	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						3.24	
EPA 200.7 Rev. 4.4	Calcium	106	101	108	105			1.52
	Iron	107	110	108	107			1.25
	Magnesium	106	104	108	106			1.40
	Potassium	104	106	104	104			0.0952
	Sodium	106	104	104	103			0.434
	Strontium	105	108	107	106			0.761
	Tin	107	110	109	109			0.152
	Titanium	107	111	109	109			0.292
	Vanadium	105	110	106	106			0.0282
	Zinc	104	107	105	104			0.728
EPA 200.8 Rev. 5.4	Aluminum	99.4	98.0	101	101			0.0063
	Antimony	100	103	101	98.7			2.74
	Arsenic	101	103	101	99.2			1.84
	Barium	104	106	107	104			1.61
	Beryllium	99.7	101	100	95.0			5.02
	Boron	94.1	98.4	97.8	95.7			1.88
	Cadmium	98.6	101	101	97.9			3.05
	Chromium	100	103	102	100			1.93
	Cobalt	98.1	98.0	99.0	96.3			2.77
	Copper	100	97.9	102	99.6			2.53
	Lead	94.1	95.4	95.9	95.2			0.764
	Manganese	99.2	101	104	101			2.06
	Molybdenum	101	103	101	99.0			2.12
	Nickel	101	99.1	102	99.9			2.27
	Selenium	98.8	99.5	98.9	97.2			1.75
	Silver	99.9	98.6	101	97.6			3.30
	Thallium	102	105	106	106			0.293
EPA 300.0 Rev. 2.1	Chloride	103	103	105			1.65	
	Sulfate	98.0	98.0	98.6			0.575	
EPA 350.1 Rev. 2.0	Ammonia-N	100	103	103				0.175
	Ammonia-N	100	98.6	98.8				0.151
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	103	104				1.21
	Kjeldahl Nitrogen	95.3	94.5	97.6				2.35
EPA 353.2 Rev. 2.0	NO2NO3-N	104	102	103				0.976
	NO2NO3-N	99.5	98.1	98.1				0.0
EPA 365.1 Rev. 2.0	Total-P	106	105	108				2.09
	Total-P	107	104	110				4.34
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.3	99.8	101				0.997
	O-Phosphate-P	99.0	97.6	99.4				1.33
SM 2120 B-2011	Color (true)	100					1.53	
SM 2320 B-2011	Total Alkalinity	98.6					4.54	
SM 2540 C-2011	TDS						7.29	
SM 4500 F-C-2011	Fluoride	97.5	97.5	96.9				0.490
SM 5310 B-2011	Organic Carbon	95.8	95.4					1.01

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2299906, 2299909
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2299925, 2299926, 2299927, 2299928

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2299925, 2299926, 2299927, 2299928
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2299906, 2299909
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2299906, 2299909
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2299907, 2299910
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2299907, 2299910
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2299907, 2299910
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2299907, 2299910
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2299908, 2299911
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2299906, 2299909
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2299906, 2299909
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2299926, 2299927, 2299928
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2299906, 2299909
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2299906, 2299909
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2299906, 2299909
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2299907, 2299910

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	01/14/2022			01/14/2022 15:39	Khloe J Berg	2299906, 2299909
EPA 200.7 Rev. 4.4	01/14/2022	01/20/2022 10:56	Emily M Philpot	01/21/2022 23:41	Josef B Mick	2299925
	01/14/2022	01/20/2022 10:56	Emily M Philpot	01/21/2022 23:49	Josef B Mick	2299925
	01/14/2022	01/20/2022 10:56	Emily M Philpot	01/21/2022 23:57	Josef B Mick	2299926
	01/14/2022	01/20/2022 10:56	Emily M Philpot	01/22/2022 00:05	Josef B Mick	2299927
	01/14/2022	01/20/2022 10:56	Emily M Philpot	01/22/2022 00:44	Josef B Mick	2299928
	01/14/2022	01/20/2022 10:56	Emily M Philpot	01/26/2022 00:53	Josef B Mick	2299925
	01/14/2022	01/20/2022 10:56	Emily M Philpot	01/26/2022 01:01	Josef B Mick	2299926
	01/14/2022	01/20/2022 10:56	Emily M Philpot	01/26/2022 01:40	Josef B Mick	2299927
	01/14/2022	01/20/2022 10:56	Emily M Philpot	01/26/2022 01:48	Josef B Mick	2299928
EPA 200.8 Rev. 5.4	01/14/2022	01/20/2022 10:56	Emily M Philpot	01/21/2022 01:12	McKinley C Carter	2299928
	01/14/2022	01/20/2022 10:56	Emily M Philpot	01/21/2022 02:47	McKinley C Carter	2299925
	01/14/2022	01/20/2022 10:56	Emily M Philpot	01/21/2022 02:57	McKinley C Carter	2299926
	01/14/2022	01/20/2022 10:56	Emily M Philpot	01/21/2022 04:04	McKinley C Carter	2299927
EPA 300.0 Rev. 2.1	01/14/2022			01/28/2022 21:58	James L Waggeberby	2299906
	01/14/2022			01/28/2022 22:34	James L Waggeberby	2299909
EPA 350.1 Rev. 2.0	01/14/2022			01/26/2022 14:50	Ping Hua	2299910
	01/14/2022			01/26/2022 15:06	Ping Hua	2299907
EPA 351.2 Rev. 2.0	01/14/2022	01/24/2022 11:42	Samantha L Bates	01/25/2022 11:39	Alexandra J Mattheus	2299907
	01/14/2022	01/26/2022 10:32	Samantha L Bates	01/27/2022 12:56	Alexandra J Mattheus	2299910
EPA 353.2 Rev. 2.0	01/14/2022			01/20/2022 12:12	Beverly Y. Sanders	2299907
	01/14/2022			02/09/2022 09:51	Beverly Y. Sanders	2299910
EPA 365.1 Rev. 2.0	01/14/2022	01/20/2022 17:50	Simonne.V. Calhoun	01/21/2022 13:29	Shengyu Ding	2299907
	01/14/2022	01/20/2022 17:50	Simonne.V. Calhoun	01/24/2022 16:22	Shengyu Ding	2299910
EPA 365.1 Rev. 2.0 dissolved	01/14/2022			01/14/2022 14:18	Ping Hua	2299908
	01/14/2022			01/14/2022 14:32	Ping Hua	2299911
SM 2120 B-2011	01/14/2022			01/14/2022 16:09	Sarah A Nixon	2299906
	01/14/2022			01/14/2022 16:12	Sarah A Nixon	2299909
SM 2320 B-2011	01/14/2022			01/21/2022 00:43	Dale L. Simmons	2299906
	01/14/2022			01/21/2022 03:43	Dale L. Simmons	2299909
SM 2340B	01/14/2022			01/21/2022 23:57	Josef B Mick	2299926
	01/14/2022			01/22/2022 00:05	Josef B Mick	2299927
	01/14/2022			01/22/2022 00:44	Josef B Mick	2299928
SM 2540 C-2011	01/14/2022			01/18/2022 15:32	Yijie Li	2299906, 2299909
SM 2540 D-2011	01/14/2022			01/18/2022 15:32	Yijie Li	2299906, 2299909
SM 4500 F-C-2011	01/14/2022			01/21/2022 00:43	Dale L. Simmons	2299906
	01/14/2022			01/21/2022 03:43	Dale L. Simmons	2299909
SM 5310 B-2011	01/14/2022			01/21/2022 07:03	Nathaniel J Jones	2299907
	01/14/2022			01/21/2022 07:18	Nathaniel J Jones	2299910