

Chemical Analysis Report

SO-DIST-2020-07-28-02

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

Event Description: **2020 SMP : Charlotte Harbor**
Request ID: **RQ-2020-07-27-39**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
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FLDEP South District Office
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Certified by: Colin Wright, Program Administrator

Date Certified: 18-AUG-2020 10:45

A handwritten signature in black ink, appearing to read "Colin Wright", is shown on a light-colored 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: TrailerParkCanal@Mouth

Collection Date/Time: 07/27/2020 10:00

Field ID: G3SD0072

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2186415	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P385304	
	EPA 300.0 Rev. 2.1	Bromide	27		mg Br/L	P386077	
	SM 2320 B-2011	Total Alkalinity	101		mg CaCO3/L	P385380	
	SM 2540 D-2011	TSS	3	U	mg/L	P385655	
	SM 4500 F-C-2011	Fluoride	0.73		mg F/L	P385383	
2186417	EPA 350.1 Rev. 2.0	Ammonia-N	0.057		mg N/L	P385527	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69	J	mg N/L	P385667	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P385433	
	EPA 365.1 Rev. 2.0	Total-P	0.27		mg P/L	P385416	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P385451	
2186419	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.24		mg P/L	P385284	

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: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Coral Creek (East)

Collection Date/Time: 07/27/2020 10:55

Field ID: G2SD0039

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2186412	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P385304	
	EPA 300.0 Rev. 2.1	Bromide	52		mg Br/L	P386077	
	SM 2320 B-2011	Total Alkalinity	137		mg CaCO3/L	P385380	
	SM 2540 D-2011	TSS	5	I	mg/L	P385655	
	SM 4500 F-C-2011	Fluoride	1.1		mg F/L	P385383	
2186413	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P385527	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P385667	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P385433	
	EPA 365.1 Rev. 2.0	Total-P	0.045		mg P/L	P385416	
	SM 5310 B-2011	Organic Carbon	9.8		mg C/L	P385451	
2186414	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P385284	
2186434	EPA 200.7 Rev. 4.4	Chromium	9.0	I	ug/L	P385396	
		Iron	120	U	ug/L	P385396	
		Manganese	8.4	I	ug/L	P385396	
		Zinc	20	U	ug/L	P385396	
	EPA 200.8 Rev. 5.4	Aluminum	117		ug/L	P385396	
		Antimony	0.30	I	ug/L	P385396	
		Arsenic	2.63		ug/L	P385396	
		Boron**	3.76E+03		ug/L	P385396	
		Cadmium	0.080	U	ug/L	P385396	
		Copper	1.6	U	ug/L	P385396	
		Lead	2.0	U	ug/L	P385396	
		Nickel	2.0	U	ug/L	P385396	
		Selenium	0.80	U	ug/L	P385396	
		Silver	0.040	U	ug/L	P385396	
		Thallium	1.0	U	ug/L	P385396	

Ref. Method and Comment:

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: Batch matrix spike recoveries for boron are unavailable because of high analyte concentration in the QC sample.

Sample Location: Whidden Creek South Pt

Collection Date/Time: 07/27/2020 11:30

Field ID: G2SD0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2186416	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P385304	
	EPA 300.0 Rev. 2.1	Bromide	57		mg Br/L	P386077	
	SM 2320 B-2011	Total Alkalinity	153		mg CaCO3/L	P385380	
	SM 2540 D-2011	TSS	6	I	mg/L	P385655	
	SM 4500 F-C-2011	Fluoride	1.2		mg F/L	P385383	
2186418	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P385527	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P385667	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P385433	
	EPA 365.1 Rev. 2.0	Total-P	0.042		mg P/L	P385416	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P385451	
2186420	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P385284	

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: Coral Creek (East)

Collection Date/Time: 07/27/2020 12:35

Field ID: FB_07272020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2186421	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P385304	
	EPA 300.0 Rev. 2.1	Bromide	0.013	U	mg Br/L	P386077	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P385522	
	SM 2540 D-2011	TSS	2	U	mg/L	P385654	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P385381	
2186422	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P385480	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P385375	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P385300	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P385505	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P385449	
2186423	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P385282	
2186521	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P385268	
		Manganese	1.0	U	ug/L	P385268	
		Zinc	5.0	U	ug/L	P385268	
		Aluminum	5.0	U	ug/L	P385268	
	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P385268	
		Arsenic	0.050	U	ug/L	P385268	
		Boron**	7.4	I	ug/L	P385268	
		Cadmium	0.020	U	ug/L	P385268	
		Chromium	0.40	U	ug/L	P385268	
		Copper	0.40	U	ug/L	P385268	
		Lead	0.20	U	ug/L	P385268	
		Nickel	0.50	U	ug/L	P385268	
		Selenium	0.20	U	ug/L	P385268	
		Silver	0.010	U	ug/L	P385268	
		Thallium	0.10	U	ug/L	P385268	

Ref. Method and Comment:

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 boron result was confirmed in the undigested sample on 08/06/2020.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P385304

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P385268

Component	Result	Code	Units
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P385396

Component	Result	Code	Units
Chromium	1.0	U	ug/L
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385268

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: P385396

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
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

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386077

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385480

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385527

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385375

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385667

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385300

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385433

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385416

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385505

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 dissolved
Batch ID: P385282

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385284

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

Reference Method: SM 2320 B-2011
Batch ID: P385380

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

Reference Method: SM 2320 B-2011
Batch ID: P385522

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

Reference Method: SM 2540 D-2011
Batch ID: P385654

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P385655

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P385381

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P385383

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P385449

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P385451

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: P385268

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	106		P	85 - 115
Manganese	99.9		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P385396

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	101		P	85 - 115
Iron	103		P	85 - 115
Manganese	101		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385268

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.3		P	85 - 115
Antimony	99.1		P	85 - 115
Arsenic	97.8		P	85 - 115
Boron	102		P	85 - 115
Cadmium	96.2		P	85 - 115
Chromium	96.6		P	85 - 115
Copper	100		P	85 - 115
Lead	101		P	85 - 115
Nickel	97.9		P	85 - 115
Selenium	95.0		P	85 - 115
Silver	109		P	85 - 115
Thallium	99.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385396

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.8		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	99.5		P	85 - 115
Boron	102		P	85 - 115
Cadmium	102		P	85 - 115
Copper	102		P	85 - 115
Lead	109		P	85 - 115
Nickel	104		P	85 - 115
Selenium	102		P	85 - 115
Silver	110		P	85 - 115
Thallium	99.2		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386077

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385480

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385527

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385375

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385667

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385300

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: P385433

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385416

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: P385505

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385282

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385284

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

Reference Method: SM 2320 B-2011
Batch ID: P385380

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.9		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P385522

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.5		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P385381

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P385383

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P385449

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

Reference Method: SM 5310 B-2011
Batch ID: P385451

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P385268

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2185215	Iron	104	107	P/P	80 - 120
2185215	Manganese	104	104	P/P	80 - 120
2185215	Zinc	108	106	P/P	80 - 120
2185566	Iron	107		P	80 - 120
2185566	Manganese	105		P	80 - 120
2185566	Zinc	106		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P385396

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186318	Chromium	99.6	101	P/P	70 - 130
2186318	Iron	101	99.4	P/P	70 - 130
2186318	Manganese	98.9	102	P/P	70 - 130
2186318	Zinc	100	103	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385268

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2185215	Aluminum	95.5	93.9	P/P	80 - 120
2185215	Antimony	101	100	P/P	80 - 120
2185215	Arsenic	100	98.7	P/P	80 - 120
2185215	Boron	106	105	P/P	80 - 120
2185215	Cadmium	97.8	96.4	P/P	80 - 120
2185215	Chromium	101	99.6	P/P	80 - 120
2185215	Copper	99.9	98.6	P/P	80 - 120
2185215	Lead	103	102	P/P	80 - 120
2185215	Nickel	96.8	96.0	P/P	80 - 120
2185215	Selenium	94.2	92.8	P/P	80 - 120
2185215	Silver	106	107	P/P	80 - 120
2185215	Thallium	103	104	P/P	80 - 120
2185566	Aluminum	94.9		P	80 - 120
2185566	Antimony	94.8		P	80 - 120
2185566	Arsenic	96.1		P	80 - 120
2185566	Boron	106		P	80 - 120
2185566	Cadmium	97.1		P	80 - 120
2185566	Chromium	101		P	80 - 120
2185566	Copper	100		P	80 - 120
2185566	Lead	101		P	80 - 120
2185566	Nickel	95.2		P	80 - 120
2185566	Selenium	88.8		P	80 - 120
2185566	Silver	109		P	80 - 120
2185566	Thallium	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385396

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186318	Aluminum	110	110	P/P	70 - 130
2186318	Antimony	105	108	P/P	70 - 130
2186318	Arsenic	111	112	P/P	70 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385396

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186318	Cadmium	98.4	97.9	P/P	70 - 130
2186318	Copper	114	116	P/P	70 - 130
2186318	Lead	113	116	P/P	70 - 130
2186318	Nickel	115	117	P/P	70 - 130
2186318	Selenium	108	126	P/P	70 - 130
2186318	Silver	99.6	100	P/P	70 - 130
2186318	Thallium	102	106	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386077

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186894	Bromide	97.3	95.2	P/P	90 - 110
2186914	Bromide	97.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385480

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186405	Ammonia-N	96.6	96.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385527

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186382	Ammonia-N	98.2	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385375

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186502	Kjeldahl Nitrogen	105	114	P/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385667

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186417	Kjeldahl Nitrogen	115	110	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385300

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186404	NO2NO3-N	99.0	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385433

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186383	NO2NO3-N	99.2	97.6	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385416

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186286	Total-P	97.7	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385505

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186404	Total-P	105	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385282

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186372	O-Phosphate-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385284

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186384	O-Phosphate-P	96.5	97.2	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P385381

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186403	Fluoride	105	105	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P385383

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186306	Fluoride	99.1	97.0	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P385449

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186371	Organic Carbon	96.2	97.0	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P385451

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2186569	Organic Carbon	96.2	96.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P385304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186380	Turbidity	2.77	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P385268

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2185215	Iron	2.50	Spike	P	0 - 20
2185215	Manganese	0.361	Spike	P	0 - 20
2185215	Zinc	1.41	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P385396

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186318	Chromium	1.73	Spike	P	0 - 20
2186318	Iron	1.17	Spike	P	0 - 20
2186318	Manganese	2.41	Spike	P	0 - 20
2186318	Zinc	2.29	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385268

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2185215	Aluminum	1.65	Spike	P	0 - 20
2185215	Antimony	0.698	Spike	P	0 - 20
2185215	Arsenic	1.25	Spike	P	0 - 20
2185215	Boron	0.864	Spike	P	0 - 20
2185215	Cadmium	1.47	Spike	P	0 - 20
2185215	Chromium	1.54	Spike	P	0 - 20
2185215	Copper	1.21	Spike	P	0 - 20
2185215	Lead	0.361	Spike	P	0 - 20
2185215	Nickel	0.833	Spike	P	0 - 20
2185215	Selenium	1.47	Spike	P	0 - 20
2185215	Silver	0.900	Spike	P	0 - 20
2185215	Thallium	0.526	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385396

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186318	Aluminum	0.490	Spike	P	0 - 20
2186318	Antimony	2.87	Spike	P	0 - 20
2186318	Arsenic	0.916	Spike	P	0 - 20
2186318	Boron	1.88	Spike	P	0 - 20
2186318	Cadmium	0.470	Spike	P	0 - 20
2186318	Copper	1.17	Spike	P	0 - 20
2186318	Lead	2.35	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385396

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186318	Nickel	0.997	Spike	P	0 - 20
2186318	Selenium	15.1	Spike	P	0 - 20
2186318	Silver	0.438	Spike	P	0 - 20
2186318	Thallium	3.97	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386077

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186894	Bromide	1.98	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186405	Ammonia-N	0.176	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186382	Ammonia-N	0.738	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385375

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186502	Kjeldahl Nitrogen	5.82	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385667

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186417	Kjeldahl Nitrogen	3.79	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186404	NO2NO3-N	0.504	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385433

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186383	NO2NO3-N	1.07	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186286	Total-P	1.73	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385505

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186404	Total-P	3.35	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186372	O-Phosphate-P	0.0992	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385284

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186384	O-Phosphate-P	0.687	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P385380

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186306	Total Alkalinity	0.831	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P385522

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186403	Total Alkalinity	0.0677	Sample	P	0 - 8.1

Reference Method: SM 4500 F-C-2011
Batch ID: P385381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186403	Fluoride	0.0	Spike	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P385383

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186306	Fluoride	1.41	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P385449

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186371	Organic Carbon	0.636	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P385451

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2186569	Organic Carbon	0.137	Spike	P	0 - 20

* 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: A100133

Included Lab Sample IDs: 2186414, 2186419, 2186420, 2186423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.8	98.6	P/P	90 - 110
O-Phosphate-P	98.4	97.7	P/P	90 - 110
O-Phosphate-P	98.6	97.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A100144

Included Lab Sample IDs: 2186422

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A100145

Included Lab Sample IDs: 2186412, 2186415, 2186416, 2186421

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A100158

Included Lab Sample IDs: 2186521

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

Reference Method: SM 2320 B-2011

Run ID: A100179

Included Lab Sample IDs: 2186412, 2186415, 2186416

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.0	104	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A100179

Included Lab Sample IDs: 2186412, 2186415, 2186416, 2186421

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.5	P/P	90 - 110
Fluoride	100	99.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A100197

Included Lab Sample IDs: 2186413, 2186417, 2186418

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A100203

Included Lab Sample IDs: 2186413, 2186417, 2186418, 2186422

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	98.3	P/P	90 - 110
Organic Carbon	97.4	97.4	P/P	90 - 110
Organic Carbon	98.3	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A100209

Included Lab Sample IDs: 2186422

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	90.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A100212

Included Lab Sample IDs: 2186422

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A100216

Included Lab Sample IDs: 2186434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	102	101	P/P	90 - 110
Iron	104	103	P/P	90 - 110
Manganese	102	101	P/P	90 - 110
Zinc	102	102	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A100227

Included Lab Sample IDs: 2186421

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	107	98.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A100228

Included Lab Sample IDs: 2186413, 2186417, 2186418

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	99.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100231

Included Lab Sample IDs: 2186417

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.1	99.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100252

Included Lab Sample IDs: 2186413, 2186418

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	94.2	93.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A100320

Included Lab Sample IDs: 2186413, 2186417, 2186418

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	94.2	P/P	90 - 110
Kjeldahl Nitrogen	94.2	91.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A100326

Included Lab Sample IDs: 2186521

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.1	95.3	P/P	90 - 110
Antimony	98.5	96.0	P/P	90 - 110
Arsenic	97.7	96.5	P/P	90 - 110
Boron	97.6	95.7	P/P	90 - 110
Cadmium	95.6	93.6	P/P	90 - 110
Chromium	95.7	93.9	P/P	90 - 110
Copper	99.0	98.0	P/P	90 - 110
Lead	97.3	96.8	P/P	90 - 110
Nickel	99.2	96.5	P/P	90 - 110
Selenium	94.8	94.4	P/P	90 - 110
Silver	106	104	P/P	90 - 110
Thallium	96.5	95.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100360

Included Lab Sample IDs: 2186422

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	96.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A100377

Included Lab Sample IDs: 2186434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	101	103	P/P	90 - 110
Cadmium	99.9	99.7	P/P	90 - 110
Copper	104	107	P/P	90 - 110
Lead	107	107	P/P	90 - 110
Nickel	107	110	P/P	90 - 110
Selenium	103	105	P/P	90 - 110
Thallium	93.2	93.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A100401

Included Lab Sample IDs: 2186434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	103	P/P	90 - 110
Arsenic	99.1	99.8	P/P	90 - 110
Boron	98.0	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A100422

Included Lab Sample IDs: 2186434

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A100476

Included Lab Sample IDs: 2186412, 2186415, 2186416, 2186421

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	98.6	99.4	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						2.77	
EPA 200.7 Rev. 4.4	Chromium	101	99.6	101				1.73
	Iron	106	104	107	107			2.50
	Iron	103	101	99.4				1.17
	Manganese	99.9	104	104	105			0.361
	Manganese	101	98.9	102				2.41
	Zinc	103	108	106	106			1.41
	Zinc	102	100	103				2.29
EPA 200.8 Rev. 5.4	Aluminum	96.3	95.5	93.9	94.9			1.65
	Aluminum	96.8	110	110				0.490
	Antimony	99.1	101	100	94.8			0.698
	Antimony	102	105	108				2.87
	Arsenic	97.8	100	98.7	96.1			1.25
	Arsenic	99.5	111	112				0.916
	Boron	102	106	105	106			0.864
	Boron	102						1.88
	Cadmium	96.2	97.8	96.4	97.1			1.47
	Cadmium	102	98.4	97.9				0.470
	Chromium	96.6	101	99.6	101			1.54
	Copper	100	99.9	98.6	100			1.21
	Copper	102	114	116				1.17
	Lead	101	103	102	101			0.361
	Lead	109	113	116				2.35
	Nickel	97.9	96.8	96.0	95.2			0.833
	Nickel	104	115	117				0.997
	Selenium	95.0	94.2	92.8	88.8			1.47
	Selenium	102	108	126				15.1
	Silver	109	106	107	109			0.900
	Silver	110	99.6	100				0.438
	Thallium	99.4	103	104	101			0.526
	Thallium	99.2	102	106				3.97
EPA 300.0 Rev. 2.1	Bromide	99.1	97.3	95.2	97.3			1.98
EPA 350.1 Rev. 2.0	Ammonia-N	100	96.6	96.8				0.176
	Ammonia-N	102	98.2	99.0				0.738
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.9	105	114				5.82
	Kjeldahl Nitrogen	102	115	110				3.79
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.0	99.5				0.504
	NO2NO3-N	101	99.2	97.6				1.07
EPA 365.1 Rev. 2.0	Total-P	103	97.7	96.0				1.73
	Total-P	103	105	109				3.35
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	101	101				0.0992
	O-Phosphate-P	99.3	96.5	97.2				0.687
SM 2320 B-2011	Total Alkalinity	99.9					0.831	
	Total Alkalinity	99.5					0.0677	
SM 4500 F-C-2011	Fluoride	98.3	105	105				0.0
	Fluoride	99.3	99.1	97.0				1.41
SM 5310 B-2011	Organic Carbon	95.8	96.2	97.0				0.636
	Organic Carbon	98.3	96.2	96.4				0.137

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2186412, 2186415, 2186416, 2186421

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2186434, 2186521
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2186434, 2186521
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2186412, 2186415, 2186416, 2186421
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2186413, 2186417, 2186418, 2186422
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2186413, 2186417, 2186418, 2186422
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2186413, 2186417, 2186418, 2186422
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2186413, 2186417, 2186418, 2186422
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2186414, 2186419, 2186420, 2186423
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2186412, 2186415, 2186416, 2186421
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2186412, 2186415, 2186416, 2186421
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2186412, 2186415, 2186416, 2186421
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2186413, 2186417, 2186418, 2186422

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	07/28/2020			07/28/2020 16:10	Blanca Fach	2186412, 2186415, 2186416, 2186421
EPA 200.7 Rev. 4.4	07/28/2020	07/28/2020 15:30	Elliott D. Healy	07/29/2020 16:38	Betina Topolski	2186521
	07/28/2020	07/30/2020 15:45	Elliott D. Healy	07/31/2020 19:24	Betina Topolski	2186434
EPA 200.8 Rev. 5.4	07/28/2020	07/28/2020 15:30	Elliott D. Healy	08/06/2020 14:23	Alexander Thompson	2186521
	07/28/2020	07/30/2020 15:45	Elliott D. Healy	08/10/2020 20:26	Alexander Thompson	2186434
	07/28/2020	07/30/2020 15:45	Elliott D. Healy	08/10/2020 21:35	Alexander Thompson	2186434
	07/28/2020	07/30/2020 15:45	Elliott D. Healy	08/11/2020 20:07	Alexander Thompson	2186434
	07/28/2020	07/30/2020 15:45	Elliott D. Healy	08/11/2020 21:00	Alexander Thompson	2186434
	07/28/2020	07/30/2020 15:45	Elliott D. Healy	08/12/2020 20:07	Alexander Thompson	2186434
EPA 300.0 Rev. 2.1	07/28/2020			08/13/2020 05:48	Julia Storbeck	2186412
	07/28/2020			08/13/2020 06:05	Julia Storbeck	2186415
	07/28/2020			08/13/2020 06:22	Julia Storbeck	2186416
	07/28/2020			08/13/2020 06:39	Julia Storbeck	2186421
EPA 350.1 Rev. 2.0	07/28/2020			08/01/2020 14:17	Ping Hua	2186413
	07/28/2020			08/01/2020 14:18	Ping Hua	2186417
	07/28/2020			08/01/2020 14:20	Ping Hua	2186418
	07/28/2020			08/01/2020 18:57	Ping Hua	2186422
EPA 351.2 Rev. 2.0	07/28/2020	07/30/2020 12:15	Jhamieka S. Greenwood	07/31/2020 15:19	Jhamieka S. Greenwood	2186422
	07/28/2020	08/05/2020 09:31	Sima Feizi	08/06/2020 13:46	Jhamieka S. Greenwood	2186417
	07/28/2020	08/05/2020 09:31	Sima Feizi	08/06/2020 14:02	Jhamieka S. Greenwood	2186413
	07/28/2020	08/05/2020 09:31	Sima Feizi	08/06/2020 14:04	Jhamieka S. Greenwood	2186418
EPA 353.2 Rev. 2.0	07/28/2020			07/29/2020 09:12	Beverly Y. Sanders	2186422
	07/28/2020			07/31/2020 09:59	Beverly Y. Sanders	2186413
	07/28/2020			07/31/2020 10:00	Beverly Y. Sanders	2186417
	07/28/2020			07/31/2020 10:01	Beverly Y. Sanders	2186418
EPA 365.1 Rev. 2.0	07/28/2020	07/31/2020 10:10	Lipi Saha	08/03/2020 09:25	Benjamin T. Nordmann	2186417
	07/28/2020	07/31/2020 10:10	Lipi Saha	08/04/2020 12:28	Benjamin T. Nordmann	2186413
	07/28/2020	07/31/2020 10:10	Lipi Saha	08/04/2020 12:29	Benjamin T. Nordmann	2186418
	07/28/2020	08/03/2020 10:00	Lipi Saha	08/06/2020 14:48	Benjamin T. Nordmann	2186422
EPA 365.1 Rev. 2.0 dissolved	07/28/2020			07/28/2020 16:27	Samantha Davila	2186423
	07/28/2020			07/28/2020 16:53	Samantha Davila	2186414
	07/28/2020			07/28/2020 16:55	Samantha Davila	2186420
	07/28/2020			07/28/2020 17:08	Samantha Davila	2186419
SM 2320 B-2011	07/28/2020			07/30/2020 05:50	Dale L. Simmons	2186412
	07/28/2020			07/30/2020 06:03	Dale L. Simmons	2186415
	07/28/2020			07/30/2020 06:16	Dale L. Simmons	2186416
	07/28/2020			08/01/2020 05:11	Dale L. Simmons	2186421
SM 2540 D-2011	07/28/2020			07/29/2020 15:16	Yijie Li	2186412, 2186415, 2186416, 2186421
SM 4500 F-C-2011	07/28/2020			07/29/2020 20:59	Dale L. Simmons	2186421
	07/28/2020			07/30/2020 03:02	Dale L. Simmons	2186412

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-2011	07/28/2020			07/30/2020 03:07	Dale L. Simmons	2186415
	07/28/2020			07/30/2020 03:12	Dale L. Simmons	2186416
SM 5310 B-2011	07/28/2020			07/31/2020 00:05	David Boose	2186422
	07/28/2020			07/31/2020 09:54	David Boose	2186413
	07/28/2020			07/31/2020 10:19	David Boose	2186417
	07/28/2020			07/31/2020 10:55	David Boose	2186418