

Chemical Analysis Report

SO-DIST-2020-02-14-01

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-2020-02-10-54**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 11-MAR-2020 11:36

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: TrailerParkCanal@Mouth

Collection Date/Time: 02/13/2020 09:50

Field ID: G3SD0072

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157616	EPA 180.1 Rev. 2.0	Turbidity	7.4	A	NTU	P378979	
	EPA 300.0 Rev. 2.1	Bromide	35		mg Br/L	P379450	
	SM 2320 B-2011	Total Alkalinity	98		mg CaCO3/L	P379417	
	SM 2540 D-2011	TSS	15		mg/L	P379343	
	SM 4500 F-C-2011	Fluoride	0.79		mg F/L	P379422	
2157619	EPA 350.1 Rev. 2.0	Ammonia-N	0.043	U	mg N/L	P379455	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P379169	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004		mg N/L	P379270	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P379653	
	SM 5310 B-2011	Organic Carbon	7.9		mg C/L	P379362	
2157622	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.095		mg P/L	P378974	

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: MyakkaCutoff(Western)

Collection Date/Time: 02/13/2020 10:10

Field ID: G3SD0073

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157617	EPA 180.1 Rev. 2.0	Turbidity	5.2		NTU	P378979	
	EPA 300.0 Rev. 2.1	Bromide	47		mg Br/L	P379450	
	SM 2320 B-2011	Total Alkalinity	120		mg CaCO3/L	P379417	
	SM 2540 D-2011	TSS	14		mg/L	P379343	
	SM 4500 F-C-2011	Fluoride	1.0		mg F/L	P379422	
2157620	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P379455	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.72		mg N/L	P379169	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P379270	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P379653	
	SM 5310 B-2011	Organic Carbon	7.5		mg C/L	P379362	
2157623	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.076		mg P/L	P378974	

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: Whidden Creek South Pt

Collection Date/Time: 02/13/2020 11:40

Field ID: G2SD0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157618	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P378979	
	EPA 300.0 Rev. 2.1	Bromide	63		mg Br/L	P379450	
	SM 2320 B-2011	Total Alkalinity	154		mg CaCO3/L	P379417	
	SM 2540 D-2011	TSS	10	I	mg/L	P379343	
	SM 4500 F-C-2011	Fluoride	1.1		mg F/L	P379422	
2157621	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P379455	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P379283	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P379270	
	EPA 365.1 Rev. 2.0	Total-P	0.048		mg P/L	P379653	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P379362	
2157624	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P378974	

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: Whidden Creek South Pt

Collection Date/Time: 02/13/2020 13:30

Field ID: FB_02132020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157625	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P378979	
	EPA 300.0 Rev. 2.1	Bromide	0.013	U	mg Br/L	P379450	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P379415	
	SM 2540 D-2011	TSS	2	U	mg/L	P379342	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P379420	
2157626	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P379456	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P379262	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P379548	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P379657	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P379079	
2157627	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P378973	

Ref. Method and Comment:

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

SM 4500 F-C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Coral Creek (East)

Collection Date/Time: 02/13/2020 12:35

Field ID: G2SD0039

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157613	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P378978	
	EPA 300.0 Rev. 2.1	Bromide	54		mg Br/L	P379449	
	SM 2320 B-2011	Total Alkalinity	136		mg CaCO3/L	P379417	
	SM 2540 D-2011	TSS	9.6	IA	mg/L	P379343	
	SM 4500 F-C-2011	Fluoride	1.1		mg F/L	P379422	
2157614	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P379455	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P379169	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P379270	
	EPA 365.1 Rev. 2.0	Total-P	0.036		mg P/L	P379653	
	SM 5310 B-2011	Organic Carbon	8.3		mg C/L	P379362	
2157615	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P378974	
2157645	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P379130	
		Manganese	4.0	U	ug/L	P379130	
		Zinc	20	U	ug/L	P379130	
	EPA 200.8 Rev. 5.4	Aluminum	91		ug/L	P379130	
		Antimony	0.50	U	ug/L	P379130	
		Arsenic	2.11		ug/L	P379130	
		Boron**	3.16E+03		ug/L	P379130	
		Cadmium	0.20	U	ug/L	P379130	
		Chromium	4.0	U	ug/L	P379130	
		Copper	1.6	U	ug/L	P379130	
		Lead	2.0	U	ug/L	P379130	
		Nickel	5.0	U	ug/L	P379130	
		Selenium	2.0	U	ug/L	P379130	
		Silver	0.040	U	ug/L	P379130	
		Thallium	1.0	U	ug/L	P379130	

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: P378978

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378979

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P379130

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P379130

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 300.0 Rev. 2.1
Batch ID: P379449

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379450

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379455

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379456

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379169

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379262

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379283

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379270

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: P379548

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: P379653

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379657

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378973

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: P378974

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

Reference Method: SM 2320 B-2011
Batch ID: P379415

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

Reference Method: SM 2320 B-2011
Batch ID: P379417

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

Reference Method: SM 2540 D-2011
Batch ID: P379342

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P379343

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P379420

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P379422

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P379079

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

Reference Method: SM 5310 B-2011
Batch ID: P379362

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: P379130

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	105		P	85 - 115
Manganese	105		P	85 - 115
Zinc	98.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P379130

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.9		P	85 - 115
Antimony	96.7		P	85 - 115
Arsenic	94.7		P	85 - 115
Boron	108		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	105		P	85 - 115
Copper	97.8		P	85 - 115
Lead	102		P	85 - 115
Nickel	105		P	85 - 115
Selenium	97.6		P	85 - 115
Silver	94.1		P	85 - 115
Thallium	107		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379449

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379450

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379455

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: P379456

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379169

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379283

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.9		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379270

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: P379548

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379653

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379657

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: P378973

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378974

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

Reference Method: SM 2320 B-2011
Batch ID: P379415

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P379417

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

Reference Method: SM 4500 F-C-2011
Batch ID: P379420

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	92 - 103

Reference Method: SM 4500 F-C-2011
Batch ID: P379422

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P379079

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.2		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P379362

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P379130

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157648	Iron	101	99.6	P/P	80 - 120
2157648	Manganese	98.5	99.6	P/P	80 - 120
2157648	Zinc	90.8	91.0	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P379130

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157648	Aluminum	101	102	P/P	80 - 120
2157648	Antimony	88.5	85.7	P/P	70 - 130
2157648	Arsenic	97.4	98.4	P/P	80 - 120
2157648	Boron	101	95.4	P/P	70 - 130
2157648	Cadmium	91.7	96.7	P/P	70 - 130
2157648	Chromium	102	99.6	P/P	70 - 130
2157648	Copper	92.8	93.7	P/P	80 - 120
2157648	Lead	105	104	P/P	70 - 130
2157648	Nickel	105	104	P/P	70 - 130
2157648	Selenium	77.9	82.6	P/P	70 - 130
2157648	Silver	85.4	87.3	P/P	80 - 120
2157648	Thallium	107	108	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P379449

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2156692	Bromide	96.0	96.7	P/P	90 - 110
2157502	Bromide	95.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P379450

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158277	Bromide	99.3	99.0	P/P	90 - 110
2159024	Bromide	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P379455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157621	Ammonia-N	93.9	98.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P379456

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157672	Ammonia-N	95.0	96.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P379169

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157614	Kjeldahl Nitrogen	101	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157672	Kjeldahl Nitrogen	101	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158607	Kjeldahl Nitrogen	98.8	97.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157481	NO2NO3-N	95.6	97.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379548

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157573	NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379653

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157614	Total-P	95.7	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379657

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158369	Total-P	106	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157703	O-Phosphate-P	99.0	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378974

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157615	O-Phosphate-P	92.2	91.9	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P379422

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158843	Fluoride	98.6	100	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P379079

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157599	Organic Carbon	97.8	97.3	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P379362

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158474	Organic Carbon	98.2	98.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378978

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157562	Turbidity	5.18	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378979

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157616	Turbidity	1.09	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P379130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157648	Iron	1.19	Spike	P	0 - 20
2157648	Manganese	1.01	Spike	P	0 - 20
2157648	Zinc	0.255	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P379130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157648	Aluminum	0.220	Spike	P	0 - 20
2157648	Antimony	3.27	Spike	P	0 - 20
2157648	Arsenic	1.09	Spike	P	0 - 20
2157648	Boron	2.39	Spike	P	0 - 20
2157648	Cadmium	5.34	Spike	P	0 - 20
2157648	Chromium	2.20	Spike	P	0 - 20
2157648	Copper	0.956	Spike	P	0 - 20
2157648	Lead	1.43	Spike	P	0 - 20
2157648	Nickel	1.26	Spike	P	0 - 20
2157648	Selenium	5.94	Spike	P	0 - 20
2157648	Silver	2.18	Spike	P	0 - 20
2157648	Thallium	0.222	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379449

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2156692	Bromide	0.725	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379450

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158277	Bromide	0.270	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157621	Ammonia-N	3.57	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379456

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157672	Ammonia-N	1.48	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379169

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157614	Kjeldahl Nitrogen	1.16	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157672	Kjeldahl Nitrogen	3.60	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158607	Kjeldahl Nitrogen	1.26	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157481	NO2NO3-N	1.93	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157573	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379653

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157614	Total-P	1.81	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379657

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158369	Total-P	0.385	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157703	O-Phosphate-P	1.15	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378974

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157615	O-Phosphate-P	0.307	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P379415

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158798	Total Alkalinity	0.155	Sample	P	0 - 2.8

Reference Method: SM 2320 B-2011
Batch ID: P379417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158843	Total Alkalinity	0.563	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P379420

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158798	Fluoride	1.45	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-2011
Batch ID: P379422

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158843	Fluoride	0.972	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
Batch ID: P379079

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157599	Organic Carbon	0.435	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P379362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158474	Organic Carbon	0.260	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: A97554

Included Lab Sample IDs: 2157615, 2157622, 2157623, 2157624, 2157627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.6	97.8	P/P	90 - 110
O-Phosphate-P	97.1	96.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A97556

Included Lab Sample IDs: 2157613, 2157616, 2157617, 2157618, 2157625

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

Reference Method: SM 5310 B-2011

Run ID: A97590

Included Lab Sample IDs: 2157626

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.4	98.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A97677

Included Lab Sample IDs: 2157645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.8	96.6	P/P	90 - 110
Arsenic	93.4	90.4	P/P	90 - 110
Copper	96.3	95.8	P/P	90 - 110
Silver	95.2	90.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97683

Included Lab Sample IDs: 2157614, 2157619, 2157620, 2157621

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97692

Included Lab Sample IDs: 2157614, 2157619, 2157620

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	98.8	P/P	90 - 110
Kjeldahl Nitrogen	96.1	100	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A97693

Included Lab Sample IDs: 2157645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	104	101	P/P	90 - 110
Manganese	106	106	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97709

Included Lab Sample IDs: 2157621, 2157626

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	103	P/P	90 - 110
Kjeldahl Nitrogen	97.9	98.8	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A97718

Included Lab Sample IDs: 2157614, 2157619, 2157620, 2157621

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.9	98.8	P/P	90 - 110
Organic Carbon	100	96.9	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A97739

Included Lab Sample IDs: 2157613, 2157616, 2157617, 2157618, 2157625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	105	P/P	90 - 110
Total Alkalinity	104	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A97739

Included Lab Sample IDs: 2157613, 2157616, 2157617, 2157618, 2157625

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97750

Included Lab Sample IDs: 2157613, 2157616, 2157617, 2157618, 2157625

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97754

Included Lab Sample IDs: 2157614, 2157619, 2157620, 2157621, 2157626

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	100	P/P	90 - 110
Ammonia-N	101	99.8	P/P	90 - 110
Ammonia-N	99.8	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97758

Included Lab Sample IDs: 2157626

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97855

Included Lab Sample IDs: 2157619, 2157620

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97912

Included Lab Sample IDs: 2157614, 2157621

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97931

Included Lab Sample IDs: 2157626

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A97967

Included Lab Sample IDs: 2157645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	104	108	P/P	90 - 110
Chromium	102	103	P/P	90 - 110
Lead	99.8	100	P/P	90 - 110
Nickel	102	103	P/P	90 - 110
Thallium	97.1	96.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A98000

Included Lab Sample IDs: 2157645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	94.7	95.3	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A98029

Included Lab Sample IDs: 2157645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	95.7	96.4	P/P	90 - 110
Cadmium	101	99.5	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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					5.18	
	Turbidity					1.09	
EPA 200.7 Rev. 4.4	Iron	105	101	99.6			1.19
	Manganese	105	98.5	99.6			1.01
	Zinc	98.2	90.8	91.0			0.255
EPA 200.8 Rev. 5.4	Aluminum	98.9	101	102			0.220
	Antimony	96.7	88.5	85.7			3.27
	Arsenic	94.7	97.4	98.4			1.09
	Boron	108	101	95.4			2.39
	Cadmium	102	91.7	96.7			5.34
	Chromium	105	102	99.6			2.20
	Copper	97.8	92.8	93.7			0.956
	Lead	102	105	104			1.43
	Nickel	105	105	104			1.26
	Selenium	97.6	77.9	82.6			5.94
	Silver	94.1	85.4	87.3			2.18
	Thallium	107	107	108			0.222
EPA 300.0 Rev. 2.1	Bromide	101	96.0	96.7	95.5		0.725
	Bromide	102	99.3	99.0	97.4		0.270
EPA 350.1 Rev. 2.0	Ammonia-N	100	93.9	98.1			3.57
	Ammonia-N	99.5	95.0	96.6			1.48
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	101	102			1.16
	Kjeldahl Nitrogen	99.8	101	107			3.60
	Kjeldahl Nitrogen	97.9	98.8	97.4			1.26
EPA 353.2 Rev. 2.0	NO2NO3-N	100	95.6	97.6			1.93
	NO2NO3-N	100	99.0	99.0			0.0
EPA 365.1 Rev. 2.0	Total-P	104	95.7	97.5			1.81
	Total-P	103	106	107			0.385
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	99.0	101			1.15
	O-Phosphate-P	98.0	92.2	91.9			0.307
SM 2320 B-2011	Total Alkalinity	103				0.155	
	Total Alkalinity	104				0.563	
SM 4500 F-C-2011	Fluoride	98.1					1.45
	Fluoride	99.0	98.6	100			0.972
SM 5310 B-2011	Organic Carbon	97.2	97.8	97.3			0.435
	Organic Carbon	96.6	98.2	98.5			0.260

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2157613, 2157616, 2157617, 2157618, 2157625
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2157645
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2157645
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2157613, 2157616, 2157617, 2157618, 2157625
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2157614, 2157619, 2157620, 2157621, 2157626
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2157614, 2157619, 2157620, 2157621, 2157626
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2157614, 2157619, 2157620, 2157621, 2157626

Reference Method Descriptions

Method	Description	Associated Samples
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2157614, 2157619, 2157620, 2157621, 2157626
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2157615, 2157622, 2157623, 2157624, 2157627
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2157613, 2157616, 2157617, 2157618, 2157625
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2157613, 2157616, 2157617, 2157618, 2157625
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2157613, 2157616, 2157617, 2157618, 2157625
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2157614, 2157619, 2157620, 2157621, 2157626

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	02/14/2020			02/14/2020 15:04	Samantha Davila	2157613, 2157616, 2157617, 2157618, 2157625
EPA 200.7 Rev. 4.4	02/14/2020	02/18/2020 15:40	Elliott D. Healy	02/20/2020 23:13	Betina Topolski	2157645
EPA 200.8 Rev. 5.4	02/14/2020	02/18/2020 15:40	Elliott D. Healy	02/20/2020 12:11	Justin Cutchin	2157645
	02/14/2020	02/18/2020 15:40	Elliott D. Healy	03/03/2020 15:17	Alexander Thompson	2157645
	02/14/2020	02/18/2020 15:40	Elliott D. Healy	03/04/2020 14:37	Alexander Thompson	2157645
	02/14/2020	02/18/2020 15:40	Elliott D. Healy	03/05/2020 13:27	Alexander Thompson	2157645
EPA 300.0 Rev. 2.1	02/14/2020			02/22/2020 11:11	Lipi Saha	2157613
	02/14/2020			02/22/2020 14:02	Lipi Saha	2157616
	02/14/2020			02/22/2020 14:19	Lipi Saha	2157617
	02/14/2020			02/22/2020 14:36	Lipi Saha	2157618
	02/14/2020			02/22/2020 14:53	Lipi Saha	2157625
EPA 350.1 Rev. 2.0	02/14/2020			02/21/2020 09:00	Ping Hua	2157621
	02/14/2020			02/21/2020 09:20	Ping Hua	2157614
	02/14/2020			02/21/2020 09:21	Ping Hua	2157619
	02/14/2020			02/21/2020 09:23	Ping Hua	2157620
	02/14/2020			02/21/2020 09:54	Ping Hua	2157626
EPA 351.2 Rev. 2.0	02/14/2020	02/19/2020 11:48	Sima Feizi	02/20/2020 18:14	Jhamieka S. Greenwood	2157614
	02/14/2020	02/19/2020 11:48	Sima Feizi	02/20/2020 18:32	Jhamieka S. Greenwood	2157619
	02/14/2020	02/19/2020 11:48	Sima Feizi	02/20/2020 18:34	Jhamieka S. Greenwood	2157620
	02/14/2020	02/20/2020 13:30	Sima Feizi	02/21/2020 08:03	Jhamieka S. Greenwood	2157626
	02/14/2020	02/20/2020 13:30	Sima Feizi	02/21/2020 08:45	Jhamieka S. Greenwood	2157621
EPA 353.2 Rev. 2.0	02/14/2020			02/20/2020 12:33	Lauren Lees	2157614
	02/14/2020			02/20/2020 12:35	Lauren Lees	2157619
	02/14/2020			02/20/2020 12:36	Lauren Lees	2157620
	02/14/2020			02/20/2020 12:37	Lauren Lees	2157621
	02/14/2020			02/24/2020 11:35	Beverly Y. Sanders	2157626
EPA 365.1 Rev. 2.0	02/14/2020	02/26/2020 14:15	Lipi Saha	02/27/2020 11:32	Benjamin T. Nordmann	2157619
	02/14/2020	02/26/2020 14:15	Lipi Saha	02/27/2020 11:33	Benjamin T. Nordmann	2157620
	02/14/2020	02/26/2020 14:15	Lipi Saha	03/02/2020 10:58	Lipi Saha	2157614
	02/14/2020	02/26/2020 14:15	Lipi Saha	03/02/2020 11:00	Lipi Saha	2157621
	02/14/2020	02/26/2020 14:15	Lipi Saha	03/02/2020 13:12	Lipi Saha	2157626
EPA 365.1 Rev. 2.0 dissolved	02/14/2020			02/14/2020 15:17	Carlos Miranda	2157627
	02/14/2020			02/14/2020 15:30	Carlos Miranda	2157615
	02/14/2020			02/14/2020 15:33	Carlos Miranda	2157622, 2157623
	02/14/2020			02/14/2020 15:34	Carlos Miranda	2157624
SM 2320 B-2011	02/14/2020			02/22/2020 14:32	Dale L. Simmons	2157625
	02/14/2020			02/23/2020 01:18	Dale L. Simmons	2157613
	02/14/2020			02/23/2020 01:29	Dale L. Simmons	2157616
	02/14/2020			02/23/2020 01:41	Dale L. Simmons	2157617

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	02/14/2020			02/23/2020 01:54	Dale L. Simmons	2157618
SM 2540 D-2011	02/14/2020			02/18/2020 15:02	Yijie Li	2157613, 2157616, 2157617, 2157618, 2157625
SM 4500 F-C-2011	02/14/2020			02/22/2020 14:32	Dale L. Simmons	2157625
	02/14/2020			02/22/2020 23:39	Dale L. Simmons	2157613
	02/14/2020			02/22/2020 23:43	Dale L. Simmons	2157616
	02/14/2020			02/22/2020 23:48	Dale L. Simmons	2157617
	02/14/2020			02/22/2020 23:52	Dale L. Simmons	2157618
SM 5310 B-2011	02/14/2020			02/17/2020 21:54	Madeline Funaro	2157626
	02/14/2020			02/20/2020 07:37	Madeline Funaro	2157614
	02/14/2020			02/20/2020 08:16	Madeline Funaro	2157619
	02/14/2020			02/20/2020 08:30	Madeline Funaro	2157620
	02/14/2020			02/20/2020 08:45	Madeline Funaro	2157621