

Chemical Analysis Report

SO-DIST-2016-03-09-01

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

Event Description: **SMP: Highlands Canoe Lakes**
Request ID: **RQ-2016-03-07-24**
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
Attn: Ben Paswater

For additional information please contact
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Certified by: Colin Wright, Environmental Administrator

Date Certified: 28-MAR-2016 15:24



NON-CONFORMANCE REPORT INCLUDED

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 group are included in this report: 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 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: BUCK LAKE @ NORTH SIDE

Collection Date/Time: 03/08/2016 15:00

Field ID: G4SD020116-5

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1778251	EPA 180.1 Rev. 2.0	Turbidity	1.7	A	NTU	P300082	
	EPA 300.0 Rev. 2.1	Chloride	24		mg Cl/L	P300215	
		Sulfate	69		mg SO4/L	P300219	
	SM 2120 B	Color (true)	9.2		PCU	P300625	
	SM 2320 B-97	Total Alkalinity	15		mg CaCO3/L	P300454	
	SM 2540 C-97	TDS	234	A	mg/L	P300529	
	SM 2540 D-97	TSS	4	I	mg/L	P300285	
	SM 4500 F-C-97	Fluoride	0.081	I	mg F/L	P300458	
1778261	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P300567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P300537	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	12		mg N/L	P300308	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P300542	
	SM 5310 B-00	Organic Carbon	4.2		mg C/L	P300327	
1778271	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300062	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 353.2 Rev. 2.0: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Sample Location: BUCK LAKE @ SOUTH SIDE

Collection Date/Time: 03/08/2016 15:15

Field ID: G4SD020116-6

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1778252	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P300082	
	EPA 300.0 Rev. 2.1	Chloride	24		mg Cl/L	P300215	
		Sulfate	68		mg SO4/L	P300219	
	SM 2120 B	Color (true)	9.0		PCU	P300625	
	SM 2320 B-97	Total Alkalinity	14	A	mg CaCO3/L	P300454	
	SM 2540 C-97	TDS	215		mg/L	P300529	
	SM 2540 D-97	TSS	2	U	mg/L	P300285	
	SM 4500 F-C-97	Fluoride	0.078	I	mg F/L	P300458	
1778262	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P300567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P300537	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	11		mg N/L	P300308	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P300542	
	SM 5310 B-00	Organic Carbon	4.4		mg C/L	P300327	
1778272	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300062	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 353.2 Rev. 2.0: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Sample Location: LAKE LACHARD @ CENTER

Collection Date/Time: 03/08/2016 14:00

Field ID: G4SD020116-7

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1778253	EPA 180.1 Rev. 2.0	Turbidity	6.5		NTU	P300082	

Field ID: G4SD020116-7

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1778253	EPA 300.0 Rev. 2.1	Chloride	6.8		mg Cl/L	P300215	
		Sulfate	17		mg SO4/L	P300219	
	SM 2120 B	Color (true)	10	A	PCU	P300625	
	SM 2320 B-97	Total Alkalinity	42		mg CaCO3/L	P300454	
	SM 2540 C-97	TDS	89		mg/L	P300529	
	SM 2540 D-97	TSS	6	I	mg/L	P300285	
	SM 4500 F-C-97	Fluoride	0.057	I	mg F/L	P300458	
1778263	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P300567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.76		mg N/L	P300537	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P300380	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P300542	
	SM 5310 B-00	Organic Carbon	4.6		mg C/L	P300327	
1778273	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300062	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: BLUE LAKE @ NORTHSIDE

Collection Date/Time: 03/08/2016 12:20

Field ID: G4SD020116-8

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1778254	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P300082	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P300215	
		Sulfate	25		mg SO4/L	P300219	
	SM 2120 B	Color (true)	14		PCU	P300625	
	SM 2320 B-97	Total Alkalinity	16		mg CaCO3/L	P300454	
	SM 2540 C-97	TDS	101		mg/L	P300529	
	SM 2540 D-97	TSS	2	I	mg/L	P300285	
1778264	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300458	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P300567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P300537	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P300380	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P300542	
1778274	SM 5310 B-00	Organic Carbon	7.1		mg C/L	P300358	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300062	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: SILVER LAKE @ NORTH

Collection Date/Time: 03/08/2016 10:30

Field ID: G4SD020916-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1778255	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P300082	
	EPA 300.0 Rev. 2.1	Chloride	7.6		mg Cl/L	P300215	
		Sulfate	6.3		mg SO4/L	P300219	
	SM 2120 B	Color (true)	12		PCU	P300625	
	SM 2320 B-97	Total Alkalinity	0.65	I	mg CaCO3/L	P300454	

Field ID: G4SD020916-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1778255	SM 2540 C-97	TDS	30		mg/L	P300529	
	SM 2540 D-97	TSS	2	I	mg/L	P300285	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300458	
1778265	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P300568	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31		mg N/L	P300537	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P300380	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P300543	
	SM 5310 B-00	Organic Carbon	5.2		mg C/L	P300358	
1778275	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300062	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: SILVER LAKE @ WEST

Collection Date/Time: 03/08/2016 10:55

Field ID: G4SD020116-2

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1778256	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P300082	
	EPA 300.0 Rev. 2.1	Chloride	7.5		mg Cl/L	P300215	
		Sulfate	6.2		mg SO4/L	P300219	
	SM 2120 B	Color (true)	12		PCU	P300625	
	SM 2320 B-97	Total Alkalinity	0.78	I	mg CaCO3/L	P300454	
	SM 2540 C-97	TDS	42		mg/L	P300529	
	SM 2540 D-97	TSS	2	U	mg/L	P300285	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300458	
1778266	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	IY	mg N/L	P300568	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33	YJ	mg N/L	P300537	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17	Y	mg N/L	P300380	
	EPA 365.1 Rev. 2.0	Total-P	0.008	Y	mg P/L	P300543	
	SM 5310 B-00	Organic Carbon	5.2	Y	mg C/L	P300358	
1778276	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300062	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 350.1 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 351.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory. Refer to the narrative for an explanation of QC Codes.

EPA 353.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 365.1 Rev. 2.0: Total-P: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

SM 5310 B-00: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

Sample Location: SILVER LAKE @ SOUTH

Collection Date/Time: 03/08/2016 10:45

Field ID: G4SD020116-3

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1778257	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P300082	
	EPA 300.0 Rev. 2.1	Chloride	7.6		mg Cl/L	P300215	
		Sulfate	6.4		mg SO4/L	P300219	
	SM 2120 B	Color (true)	11		PCU	P300625	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P300454	

Field ID: G4SD020116-3

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1778257	SM 2540 C-97	TDS	44		mg/L	P300529	
	SM 2540 D-97	TSS	2	I	mg/L	P300285	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300458	
1778267	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P300568	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34		mg N/L	P300537	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17		mg N/L	P300380	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P300543	
	SM 5310 B-00	Organic Carbon	5.2		mg C/L	P300358	
1778277	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300062	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: SILVER LAKE @ EAST

Collection Date/Time: 03/08/2016 10:40

Field ID: G4SD020116-4

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1778258	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P300082	
	EPA 300.0 Rev. 2.1	Chloride	7.6		mg Cl/L	P300215	
		Sulfate	6.3		mg SO4/L	P300219	
	SM 2120 B	Color (true)	12		PCU	P300625	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P300454	
	SM 2540 C-97	TDS	36		mg/L	P300529	
	SM 2540 D-97	TSS	2	I	mg/L	P300285	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300458	
1778268	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P300568	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31		mg N/L	P300537	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P300380	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P300543	
	SM 5310 B-00	Organic Carbon	5.4		mg C/L	P300358	
1778278	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300062	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: BLUE LAKE @ SW SIDE

Collection Date/Time: 03/08/2016 12:40

Field ID: G4SD020116-9

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1778259	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P300082	
	EPA 300.0 Rev. 2.1	Chloride	18	A	mg Cl/L	P300215	
		Sulfate	25	A	mg SO4/L	P300219	
	SM 2120 B	Color (true)	14		PCU	P300625	
	SM 2320 B-97	Total Alkalinity	16		mg CaCO3/L	P300454	
	SM 2540 C-97	TDS	95		mg/L	P300529	
	SM 2540 D-97	TSS	3	I	mg/L	P300285	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300458	
1778269	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P300568	

Field ID: G4SD020116-9

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1778269	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P300537	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P300380	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P300543	
	SM 5310 B-00	Organic Carbon	7.3		mg C/L	P300358	
1778279	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300062	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: BLUE LAKE @ SE SIDE

Collection Date/Time: 03/08/2016 12:30

Field ID: G4SD020116-10

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1778260	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P300082	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P300215	
		Sulfate	26		mg SO4/L	P300219	
	SM 2120 B	Color (true)	14		PCU	P300625	
	SM 2320 B-97	Total Alkalinity	16		mg CaCO3/L	P300454	
	SM 2540 C-97	TDS	87	AJ	mg/L	P300530	RPD
	SM 2540 D-97	TSS	3	I	mg/L	P300286	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P300458	
1778270	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P300568	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P300537	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.053		mg N/L	P300380	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P300543	
	SM 5310 B-00	Organic Carbon	7.3		mg C/L	P300358	
1778280	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300062	

Ref. Method and Comment:

SM 2540 C-97: Refer to the narrative for an explanation of QC Codes.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Non-Conformance Report

NCR ID: 5738

Event(s)

SO-DIST-2016-03-09-01

Job(s)

TLH-2016-03-09-14

Sample(s)

1778266

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Nutrients sample for Field ID G4SD020116-2 was not preserved to pH < 2.

Resolution: Sample preserved in lab with H2SO4 on 3/9/2016.

Authorised by/Date: Kathryn Holland 3/17/2016

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.

Please address questions to:

Chemistry Tim Fitzpatrick (850) 245-8085
 Biology Lori Wolfe (850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P300082

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300215

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300219

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300567

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300568

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300537

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300308

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300380

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300542

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300543

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300062

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

Reference Method: SM 2120 B
Batch ID: P300625

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P300454

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-97
Batch ID: P300529

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P300530

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P300285

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P300286

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P300458

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P300327

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

Reference Method: SM 5310 B-00
Batch ID: P300358

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300215

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300219

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300567

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300568

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300537

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.7		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300308

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: P300380

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300380

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: P300542

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300543

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300062

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.2		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P300454

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P300458

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.1		P	94 - 108

Reference Method: SM 5310 B-00
Batch ID: P300327

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

Reference Method: SM 5310 B-00
Batch ID: P300358

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300215

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300215

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1778259	Chloride	107		P	90 - 110
1778458	Chloride	107		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300219

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1778259	Sulfate	105		P	90 - 110
1778458	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300567

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1778221	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300568

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1778269	Ammonia-N	100	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300537

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1778266	Kjeldahl Nitrogen	84.0	90.1	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300380

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1778263	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300542

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1778221	Total-P	96.2	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300543

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1778265	Total-P	95.8	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300062

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1778271	O-Phosphate-P	94.7	97.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P300458

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1778252	Fluoride	95.3	96.5	P/P	94 - 107

Reference Method: SM 5310 B-00
Batch ID: P300327

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1778109	Organic Carbon	92.6	93.1	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P300358

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1778264	Organic Carbon	96.9	97.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P300082

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778251	Turbidity	2.31	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300215

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778259	Chloride	0.189	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300219

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778259	Sulfate	0.359	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778221	Ammonia-N	0.809	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778269	Ammonia-N	0.552	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300537

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778266	Kjeldahl Nitrogen	5.31	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778221	NO2NO3-N	0.279	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300380

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778263	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300542

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778221	Total-P	0.173	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300543

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778265	Total-P	1.25	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300062

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778271	O-Phosphate-P	2.91	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P300625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778253	Color (true)	2.65	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P300454

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778252	Total Alkalinity	3.95	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P300529

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778251	TDS	5.98	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P300530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778260	TDS	16.1	Sample	F	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P300458

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778252	Fluoride	1.01	Spike	P	0 - 3.7

Reference Method: SM 5310 B-00
Batch ID: P300327

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778109	Organic Carbon	0.533	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P300358

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1778264	Organic Carbon	0.752	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A68089

Included Lab Sample IDs: 1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	106	P/P	90 - 110
Chloride	104	103	P/P	90 - 110
Chloride	106	104	P/P	90 - 110
Sulfate	101	104	P/P	90 - 110
Sulfate	102	101	P/P	90 - 110
Sulfate	102	101	P/P	90 - 110
Sulfate	104	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A68113

Included Lab Sample IDs: 1778271, 1778272, 1778273, 1778274, 1778275, 1778276, 1778277, 1778278, 1778279, 1778280

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.2	96.2	P/P	90 - 110
O-Phosphate-P	98.0	97.2	P/P	90 - 110
O-Phosphate-P	98.3	98.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A68115

Included Lab Sample IDs: 1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260

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

Reference Method: SM 2120 B

Run ID: A68130

Included Lab Sample IDs: 1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.9	98.0	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A68199

Included Lab Sample IDs: 1778261, 1778262

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

Reference Method: SM 5310 B-00

Run ID: A68205

Included Lab Sample IDs: 1778261, 1778262, 1778263

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.0	94.4	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A68221

Included Lab Sample IDs: 1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.2	97.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A68232

Included Lab Sample IDs: 1778263, 1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	100	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A68254

Included Lab Sample IDs: 1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260

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

Reference Method: SM 2320 B-97

Run ID: A68254

Included Lab Sample IDs: 1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.6	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A68254

Included Lab Sample IDs: 1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	97.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A68284

Included Lab Sample IDs: 1778261, 1778262, 1778263, 1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	101	P/P	90 - 110
Ammonia-N	99.4	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A68327

Included Lab Sample IDs: 1778261, 1778262, 1778263, 1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.2	95.7	P/P	90 - 110
Kjeldahl Nitrogen	97.2	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A68352

Included Lab Sample IDs: 1778261, 1778262, 1778263, 1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270

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

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 180.1 Rev. 2.0	Turbidity				2.31	
EPA 300.0 Rev. 2.1	Chloride	109	107	107	0.189	
	Sulfate	106	105	104	0.359	
EPA 350.1 Rev. 2.0	Ammonia-N	96.9	100	101		0.809
	Ammonia-N	101	100	99.7		0.552
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.7	84.0	90.1		5.31
EPA 353.2 Rev. 2.0	NO2NO3-N	100				0.279
	NO2NO3-N	100	102	102		0.0

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 365.1 Rev. 2.0	Total-P	95.7	96.2	96.4		0.173
	Total-P	96.7	95.8	97.0		1.25
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.2	94.7	97.5		2.91
SM 2120 B	Color (true)				2.65	
SM 2320 B-97	Total Alkalinity	103			3.95	
SM 2540 C-97	TDS				5.98	
	TDS				16.1	
SM 4500 F-C-97	Fluoride	97.1	95.3	96.5		1.01
SM 5310 B-00	Organic Carbon	99.6	92.6	93.1		0.533
	Organic Carbon	99.4	96.9	97.9		0.752

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1778261, 1778262, 1778263, 1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1778261, 1778262, 1778263, 1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1778261, 1778262, 1778263, 1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1778261, 1778262, 1778263, 1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1778271, 1778272, 1778273, 1778274, 1778275, 1778276, 1778277, 1778278, 1778279, 1778280
SM 2120 B / E31780	True Color measured at 450 nm	1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1778261, 1778262, 1778263, 1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270

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	03/09/2016			03/09/2016 14:47	Sima Feizi	1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260
EPA 300.0 Rev. 2.1	03/09/2016			03/11/2016	Julia Storbeck	1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260
EPA 350.1 Rev. 2.0	03/09/2016			03/17/2016	Diana M. Turner	1778261, 1778262, 1778263, 1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270
EPA 351.2 Rev. 2.0	03/09/2016	03/17/2016	Sofia Elnemr	03/20/2016	Rochelle Y Jackson	1778261, 1778262, 1778263, 1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270
EPA 353.2 Rev. 2.0	03/09/2016 03/09/2016			03/11/2016 03/15/2016	Diana M. Turner Peter D. Kaus	1778261, 1778262 1778263, 1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270
EPA 365.1 Rev. 2.0	03/09/2016	03/17/2016	Christopher Armour	03/18/2016	Lipi Saha	1778261, 1778262, 1778263, 1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270
EPA 365.1 Rev. 2.0 dissolved	03/09/2016 03/09/2016 03/09/2016 03/09/2016 03/09/2016 03/09/2016 03/09/2016 03/09/2016 03/09/2016 03/09/2016			03/09/2016 12:48 03/09/2016 13:27 03/09/2016 13:28 03/09/2016 13:29 03/09/2016 13:30 03/09/2016 13:31 03/09/2016 13:32 03/09/2016 13:37 03/09/2016 13:38	Ping Hua Ping Hua Ping Hua Ping Hua Ping Hua Ping Hua Ping Hua Ping Hua Ping Hua	1778271 1778272 1778273 1778274 1778275 1778276, 1778277 1778278 1778279 1778280
SM 2120 B	03/09/2016 03/09/2016 03/09/2016 03/09/2016 03/09/2016 03/09/2016 03/09/2016			03/10/2016 09:39 03/10/2016 09:41 03/10/2016 09:42 03/10/2016 09:43 03/10/2016 09:44 03/10/2016 09:45 03/10/2016 09:46	Rochelle Y Jackson Rochelle Y Jackson Rochelle Y Jackson Rochelle Y Jackson Rochelle Y Jackson Rochelle Y Jackson Rochelle Y Jackson	1778251, 1778252 1778253 1778254, 1778255 1778256 1778257 1778258, 1778259 1778260
SM 2320 B-97	03/09/2016			03/15/2016	Dale L. Simmons	1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260
SM 2540 C-97	03/09/2016			03/09/2016	Yijie Li	1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260
SM 2540 D-97	03/09/2016			03/09/2016	Yijie Li	1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-97	03/09/2016			03/15/2016	Dale L. Simmons	1778251, 1778252, 1778253, 1778254, 1778255, 1778256, 1778257, 1778258, 1778259, 1778260
SM 5310 B-00	03/09/2016			03/12/2016	Sofia Elnemr	1778261, 1778262, 1778263
	03/09/2016			03/14/2016	Sofia Elnemr	1778264, 1778265, 1778266, 1778267, 1778268, 1778269, 1778270