

Chemical Analysis Report

SE-DIST-2016-03-16-02

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

Event Description: **SMP_2016_Bay_weekof3/14_1 blank**

Request ID: **RQ-2016-03-14-09**

Customer: **SE-DIST**

Project ID: **SMP**

Send Reports to:

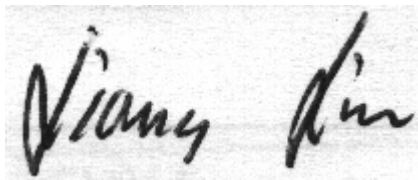
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Jordan Skaggs

For additional information please contact

Timothy W. Fitzpatrick
Liang-Tsair Lin, Ph.D.
Colin Wright, Ph.D.
Thekkekalathil Chandrasekhar, PhD, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 07-APR-2016 16:11

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored 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 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: FC-15 MIAMIA DADE, FLORIDA CITY CANAL **Collection Date/Time: 03/15/2016 08:30**

Field ID: G4SEFC15-03152016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1780298	EPA 180.1 Rev. 2.0	Turbidity	0.50		NTU	P300515	
	EPA 300.0 Rev. 2.1	Chloride	43		mg Cl/L	P300654	
		Sulfate	22		mg SO4/L	P300656	
		Color (true)	3.0	I	PCU	P300496	
	SM 2320 B-97	Total Alkalinity	207		mg CaCO3/L	P300688	
	SM 2540 C-97	TDS	292		mg/L	P301166	
	SM 2540 D-97	TSS	2	U	mg/L	P300950	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P300691	
1780300	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P300975	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28		mg N/L	P300929	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.72		mg N/L	P300736	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P300831	
	SM 5310 B-00	Organic Carbon	1.9		mg C/L	P300877	
1780302	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300512	
1780389	EPA 200.7 Rev. 4.4	Calcium	82.2		mg/L	P300898	
		Iron	30	U	ug/L	P300898	
		Magnesium	4.92		mg/L	P300898	
		Potassium	7.1		mg/L	P300898	
		Sodium	27.5		mg/L	P300898	
		Zinc	5.0	U	ug/L	P300898	
	EPA 200.8 Rev. 5.4	Arsenic	0.55		ug/L	P301173	
		Cadmium	0.020	U	ug/L	P301173	
		Chromium	0.050	U	ug/L	P301173	
		Copper	0.87		ug/L	P301415	
		Lead	0.050	U	ug/L	P301173	
		Nickel	0.73		ug/L	P301173	
		Silver	0.0050	U	ug/L	P301173	

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

EPA 365.1 Rev. 2.0: Total-P: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Sample Location: FLORIDA CITY CANAL (FC-09 MIAMI-DADE) **Collection Date/Time: 03/15/2016 08:50**

Field ID: G4SEFC09_03152016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1780299	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P300515	
	EPA 300.0 Rev. 2.1	Chloride	38		mg Cl/L	P300654	
		Sulfate	18		mg SO4/L	P300656	
		Color (true)	6.2		PCU	P300496	
	SM 2320 B-97	Total Alkalinity	173		mg CaCO3/L	P300688	
	SM 2540 C-97	TDS	253		mg/L	P301166	
	SM 2540 D-97	TSS	4	I	mg/L	P300950	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P300691	
1780301	EPA 350.1 Rev. 2.0	Ammonia-N	0.055		mg N/L	P300975	

Field ID: G4SEFC09_03152016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1780301	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P300929	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P300736	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P300831	
	SM 5310 B-00	Organic Carbon	3.5		mg C/L	P300877	
1780303	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300489	
1780390	EPA 200.7 Rev. 4.4	Calcium	67.7		mg/L	P300898	
		Iron	30	U	ug/L	P300898	
		Magnesium	4.86		mg/L	P300898	
		Potassium	6.8		mg/L	P300898	
		Sodium	24.3		mg/L	P300898	
		Zinc	5.0	U	ug/L	P300898	
	EPA 200.8 Rev. 5.4	Arsenic	0.98		ug/L	P301173	
		Cadmium	0.020	U	ug/L	P301173	
		Chromium	0.054	I	ug/L	P301173	
		Copper	0.30	I	ug/L	P301415	
		Lead	0.14	I	ug/L	P301415	
		Nickel	0.73		ug/L	P301173	
		Silver	0.0050	U	ug/L	P301173	

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

EPA 365.1 Rev. 2.0: Total-P: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Sample Location: ENRG7-8089

Collection Date/Time: 03/15/2016 11:20

Field ID: G5SE0034_03152016

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1780304	EPA 180.1 Rev. 2.0	Turbidity	0.85		NTU	P300515	
	SM 2320 B-97	Total Alkalinity	126		mg CaCO3/L	P301029	
	SM 2540 D-97	TSS	3	U	mg/L	P300957	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P301033	
1780306	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P300979	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27	I	mg N/L	P300924	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P300619	
	EPA 365.1 Rev. 2.0	Total-P	0.008	I	mg P/L	P300771	
	SM 5310 B-00	Organic Carbon	1.5	I	mg C/L	P300788	
1780308	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300492	

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: ATLANTIC OCEAN- ANGELFISH CREEK

Collection Date/Time: 03/15/2016 11:50

Field ID: 28040375_03152016

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1780305	EPA 180.1 Rev. 2.0	Turbidity	0.75		NTU	P300515	
	SM 2320 B-97	Total Alkalinity	136	A	mg CaCO3/L	P301029	

Field ID: 28040375_03152016

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1780305	SM 2540 D-97	TSS	3	U	mg/L	P300957	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P301033	
1780307	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P300979	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22	I	mg N/L	P300924	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P300619	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P300771	
	SM 5310 B-00	Organic Carbon	2.2		mg C/L	P300788	
1780309	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P300492	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P300515

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P300898

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P301173

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.050	U	ug/L
Lead	0.78		ug/L
Nickel	0.050	U	ug/L
Silver	0.0050	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P301415

Component	Result	Code	Units
Copper	0.10	U	ug/L
Lead	0.050	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P300654

Component	Result	Code	Units
-----------	--------	------	-------

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300654

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300656

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300975

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300979

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300924

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300929

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300619

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300736

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300771

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: P300831

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300489

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300492

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300512

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

Reference Method: SM 2120 B
Batch ID: P300496

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P300688

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

Reference Method: SM 2320 B-97
Batch ID: P301029

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

Reference Method: SM 2540 C-97
Batch ID: P301166

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P300950

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P300957

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P300691

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P301033

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P300788

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

Reference Method: SM 5310 B-00
Batch ID: P300877

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: P300898

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	104		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	103		P	85 - 115
Sodium	108		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P301173

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	91.3		P	85 - 115
Cadmium	92.9		P	85 - 115
Chromium	94.7		P	85 - 115
Lead	89.1		P	85 - 115
Nickel	90.0		P	85 - 115
Silver	92.4		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P301415

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Copper	92.6		P	85 - 115
Lead	95.3		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300654

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300656

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300975

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: P300979

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300924

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300929

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300619

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	98.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300736

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	104		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300771

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.1		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300831

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300489

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300492

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: P300512

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

Reference Method: SM 2320 B-97
Batch ID: P300688

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

Reference Method: SM 2320 B-97
Batch ID: P301029

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

Reference Method: SM 4500 F-C-97
Batch ID: P300691

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	94 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P301033

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.0		P	94 - 108

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P300788

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

Reference Method: SM 5310 B-00
Batch ID: P300877

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P300898

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1781183	Calcium	105	105	P/P	80 - 120
1781183	Iron	104	104	P/P	80 - 120
1781183	Magnesium	108	108	P/P	80 - 120
1781183	Potassium	107	107	P/P	80 - 120
1781183	Sodium	98.5	99.8	P/P	80 - 120
1781183	Zinc	101	103	P/P	80 - 120
1782126	Calcium	102		P	80 - 120
1782126	Iron	105		P	80 - 120
1782126	Magnesium	102		P	80 - 120
1782126	Potassium	105		P	80 - 120
1782126	Sodium	103		P	80 - 120
1782126	Zinc	103		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P301173

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1781712	Arsenic	90.1		P	80 - 120
1781712	Cadmium	91.9		P	80 - 120
1781712	Chromium	93.6		P	80 - 120
1781712	Lead	87.7		P	80 - 120
1781712	Nickel	89.5		P	80 - 120
1781712	Silver	90.0		P	80 - 120
1782128	Arsenic	94.1	93.0	P/P	80 - 120
1782128	Cadmium	95.1	93.1	P/P	80 - 120
1782128	Chromium	93.8	93.1	P/P	80 - 120
1782128	Lead	91.1	89.5	P/P	80 - 120
1782128	Nickel	88.6	87.5	P/P	80 - 120
1782128	Silver	92.0	90.2	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P301415

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780390	Copper	88.5	89.9	P/P	80 - 120
1780390	Lead	93.7	94.4	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300654

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780179	Chloride	102		P	90 - 110
1780180	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780179	Sulfate	99.6		P	90 - 110
1780180	Sulfate	99.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300979

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779894	Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300924

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780306	Kjeldahl Nitrogen	90.8	92.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300929

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780184	Kjeldahl Nitrogen	99.7	95.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300619

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780510	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780205	NO2NO3-N	91.8	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779772	Total-P	90.0	90.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300489

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780323	O-Phosphate-P	99.0	99.9	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300492

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780308	O-Phosphate-P	97.7	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780302	O-Phosphate-P	98.6	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P300691

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780201	Fluoride	99.6	101	P/P	94 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P301033

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780305	Fluoride	95.5	97.1	P/P	94 - 107

Reference Method: SM 5310 B-00
Batch ID: P300788

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1779772	Organic Carbon	92.7	95.1	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P300877

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1780107	Organic Carbon	96.4	95.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P300515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780179	Turbidity	1.53	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P300898

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1781183	Calcium	0.190	Spike	P	0 - 20
1781183	Iron	0.332	Spike	P	0 - 20
1781183	Magnesium	0.210	Spike	P	0 - 20
1781183	Potassium	0.0787	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P300898

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1781183	Sodium	0.805	Spike	P	0 - 20
1781183	Zinc	2.18	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P301173

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1782128	Arsenic	1.14	Spike	P	0 - 20
1782128	Cadmium	2.09	Spike	P	0 - 20
1782128	Chromium	0.729	Spike	P	0 - 20
1782128	Lead	1.75	Spike	P	0 - 20
1782128	Nickel	1.20	Spike	P	0 - 20
1782128	Silver	1.93	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P301415

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780390	Copper	1.60	Spike	P	0 - 20
1780390	Lead	0.749	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300654

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780179	Chloride	0.0791	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P300656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780179	Sulfate	0.628	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300975

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780182	Ammonia-N	0.0717	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P300979

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779894	Ammonia-N	1.57	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300924

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780306	Kjeldahl Nitrogen	1.31	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P300929

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780184	Kjeldahl Nitrogen	2.54	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300619

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780510	NO2NO3-N	0.866	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P300736

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780205	NO2NO3-N	6.45	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779772	Total-P	0.0821	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P300831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780183	Total-P	0.392	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300489

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780323	O-Phosphate-P	0.674	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300492

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780308	O-Phosphate-P	1.52	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780302	O-Phosphate-P	1.61	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P300496

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780311	Color (true)	0.285	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P300688

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780201	Total Alkalinity	0.0829	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P301029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780305	Total Alkalinity	0.388	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P301166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780201	TDS	2.17	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P300691

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780201	Fluoride	0.979	Spike	P	0 - 3.7

Reference Method: SM 4500 F-C-97
Batch ID: P301033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780305	Fluoride	0.986	Spike	P	0 - 3.7

Reference Method: SM 5310 B-00
Batch ID: P300788

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1779772	Organic Carbon	2.39	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P300877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1780107	Organic Carbon	0.754	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: A68261
Included Lab Sample IDs: 1780298, 1780299

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	100	P/P	90 - 110
Sulfate	100	97.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A68262
Included Lab Sample IDs: 1780303, 1780308, 1780309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	102	98.8	P/P	90 - 110
O-Phosphate-P	98.8	98.1	P/P	90 - 110
O-Phosphate-P	98.9	98.7	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A68263
Included Lab Sample IDs: 1780298, 1780299

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.1	98.1	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A68269
Included Lab Sample IDs: 1780302

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	98.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A68270
Included Lab Sample IDs: 1780298, 1780299, 1780304, 1780305

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A68281

Included Lab Sample IDs: 1780306, 1780307

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

Reference Method: SM 2320 B-97

Run ID: A68331

Included Lab Sample IDs: 1780298, 1780299

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

Reference Method: SM 4500 F-C-97

Run ID: A68331

Included Lab Sample IDs: 1780298, 1780299

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A68345

Included Lab Sample IDs: 1780300, 1780301

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

Reference Method: SM 5310 B-00

Run ID: A68366

Included Lab Sample IDs: 1780306, 1780307

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	93.2	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A68400

Included Lab Sample IDs: 1780300, 1780301

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A68408

Included Lab Sample IDs: 1780300, 1780301, 1780306, 1780307

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	100	P/P	90 - 110
Ammonia-N	101	102	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A68432

Included Lab Sample IDs: 1780304, 1780305

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A68432

Included Lab Sample IDs: 1780304, 1780305

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A68436

Included Lab Sample IDs: 1780389, 1780390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	99.8	101	P/P	90 - 110
Iron	101	99.1	P/P	90 - 110
Magnesium	102	99.8	P/P	90 - 110
Potassium	100	100	P/P	90 - 110
Sodium	99.9	104	P/P	90 - 110
Zinc	102	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A68453

Included Lab Sample IDs: 1780300, 1780301, 1780306, 1780307

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	104	P/P	90 - 110
Kjeldahl Nitrogen	104	102	P/P	90 - 110
Kjeldahl Nitrogen	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A68485

Included Lab Sample IDs: 1780300, 1780301

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A68486

Included Lab Sample IDs: 1780306, 1780307

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A68529

Included Lab Sample IDs: 1780389, 1780390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	94.3	94.1	P/P	90 - 110
Cadmium	94.9	94.7	P/P	90 - 110
Chromium	97.6	97.1	P/P	90 - 110
Lead	94.4	93.6	P/P	90 - 110
Nickel	92.8	92.2	P/P	90 - 110
Silver	92.3	91.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A68646
Included Lab Sample IDs: 1780389, 1780390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	98.3	96.3	P/P	90 - 110
Lead	98.7	98.6	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						1.53	
EPA 200.7 Rev. 4.4	Calcium	105	105	105	102			0.190
	Iron	104	104	104	105			0.332
	Magnesium	109	108	108	102			0.210
	Potassium	103	107	107	105			0.0787
	Sodium	108	98.5	99.8	103			0.805
	Zinc	102	101	103	103			2.18
EPA 200.8 Rev. 5.4	Arsenic	91.3	90.1	94.1	93.0			1.14
	Cadmium	92.9	91.9	95.1	93.1			2.09
	Chromium	94.7	93.6	93.8	93.1			0.729
	Copper	92.6	88.5	89.9				1.60
	Lead	89.1	87.7	91.1	89.5			1.75
	Lead	95.3	93.7	94.4				0.749
	Nickel	90.0	89.5	88.6	87.5			1.20
	Silver	92.4	90.0	92.0	90.2			1.93
EPA 300.0 Rev. 2.1	Chloride	104	102	101			0.0791	
	Sulfate	101	99.6	99.1			0.628	
EPA 350.1 Rev. 2.0	Ammonia-N	100						0.0717
	Ammonia-N	99.6	101	103				1.57
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	90.8	92.1				1.31
	Kjeldahl Nitrogen	99.0	99.7	95.4				2.54
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	101	102				0.866
	NO2NO3-N	104	91.8	101				6.45
EPA 365.1 Rev. 2.0	Total-P	98.1	90.0	90.1				0.0821
	Total-P	98.5						0.392
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103	99.0	99.9				0.674
	O-Phosphate-P	101	97.7	99.2				1.52
	O-Phosphate-P	102	98.6	100				1.61
SM 2120 B	Color (true)						0.285	
SM 2320 B-97	Total Alkalinity	103					0.0829	
	Total Alkalinity	103					0.388	
SM 2540 C-97	TDS						2.17	
SM 4500 F-C-97	Fluoride	99.8	99.6	101				0.979
	Fluoride	98.0	95.5	97.1				0.986
SM 5310 B-00	Organic Carbon	103	92.7	95.1				2.39
	Organic Carbon	96.7	96.4	95.2				0.754

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1780298, 1780299, 1780304, 1780305
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1780389, 1780390
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1780389, 1780390
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1780298, 1780299
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1780298, 1780299
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1780300, 1780301, 1780306, 1780307
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1780300, 1780301, 1780306, 1780307
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1780300, 1780301, 1780306, 1780307
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1780300, 1780301, 1780306, 1780307
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1780302, 1780303, 1780308, 1780309
SM 2120 B / E31780	True Color measured at 450 nm	1780298, 1780299
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1780298, 1780299, 1780304, 1780305
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1780298, 1780299
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1780298, 1780299, 1780304, 1780305
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1780298, 1780299, 1780304, 1780305
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1780300, 1780301, 1780306, 1780307

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	03/16/2016			03/16/2016 16:50	Sima Feizi	1780298, 1780299, 1780304, 1780305
EPA 200.7 Rev. 4.4	03/16/2016	03/23/2016	Elliott D. Healy	03/24/2016	Joshua Ayres	1780389, 1780390
EPA 200.8 Rev. 5.4	03/16/2016	03/28/2016	Elliott D. Healy	03/29/2016	Charles J. Peterson	1780389, 1780390
	03/16/2016	04/01/2016	Elliott D. Healy	04/04/2016	Charles J. Peterson	1780389, 1780390
EPA 300.0 Rev. 2.1	03/16/2016			03/18/2016	Ping Hua	1780298, 1780299
EPA 350.1 Rev. 2.0	03/16/2016			03/23/2016	Diana M. Turner	1780300, 1780301, 1780306, 1780307
EPA 351.2 Rev. 2.0	03/16/2016	03/24/2016	Sofia Elnemr	03/27/2016	Rochelle Y Jackson	1780300, 1780301, 1780306, 1780307
EPA 353.2 Rev. 2.0	03/16/2016			03/17/2016	Peter D. Kaus	1780306, 1780307
	03/16/2016			03/21/2016	Diana M. Turner	1780300, 1780301
EPA 365.1 Rev. 2.0	03/16/2016	03/22/2016	Christopher Armour	03/24/2016	Lipi Saha	1780306, 1780307
	03/16/2016	03/23/2016	Christopher Armour	03/25/2016	Lipi Saha	1780300, 1780301
EPA 365.1 Rev. 2.0 dissolved	03/16/2016			03/16/2016 14:03	Julia Storbeck	1780308
	03/16/2016			03/16/2016 14:41	Julia Storbeck	1780303
	03/16/2016			03/16/2016 14:53	Julia Storbeck	1780309
	03/16/2016			03/16/2016 16:15	Julia Storbeck	1780302
SM 2120 B	03/16/2016			03/16/2016 15:31	Blanca Fach	1780298
	03/16/2016			03/16/2016 15:32	Blanca Fach	1780299
SM 2320 B-97	03/16/2016			03/18/2016	Dale L. Simmons	1780298, 1780299
	03/16/2016			03/24/2016	Dale L. Simmons	1780304, 1780305
SM 2540 C-97	03/16/2016			03/21/2016	Yijie Li	1780298, 1780299
SM 2540 D-97	03/16/2016			03/21/2016	Yijie Li	1780298, 1780299, 1780304, 1780305
SM 4500 F-C-97	03/16/2016			03/18/2016	Dale L. Simmons	1780298, 1780299
	03/16/2016			03/24/2016	Dale L. Simmons	1780304, 1780305
SM 5310 B-00	03/16/2016			03/19/2016	Sofia Elnemr	1780306, 1780307
	03/16/2016			03/21/2016	Sofia Elnemr	1780300, 1780301