

Chemical Analysis Report

SE-DIST-2017-03-22-01

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

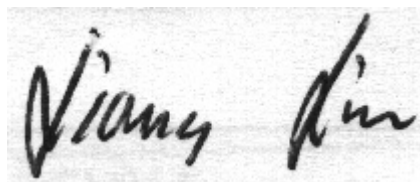
Event Description: **SMP-G5 Everglades Run**
Request ID: **RQ-2017-03-20-37**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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2199 South Rock Road
Fort Pierce, FL 34945
Attn: Matthew Sewell

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 20-APR-2017 10:37

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: EVERGLADES HOLIDAY PARK RAMP

Collection Date/Time: 03/21/2017 11:00

Field ID: HOLIDAY PARK

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1882074	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P322009	
	EPA 300.0 Rev. 2.1	Chloride	88		mg Cl/L	P322487	
		Sulfate	6.4		mg SO4/L	P322662	
	SM 2120 B	Color (true)	65		PCU	P321977	
	SM 2320 B-97	Total Alkalinity	264		mg CaCO3/L	P322416	
	SM 2540 C-97	TDS	430		mg/L	P322644	
	SM 2540 D-97	TSS	4	I	mg/L	P322623	
	SM 4500 F-C-97	Fluoride	0.32		mg F/L	P322419	
1882076	EPA 350.1 Rev. 2.0	Ammonia-N	0.47		mg N/L	P321985	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P322017	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.030		mg N/L	P322119	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P322027	
	SM 5310 B-00	Organic Carbon	20		mg C/L	P322058	
1882078	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P322003	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: WCA 2B @ S-141

Collection Date/Time: 03/21/2017 11:40

Field ID: G5SE0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1882075	EPA 180.1 Rev. 2.0	Turbidity	0.65		NTU	P322009	
	EPA 300.0 Rev. 2.1	Chloride	170		mg Cl/L	P322487	
		Sulfate	43		mg SO4/L	P322662	
	SM 2120 B	Color (true)	70		PCU	P321977	
	SM 2320 B-97	Total Alkalinity	224		mg CaCO3/L	P322416	
	SM 2540 C-97	TDS	627	A	mg/L	P322644	
	SM 2540 D-97	TSS	3	I	mg/L	P322623	
	SM 4500 F-C-97	Fluoride	0.62		mg F/L	P322419	
1882077	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P321985	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.0		mg N/L	P322017	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.018		mg N/L	P322119	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P322028	
	SM 5310 B-00	Organic Carbon	34		mg C/L	P322058	
1882079	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P322003	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: WCA1 SOUTH NPAR S-39

Collection Date/Time: 03/21/2017 12:30

Field ID: G5SE0047

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1882083	EPA 180.1 Rev. 2.0	Turbidity	0.60		NTU	P322010	
	EPA 300.0 Rev. 2.1	Chloride	110		mg Cl/L	P322487	
		Sulfate	24		mg SO4/L	P322662	

Field ID: G5SE0047

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1882083	SM 2120 B	Color (true)	66		PCU	P321977	
	SM 2320 B-97	Total Alkalinity	125		mg CaCO3/L	P322416	
	SM 2540 C-97	TDS	375		mg/L	P322644	
	SM 2540 D-97	TSS	2	U	mg/L	P322623	
	SM 4500 F-C-97	Fluoride	0.20		mg F/L	P322419	
1882085	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P321985	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P322017	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P322119	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P322028	
	SM 5310 B-00	Organic Carbon	21		mg C/L	P322058	
1882087	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P322004	
1882107	EPA 200.7 Rev. 4.4	Calcium	45.3		mg/L	P322047	
		Iron	30	U	ug/L	P322047	
		Magnesium	11.7		mg/L	P322047	
		Potassium	5.2		mg/L	P322047	
		Sodium	72.3		mg/L	P322047	
		Zinc	5.0	U	ug/L	P322047	
	EPA 200.8 Rev. 5.4	Arsenic	0.75		ug/L	P322047	
		Cadmium	0.020	U	ug/L	P322047	
		Chromium	0.40	U	ug/L	P322047	
		Copper	0.22	I	ug/L	P322047	
		Lead	0.050	U	ug/L	P322047	
		Nickel	0.20	U	ug/L	P322047	
		Silver	0.010	U	ug/L	P322047	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable because of high analyte concentration in the QC sample.

Sample Location: WCA1 L39 CANAL

Collection Date/Time: 03/21/2017 14:10

Field ID: G5SE0019

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1882084	EPA 180.1 Rev. 2.0	Turbidity	1.0	A	NTU	P322010	
	EPA 300.0 Rev. 2.1	Chloride	150		mg Cl/L	P322487	
		Sulfate	59		mg SO4/L	P322662	
		Color (true)	64		PCU	P321977	
	SM 2320 B-97	Total Alkalinity	162		mg CaCO3/L	P322416	
	SM 2540 C-97	TDS	540		mg/L	P322644	
	SM 2540 D-97	TSS	2	I	mg/L	P322623	
1882086	SM 4500 F-C-97	Fluoride	0.36		mg F/L	P322419	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P321985	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P322019	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P322119	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P322028	
	SM 5310 B-00	Organic Carbon	26		mg C/L	P322058	

Field ID: G5SE0019

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1882088	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P322004	
1882108	EPA 200.7 Rev. 4.4	Calcium	55.5		mg/L	P322047	
		Iron	30	U	ug/L	P322047	
		Magnesium	21.7		mg/L	P322047	
		Potassium	7.8		mg/L	P322047	
		Sodium	100		mg/L	P322047	
		Zinc	5.0	U	ug/L	P322047	
	EPA 200.8 Rev. 5.4	Arsenic	1.34		ug/L	P322047	
		Cadmium	0.020	U	ug/L	P322047	
		Chromium	0.40	U	ug/L	P322047	
		Copper	0.24	I	ug/L	P322047	
		Lead	0.050	U	ug/L	P322047	
		Nickel	0.20	U	ug/L	P322047	
		Silver	0.010	U	ug/L	P322047	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable because of high analyte concentration in the QC sample.

Sample Location: HILLSCAN 0.25 M SOUTH OF L-16 CANAL

Collection Date/Time: 03/21/2017 14:25

Field ID: 28010643

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1882080	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P322009	
	EPA 300.0 Rev. 2.1	Chloride	140		mg Cl/L	P322487	
		Sulfate	47		mg SO4/L	P322662	
	SM 2120 B	Color (true)	88		PCU	P321977	
	SM 2320 B-97	Total Alkalinity	262		mg CaCO3/L	P322416	
	SM 2540 C-97	TDS	573		mg/L	P322644	
	SM 2540 D-97	TSS	3	I	mg/L	P322623	
	SM 4500 F-C-97	Fluoride	0.57		mg F/L	P322419	
1882081	EPA 350.1 Rev. 2.0	Ammonia-N	0.068		mg N/L	P321985	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P322017	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P322119	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P322028	
	SM 5310 B-00	Organic Carbon	26		mg C/L	P322058	
1882082	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P322003	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: WCA1 NORTH @ G-301

Collection Date/Time: 03/21/2017 15:15

Field ID: G5SE0046

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1882089	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P322010	
	EPA 300.0 Rev. 2.1	Chloride	230		mg Cl/L	P322487	

Field ID: G5SE0046

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1882089	EPA 300.0 Rev. 2.1	Sulfate	62		mg SO4/L	P322662	
	SM 2120 B	Color (true)	76		PCU	P321977	
	SM 2320 B-97	Total Alkalinity	232		mg CaCO3/L	P322416	
	SM 2540 C-97	TDS	692		mg/L	P322645	
	SM 2540 D-97	TSS	5	I	mg/L	P322624	
	SM 4500 F-C-97	Fluoride	0.29		mg F/L	P322419	
1882090	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P321987	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P322019	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.074		mg N/L	P322119	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P322028	
	SM 5310 B-00	Organic Carbon	27		mg C/L	P322058	
1882091	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P322004	
1882109	EPA 200.7 Rev. 4.4	Calcium	83.7		mg/L	P322047	
		Iron	30	U	ug/L	P322047	
		Magnesium	22.0		mg/L	P322047	
		Potassium	10.2		mg/L	P322047	
		Sodium	150		mg/L	P322047	
		Zinc	5.0	U	ug/L	P322047	
	EPA 200.8 Rev. 5.4	Arsenic	1.43		ug/L	P322047	
		Beryllium	0.010	U	ug/L	P322047	
		Cadmium	0.024	I	ug/L	P322047	
		Chromium	0.40	U	ug/L	P322047	
		Copper	0.35	I	ug/L	P322047	
		Lead	0.050	U	ug/L	P322047	
		Nickel	0.20	U	ug/L	P322047	
		Silver	0.010	U	ug/L	P322047	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P322009

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P322010

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P322047

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: P322047

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322487

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322662

Component	Result	Code	Units
Sulfate	0.20	U	mg SO ₄ /L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321985

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321987

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322017

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322019

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322119

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322027

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322028

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322003

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322004

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

Reference Method: SM 2120 B
Batch ID: P321977

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P322416

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

Reference Method: SM 2540 C-97
Batch ID: P322644

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P322645

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P322623

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P322624

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P322419

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P322058

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: P322047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	105		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	104		P	85 - 115
Sodium	103		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P322047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	100		P	85 - 115
Beryllium	90.5		P	85 - 115
Cadmium	99.0		P	85 - 115
Chromium	98.9		P	85 - 115
Copper	98.5		P	85 - 115
Lead	99.6		P	85 - 115
Nickel	100		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P322047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Silver	90.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322487

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322662

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321985

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321987

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322017

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322019

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	108		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322119

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322027

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P322028

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P322003

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P322004

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

Reference Method: SM 2320 B-97

Batch ID: P322416

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	95 - 108

Reference Method: SM 4500 F-C-97

Batch ID: P322419

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.2		P	92 - 103

Reference Method: SM 5310 B-00

Batch ID: P322058

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P322047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881418	Iron	107	107	P/P	80 - 120
1881418	Magnesium	109		P	80 - 120
1881418	Potassium	105		P	80 - 120
1881418	Sodium	106		P	80 - 120
1881418	Zinc	102	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P322047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881418	Arsenic	105	107	P/P	80 - 120
1881418	Beryllium	101	102	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P322047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881418	Cadmium	104	107	P/P	80 - 120
1881418	Chromium	102	102	P/P	80 - 120
1881418	Copper	99.3	102	P/P	80 - 120
1881418	Lead	102	108	P/P	80 - 120
1881418	Nickel	100	102	P/P	80 - 120
1881418	Silver	92.5	92.4	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P322487

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881984	Chloride	98.1		P	90 - 110
1882053	Chloride	97.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P322662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881984	Sulfate	94.7		P	90 - 110
1882053	Sulfate	93.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P321985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881948	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P321987

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882090	Ammonia-N	104	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P322017

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882063	Kjeldahl Nitrogen	102	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P322119

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882076	NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P322027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882061	Total-P	104	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882090	Total-P	104	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882067	O-Phosphate-P	99.8	99.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322004

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882087	O-Phosphate-P	97.5	97.1	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P322419

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882329	Fluoride	100	100	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P322058

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882060	Organic Carbon	98.0	97.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P322009

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882053	Turbidity	3.42	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P322010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882084	Turbidity	1.94	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P322047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881418	Calcium	0.544	Spike	P	0 - 20
1881418	Iron	0.565	Spike	P	0 - 20
1881418	Magnesium	1.08	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P322047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881418	Potassium	0.499	Spike	P	0 - 20
1881418	Sodium	0.344	Spike	P	0 - 20
1881418	Zinc	0.398	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P322047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881418	Arsenic	2.35	Spike	P	0 - 20
1881418	Beryllium	1.15	Spike	P	0 - 20
1881418	Cadmium	3.33	Spike	P	0 - 20
1881418	Chromium	0.254	Spike	P	0 - 20
1881418	Copper	2.54	Spike	P	0 - 20
1881418	Lead	5.60	Spike	P	0 - 20
1881418	Nickel	1.87	Spike	P	0 - 20
1881418	Silver	0.132	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322487

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881984	Chloride	0.0129	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881984	Sulfate	3.02	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881948	Ammonia-N	0.833	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321987

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882090	Ammonia-N	1.81	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882063	Kjeldahl Nitrogen	3.01	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322019

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882086	Kjeldahl Nitrogen	1.79	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882076	NO2NO3-N	1.28	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882061	Total-P	3.50	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882090	Total-P	1.96	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322003

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882067	O-Phosphate-P	0.704	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322004

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882087	O-Phosphate-P	0.411	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P321977

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882056	Color (true)	2.21	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P322416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882329	Total Alkalinity	1.50	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P322644

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882075	TDS	1.59	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P322645

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882159	TDS	1.87	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P322419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882329	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P322058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882060	Organic Carbon	0.731	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: SM 2120 B
Run ID: A75274
Included Lab Sample IDs: 1882074, 1882075, 1882080, 1882083, 1882084, 1882089

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	99.6	P/P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A75279
Included Lab Sample IDs: 1882076, 1882077, 1882081, 1882085, 1882086, 1882090

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A75279

Included Lab Sample IDs: 1882076, 1882077, 1882081, 1882085, 1882086, 1882090

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A75284

Included Lab Sample IDs: 1882078, 1882079, 1882082, 1882087, 1882088, 1882091

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	100	P/P	90 - 110
O-Phosphate-P	99.8	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A75286

Included Lab Sample IDs: 1882074, 1882075, 1882080, 1882083, 1882084, 1882089

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

Reference Method: SM 5310 B-00

Run ID: A75305

Included Lab Sample IDs: 1882076, 1882077, 1882081, 1882085, 1882086, 1882090

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.6	98.2	P/P	90 - 110
Organic Carbon	98.2	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A75325

Included Lab Sample IDs: 1882076, 1882077, 1882081, 1882085, 1882086, 1882090

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A75331

Included Lab Sample IDs: 1882076, 1882077, 1882081, 1882085, 1882086, 1882090

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.8	P/P	90 - 110
Total-P	99.8	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A75352

Included Lab Sample IDs: 1882076, 1882077, 1882081, 1882085, 1882086, 1882090

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	108	P/P	90 - 110
Kjeldahl Nitrogen	108	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A75391

Included Lab Sample IDs: 1882107, 1882108, 1882109

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	103	P/P	90 - 110
Iron	104	104	P/P	90 - 110
Magnesium	104	105	P/P	90 - 110
Potassium	103	104	P/P	90 - 110
Sodium	102	101	P/P	90 - 110
Zinc	104	104	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A75433

Included Lab Sample IDs: 1882074, 1882075, 1882080, 1882083, 1882084, 1882089

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	105	P/P	90 - 110
Total Alkalinity	105	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A75433

Included Lab Sample IDs: 1882074, 1882075, 1882080, 1882083, 1882084, 1882089

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	103	P/P	90 - 110
Fluoride	103	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A75436

Included Lab Sample IDs: 1882107, 1882108, 1882109

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	105	104	P/P	90 - 110
Beryllium	94.6	92.4	P/P	90 - 110
Cadmium	103	101	P/P	90 - 110
Chromium	104	102	P/P	90 - 110
Copper	105	104	P/P	90 - 110
Nickel	106	106	P/P	90 - 110
Silver	93.5	93.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A75467

Included Lab Sample IDs: 1882074, 1882075, 1882080, 1882083, 1882084, 1882089

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A75478

Included Lab Sample IDs: 1882107, 1882108, 1882109

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A75488

Included Lab Sample IDs: 1882074, 1882075, 1882080, 1882083, 1882084, 1882089

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	101	96.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A75854

Included Lab Sample IDs: 1882109

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	94.0	93.6	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					3.42	
	Turbidity					1.94	
EPA 200.7 Rev. 4.4	Calcium	105					0.544
	Iron	105	107	107			0.565
	Magnesium	106	109				1.08
	Potassium	104	105				0.499
	Sodium	103	106				0.344
	Zinc	102	102	102			0.398
EPA 200.8 Rev. 5.4	Arsenic	100	105	107			2.35
	Beryllium	90.5	102	101			1.15
	Cadmium	99.0	104	107			3.33
	Chromium	98.9	102	102			0.254
	Copper	98.5	99.3	102			2.54
	Lead	99.6	102	108			5.60
	Nickel	100	100	102			1.87
	Silver	90.6	92.5	92.4			0.132
EPA 300.0 Rev. 2.1	Chloride	101	98.1	97.2		0.0129	
	Sulfate	103	94.7	93.1		3.02	
EPA 350.1 Rev. 2.0	Ammonia-N	101	103	104			0.833
	Ammonia-N	102	104	102			1.81
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	109	102	105			3.01
	Kjeldahl Nitrogen	108					1.79
EPA 353.2 Rev. 2.0	NO2NO3-N	104	102	103			1.28
EPA 365.1 Rev. 2.0	Total-P	99.8	104	100			3.50
	Total-P	107	104	101			1.96
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	99.8	99.1			0.704
	O-Phosphate-P	99.5	97.5	97.1			0.411
SM 2120 B	Color (true)					2.21	
SM 2320 B-97	Total Alkalinity	105				1.50	
SM 2540 C-97	TDS					1.59	
	TDS					1.87	
SM 4500 F-C-97	Fluoride	94.2	100	100			0.0

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision
				LCS SMP MS
SM 5310 B-00	Organic Carbon	98.9	98.0 97.1	0.731

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1882107, 1882108, 1882109
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1882107, 1882108, 1882109
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1882076, 1882077, 1882081, 1882085, 1882086, 1882090
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1882076, 1882077, 1882081, 1882085, 1882086, 1882090
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1882076, 1882077, 1882081, 1882085, 1882086, 1882090
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1882076, 1882077, 1882081, 1882085, 1882086, 1882090
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1882078, 1882079, 1882082, 1882087, 1882088, 1882091
SM 2120 B / E31780	True Color measured at 450 nm	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1882076, 1882077, 1882081, 1882085, 1882086, 1882090

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	03/22/2017			03/22/2017 16:01	Blanca Fach	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
EPA 200.7 Rev. 4.4	03/22/2017	03/23/2017	Elliott D. Healy	03/27/2017	Martin Acosta	1882107, 1882108, 1882109
EPA 200.8 Rev. 5.4	03/22/2017	03/23/2017	Elliott D. Healy	03/27/2017	Betina Topolski	1882107, 1882108, 1882109
	03/22/2017	03/23/2017	Elliott D. Healy	03/30/2017	Betina Topolski	1882107, 1882108, 1882109
	03/22/2017	03/23/2017	Elliott D. Healy	04/18/2017	Robert K Palmer	1882109
EPA 300.0 Rev. 2.1	03/22/2017			03/30/2017	Ping Hua	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
	03/22/2017			04/01/2017	Ping Hua	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
EPA 350.1 Rev. 2.0	03/22/2017			03/22/2017	Julie Michelle Frank	1882076, 1882077, 1882081, 1882085, 1882086, 1882090
EPA 351.2 Rev. 2.0	03/22/2017	03/23/2017	Adrian Shelby	03/24/2017	Joseph Suarez	1882076, 1882077, 1882081, 1882085, 1882086, 1882090
EPA 353.2 Rev. 2.0	03/22/2017			03/24/2017	Beverly Y. Sanders	1882076, 1882077, 1882081, 1882085, 1882086, 1882090
EPA 365.1 Rev. 2.0	03/22/2017	03/23/2017	Adrian Shelby	03/24/2017	Lipi Saha	1882076, 1882077, 1882081, 1882085, 1882086, 1882090
EPA 365.1 Rev. 2.0 dissolved	03/22/2017			03/22/2017 14:32	Anthony C. Onicha	1882087
	03/22/2017			03/22/2017 15:07	Anthony C. Onicha	1882078
	03/22/2017			03/22/2017 15:08	Anthony C. Onicha	1882079
	03/22/2017			03/22/2017 15:09	Anthony C. Onicha	1882082, 1882088
	03/22/2017			03/22/2017 15:10	Anthony C. Onicha	1882091
SM 2120 B	03/22/2017			03/22/2017 14:33	Julia Storbeck	1882074
	03/22/2017			03/22/2017 14:34	Julia Storbeck	1882075
	03/22/2017			03/22/2017 14:35	Julia Storbeck	1882080
	03/22/2017			03/22/2017 14:36	Julia Storbeck	1882083, 1882084
	03/22/2017			03/22/2017 14:37	Julia Storbeck	1882089
SM 2320 B-97	03/22/2017			03/29/2017	Dale L. Simmons	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
SM 2540 C-97	03/22/2017			03/24/2017	Yijie Li	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
SM 2540 D-97	03/22/2017			03/24/2017	Yijie Li	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
SM 4500 F-C-97	03/22/2017			03/29/2017	Dale L. Simmons	1882074, 1882075, 1882080, 1882083, 1882084, 1882089
SM 5310 B-00	03/22/2017			03/23/2017	Julie Michelle Frank	1882076, 1882077, 1882081, 1882085, 1882086, 1882090