

Chemical Analysis Report

WQAP-2017-06-14-06

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

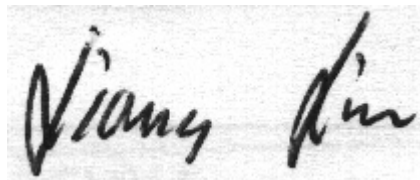
Event Description: **Merrits Mill Pond BMAP**
Request ID: **RQ-2017-06-12-67**
Customer: **WQAP**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
MS #3525
Tallahassee, FL 32399-2400
Attn: Curtis Musson

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 07-JUL-2017 11:10

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: Merritt's Mill Pond 600 Meters downstream of Jackson Blue Spring **Collection Date/Time: 06/14/2017 09:53**

Field ID: G2WA0007_06142017D

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1906416	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P326898	
	EPA 300.0 Rev. 2.1	Chloride	4.5		mg Cl/L	P327213	
		Sulfate	1.3		mg SO4/L	P327215	
	SM 2120 B	Color (true)	2.5	U	PCU	P326903	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P327364	
	SM 2540 C-97	TDS	164		mg/L	P327134	
	SM 2540 D-97	TSS	2	I	mg/L	P327463	
	SM 4500 F-C-97	Fluoride	0.036	I	mg F/L	P327062	RPD
1906421	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P326985	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.14	I	mg N/L	P327010	
	EPA 353.2 Rev. 2.0	NO2NO3-N	3.7		mg N/L	P326960	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P326980	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P327021	
1906426	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.017		mg P/L	P326931	
1906436	EPA 200.7 Rev. 4.4	Calcium	51.9		mg/L	P327071	
		Iron	30	U	ug/L	P327071	
		Magnesium	2.35		mg/L	P327071	
		Potassium	0.44	I	mg/L	P327071	
		Sodium	2.0	I	mg/L	P327071	
		Zinc	5.0	U	ug/L	P327071	
		Arsenic	0.29		ug/L	P327071	
	EPA 200.8 Rev. 5.4	Cadmium	0.020	U	ug/L	P327071	
		Chromium	1.0	I	ug/L	P327071	
		Copper	0.20	U	ug/L	P327071	
		Lead	0.050	U	ug/L	P327071	
		Nickel	0.20	U	ug/L	P327071	
		Silver	0.010	U	ug/L	P327071	

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: Merritt's Mill Pond mid under powerlines **Collection Date/Time: 06/14/2017 10:26**

Field ID: G2WA0008_06142017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1906417	EPA 180.1 Rev. 2.0	Turbidity	0.75		NTU	P326898	
	EPA 300.0 Rev. 2.1	Chloride	4.8		mg Cl/L	P327213	
		Sulfate	1.1		mg SO4/L	P327215	
	SM 2120 B	Color (true)	2.5	U	PCU	P326903	
	SM 2320 B-97	Total Alkalinity	123		mg CaCO3/L	P327364	
	SM 2540 C-97	TDS	153		mg/L	P327134	
	SM 2540 D-97	TSS	2	I	mg/L	P327463	
	SM 4500 F-C-97	Fluoride	0.037	I	mg F/L	P327062	RPD
1906422	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P326985	

Field ID: G2WA0008_06142017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1906422	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P327010	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.4		mg N/L	P326960	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P326980	
	SM 5310 B-00	Organic Carbon	0.92	I	mg C/L	P327021	
1906427	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P326931	
1906437	EPA 200.7 Rev. 4.4	Calcium	50.3		mg/L	P327071	
		Iron	30	U	ug/L	P327071	
		Magnesium	2.62		mg/L	P327071	
		Potassium	0.43	I	mg/L	P327071	
		Sodium	2.0		mg/L	P327071	
		Zinc	5.0	U	ug/L	P327071	
	EPA 200.8 Rev. 5.4	Arsenic	0.31		ug/L	P327071	
		Cadmium	0.020	U	ug/L	P327071	
		Chromium	0.65	I	ug/L	P327071	
		Copper	0.20	U	ug/L	P327071	
		Lead	0.050	U	ug/L	P327071	
		Nickel	0.20	U	ug/L	P327071	
		Silver	0.010	U	ug/L	P327071	

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: Merritt's Mill Pond 500m upstream of dam

Collection Date/Time: 06/14/2017 10:55

Field ID: G2WA0009_06142017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1906418	EPA 180.1 Rev. 2.0	Turbidity	0.45		NTU	P326898	
	EPA 300.0 Rev. 2.1	Chloride	4.5		mg Cl/L	P327213	
		Sulfate	1.1		mg SO4/L	P327215	
		Color (true)	2.5	U	PCU	P326903	
	SM 2320 B-97	Total Alkalinity	117		mg CaCO3/L	P327364	
	SM 2540 C-97	TDS	132		mg/L	P327134	
	SM 2540 D-97	TSS	2	U	mg/L	P327463	
	SM 4500 F-C-97	Fluoride	0.037	I	mg F/L	P327062	RPD
1906423	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P326985	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P327010	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.1		mg N/L	P326960	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P326980	
	SM 5310 B-00	Organic Carbon	0.99	I	mg C/L	P327021	
1906428	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P326931	
1906438	EPA 200.7 Rev. 4.4	Calcium	47.0		mg/L	P327071	
		Iron	30	U	ug/L	P327071	
		Magnesium	2.57		mg/L	P327071	
		Potassium	0.41	I	mg/L	P327071	
		Sodium	2.0	I	mg/L	P327071	
		Zinc	5.0	U	ug/L	P327071	

Field ID: G2WA0009_06142017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1906438	EPA 200.8 Rev. 5.4	Arsenic	0.32		ug/L	P327071	
		Cadmium	0.020	U	ug/L	P327071	
		Chromium	0.58	I	ug/L	P327071	
		Copper	0.20	U	ug/L	P327071	
		Lead	0.050	U	ug/L	P327071	
		Nickel	0.20	U	ug/L	P327071	
		Silver	0.010	U	ug/L	P327071	

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: Merritt's Mill Pond 600m downstream of Jackson Blue Spring

Collection Date/Time: 06/14/2017 09:44

Field ID: G2WA0007_06142017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1906419	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P326898	
	EPA 300.0 Rev. 2.1	Chloride	4.4		mg Cl/L	P327213	
		Sulfate	1.3		mg SO4/L	P327215	
		Color (true)	2.5	U	PCU	P326903	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P327364	
	SM 2540 C-97	TDS	159		mg/L	P327134	
	SM 2540 D-97	TSS	2	I	mg/L	P327463	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P327062	RPD
	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P326985	
		Kjeldahl Nitrogen	0.21		mg N/L	P327010	
1906424	EPA 353.2 Rev. 2.0	NO2NO3-N	3.7		mg N/L	P326960	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P326980	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P327021	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.018		mg P/L	P326931	
1906439	EPA 200.7 Rev. 4.4	Calcium	51.1		mg/L	P327071	
		Iron	30	U	ug/L	P327071	
		Magnesium	2.33		mg/L	P327071	
		Potassium	0.42	I	mg/L	P327071	
		Sodium	1.9	I	mg/L	P327071	
		Zinc	5.0	U	ug/L	P327071	
		Arsenic	0.27		ug/L	P327071	
	EPA 200.8 Rev. 5.4	Cadmium	0.020	U	ug/L	P327071	
		Chromium	1.1	I	ug/L	P327071	
		Copper	0.20	U	ug/L	P327071	
		Lead	0.050	U	ug/L	P327071	
		Nickel	0.20	U	ug/L	P327071	
		Silver	0.010	U	ug/L	P327071	

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: QC Blank DI Water

Collection Date/Time: 06/14/2017 10:25

Field ID: G2WA0007_06142017B

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1906420	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P326898	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P327213	
		Sulfate	0.20	U	mg SO4/L	P327215	
	SM 2120 B	Color (true)	2.5	U	PCU	P326903	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P327362	
	SM 2540 C-97	TDS	15	U	mg/L	P327131	
	SM 2540 D-97	TSS	2	U	mg/L	P327460	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P327620	RPD
1906425	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P326985	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P327010	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P327219	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P326980	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P327021	
1906430	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P326931	
1906440	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P327071	
		Iron	30	U	ug/L	P327071	
		Magnesium	0.040	U	mg/L	P327071	
		Potassium	0.30	U	mg/L	P327071	
		Sodium	0.50	U	mg/L	P327071	
		Zinc	5.0	U	ug/L	P327071	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P327071	
		Cadmium	0.020	U	ug/L	P327071	
		Chromium	0.40	U	ug/L	P327071	
		Copper	6.30		ug/L	P327071	
		Lead	0.050	U	ug/L	P327071	
		Nickel	0.20	U	ug/L	P327071	
		Silver	0.010	U	ug/L	P327071	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: The result was confirmed on 06/22/2017.

EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 06/26/2017.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P326898

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P327071

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327071

Component	Result	Code	Units
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327071

Component	Result	Code	Units
Arsenic	0.050	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: P327213

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327215

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326985

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327010

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326960

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327219

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326980

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326931

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

Reference Method: SM 2120 B
Batch ID: P326903

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P327362

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

Reference Method: SM 2320 B-97
Batch ID: P327364

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

Reference Method: SM 2540 C-97
Batch ID: P327131

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P327134

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P327460

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P327463

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P327062

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P327620

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P327021

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: P327071

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	102		P	85 - 115
Magnesium	104		P	85 - 115
Potassium	96.2		P	85 - 115
Sodium	100		P	85 - 115
Zinc	97.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327071

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	100		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	97.3		P	85 - 115
Copper	97.5		P	85 - 115
Lead	96.7		P	85 - 115
Nickel	99.7		P	85 - 115
Silver	97.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327213

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327215

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326985

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: P327010

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326960

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	106		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327219

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326980

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.6		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326931

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.8		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P327362

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P327364

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P327062

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.4		P	92 - 103

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P327620

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P327021

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	92.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327071

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906311	Calcium	95.3		P	80 - 120
1906311	Iron	102		P	80 - 120
1906311	Magnesium	98.3		P	80 - 120
1906311	Potassium	95.5		P	80 - 120
1906311	Sodium	96.3		P	80 - 120
1906311	Zinc	97.0		P	80 - 120
1906438	Calcium	100		P	80 - 120
1906438	Iron	102	102	P/P	80 - 120
1906438	Magnesium	102	101	P/P	80 - 120
1906438	Potassium	97.0	97.3	P/P	80 - 120
1906438	Sodium	100	99.3	P/P	80 - 120
1906438	Zinc	96.5	97.1	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327071

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906311	Arsenic	103		P	80 - 120
1906311	Cadmium	101		P	80 - 120
1906311	Chromium	95.5		P	80 - 120
1906311	Copper	95.5		P	80 - 120
1906311	Lead	98.2		P	80 - 120
1906311	Nickel	98.1		P	80 - 120
1906311	Silver	97.6		P	80 - 120
1906438	Arsenic	99.4	100	P/P	80 - 120
1906438	Cadmium	100	104	P/P	80 - 120
1906438	Chromium	97.1	98.6	P/P	80 - 120
1906438	Copper	94.3	95.7	P/P	80 - 120
1906438	Lead	96.9	98.4	P/P	80 - 120
1906438	Nickel	97.2	97.2	P/P	80 - 120
1906438	Silver	98.3	99.9	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327213

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: P327213

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906143	Chloride	99.2		P	90 - 110
1906231	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327215

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906143	Sulfate	95.6		P	90 - 110
1906231	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906232	Ammonia-N	100	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327010

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906404	Kjeldahl Nitrogen	97.1	98.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326960

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906282	NO2NO3-N	102		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327219

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906490	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906421	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906407	O-Phosphate-P	95.3	95.8	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P327062

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905970	Fluoride	94.5	97.9	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
 Batch ID: P327620

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908632	Fluoride	93.8	97.2	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P327021

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906017	Organic Carbon	91.2	91.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P326898

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906582	Turbidity	2.23	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P327071

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906438	Calcium	0.310	Spike	P	0 - 20
1906438	Iron	0.125	Spike	P	0 - 20
1906438	Magnesium	0.490	Spike	P	0 - 20
1906438	Potassium	0.224	Spike	P	0 - 20
1906438	Sodium	0.517	Spike	P	0 - 20
1906438	Zinc	0.620	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P327071

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906438	Arsenic	0.658	Spike	P	0 - 20
1906438	Cadmium	3.57	Spike	P	0 - 20
1906438	Chromium	1.48	Spike	P	0 - 20
1906438	Copper	1.54	Spike	P	0 - 20
1906438	Lead	1.61	Spike	P	0 - 20
1906438	Nickel	0.0394	Spike	P	0 - 20
1906438	Silver	1.62	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P327213

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906143	Chloride	0.157	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327215

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906143	Sulfate	0.556	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906232	Ammonia-N	0.787	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906404	Kjeldahl Nitrogen	0.781	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326960

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906282	NO2NO3-N	0.837	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327219

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906490	NO2NO3-N	0.482	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906421	Total-P	0.0236	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906407	O-Phosphate-P	0.481	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P326903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906401	Color (true)	1.95	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P327362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906520	Total Alkalinity	0.388	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P327364

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905970	Total Alkalinity	0.178	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P327131

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905887	TDS	5.05	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P327134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906173	TDS	3.80	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P327062

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905970	Fluoride	3.04	Spike	F	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P327620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908632	Fluoride	3.18	Spike	F	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P327021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906017	Organic Carbon	0.191	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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A77118

Included Lab Sample IDs: 1906416, 1906417, 1906418, 1906419, 1906420

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

Reference Method: SM 2120 B

Run ID: A77120

Included Lab Sample IDs: 1906416, 1906417, 1906418, 1906419, 1906420

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	95.1	97.8	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A77126

Included Lab Sample IDs: 1906426, 1906427, 1906428, 1906429, 1906430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	101	P/P	90 - 110
O-Phosphate-P	101	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77132

Included Lab Sample IDs: 1906421, 1906422, 1906423, 1906424

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A77147

Included Lab Sample IDs: 1906421, 1906422, 1906423, 1906424, 1906425

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.8	99.7	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A77157

Included Lab Sample IDs: 1906421, 1906422, 1906423, 1906424, 1906425

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.8	94.5	P/P	90 - 110
Organic Carbon	94.5	90.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A77172

Included Lab Sample IDs: 1906416, 1906417, 1906418, 1906419

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.2	96.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77178

Included Lab Sample IDs: 1906421, 1906422, 1906423, 1906424, 1906425

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77178

Included Lab Sample IDs: 1906421, 1906422, 1906423, 1906424, 1906425

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	106	P/P	90 - 110
Kjeldahl Nitrogen	106	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77182

Included Lab Sample IDs: 1906421, 1906422, 1906423, 1906424, 1906425

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	99.8	P/P	90 - 110
Total-P	99.8	99.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77183

Included Lab Sample IDs: 1906416, 1906417, 1906418, 1906419, 1906420

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	102	P/P	90 - 110
Sulfate	109	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A77213

Included Lab Sample IDs: 1906436, 1906437, 1906438, 1906439, 1906440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	101	P/P	90 - 110
Calcium	101	101	P/P	90 - 110
Calcium	101	100	P/P	90 - 110
Iron	100	100	P/P	90 - 110
Iron	100	101	P/P	90 - 110
Iron	99.4	100	P/P	90 - 110
Magnesium	100	100	P/P	90 - 110
Magnesium	100	101	P/P	90 - 110
Magnesium	99.3	100	P/P	90 - 110
Potassium	97.9	98.8	P/P	90 - 110
Potassium	98.3	98.4	P/P	90 - 110
Potassium	98.8	98.3	P/P	90 - 110
Sodium	101	99.0	P/P	90 - 110
Sodium	98.8	99.7	P/P	90 - 110
Sodium	99.7	101	P/P	90 - 110
Zinc	96.6	97.8	P/P	90 - 110
Zinc	97.8	98.3	P/P	90 - 110
Zinc	98.3	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77227

Included Lab Sample IDs: 1906425

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A77288

Included Lab Sample IDs: 1906416, 1906417, 1906418, 1906419, 1906420

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	105	P/P	90 - 110
Total Alkalinity	103	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A77390

Included Lab Sample IDs: 1906420

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.4	96.3	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77402

Included Lab Sample IDs: 1906436, 1906437, 1906438, 1906439, 1906440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	99.8	P/P	90 - 110
Arsenic	97.8	97.7	P/P	90 - 110
Arsenic	99.8	97.8	P/P	90 - 110
Cadmium	97.6	98.7	P/P	90 - 110
Cadmium	98.7	98.6	P/P	90 - 110
Cadmium	99.1	97.6	P/P	90 - 110
Chromium	93.2	97.7	P/P	90 - 110
Chromium	97.7	99.0	P/P	90 - 110
Chromium	98.3	93.2	P/P	90 - 110
Copper	101	99.2	P/P	90 - 110
Copper	97.7	98.5	P/P	90 - 110
Copper	99.2	97.7	P/P	90 - 110
Lead	95.7	96.3	P/P	90 - 110
Lead	96.3	97.3	P/P	90 - 110
Lead	97.1	95.7	P/P	90 - 110
Nickel	101	98.5	P/P	90 - 110
Nickel	98.1	98.5	P/P	90 - 110
Nickel	98.5	98.1	P/P	90 - 110
Silver	91.1	91.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77446

Included Lab Sample IDs: 1906436, 1906437, 1906440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	90.2	91.6	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			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					2.23	
EPA 200.7 Rev. 4.4	Calcium	101	95.3	100			0.310
	Iron	102	102	102	102		0.125
	Magnesium	104	98.3	102	101		0.490
	Potassium	96.2	95.5	97.0	97.3		0.224
	Sodium	100	96.3	100	99.3		0.517
	Zinc	97.5	97.0	96.5	97.1		0.620
EPA 200.8 Rev. 5.4	Arsenic	100	103	99.4	100		0.658
	Cadmium	100	101	100	104		3.57
	Chromium	97.3	95.5	97.1	98.6		1.48
	Copper	97.5	95.5	94.3	95.7		1.54
	Lead	96.7	98.2	96.9	98.4		1.61
	Nickel	99.7	98.1	97.2	97.2		0.0394
	Silver	97.6	97.6	98.3	99.9		1.62
EPA 300.0 Rev. 2.1	Chloride	101	99.2	104		0.157	
	Sulfate	99.5	95.6	103		0.556	
EPA 350.1 Rev. 2.0	Ammonia-N	102	100	99.4			0.787
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	97.1	98.1			0.781
EPA 353.2 Rev. 2.0	NO2NO3-N	106	102				0.837
	NO2NO3-N	102	104	104			0.482
EPA 365.1 Rev. 2.0	Total-P	98.6	101	101			0.0236
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.8	95.3	95.8			0.481
SM 2120 B	Color (true)					1.95	
SM 2320 B-97	Total Alkalinity	103				0.388	
	Total Alkalinity	104				0.178	
SM 2540 C-97	TDS					5.05	
	TDS					3.80	
SM 4500 F-C-97	Fluoride	99.4	94.5	97.9			3.04
	Fluoride	95.8	93.8	97.2			3.18
SM 5310 B-00	Organic Carbon	92.4	91.2	91.4			0.191

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1906416, 1906417, 1906418, 1906419, 1906420
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1906436, 1906437, 1906438, 1906439, 1906440
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1906436, 1906437, 1906438, 1906439, 1906440
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1906416, 1906417, 1906418, 1906419, 1906420
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1906416, 1906417, 1906418, 1906419, 1906420
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1906421, 1906422, 1906423, 1906424, 1906425
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1906421, 1906422, 1906423, 1906424, 1906425
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1906421, 1906422, 1906423, 1906424, 1906425
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1906421, 1906422, 1906423, 1906424, 1906425
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1906426, 1906427, 1906428, 1906429, 1906430

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2120 B / E31780	True Color measured at 450 nm	1906416, 1906417, 1906418, 1906419, 1906420
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1906416, 1906417, 1906418, 1906419, 1906420
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1906416, 1906417, 1906418, 1906419, 1906420
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1906416, 1906417, 1906418, 1906419, 1906420
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1906416, 1906417, 1906418, 1906419, 1906420
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1906421, 1906422, 1906423, 1906424, 1906425

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	06/14/2017			06/15/2017 15:04	Sima Feizi	1906416, 1906417, 1906418, 1906419, 1906420
EPA 200.7 Rev. 4.4	06/14/2017	06/19/2017	Elliott D. Healy	06/20/2017	Betina Topolski	1906436, 1906437, 1906438, 1906439, 1906440
EPA 200.8 Rev. 5.4	06/14/2017	06/19/2017	Elliott D. Healy	06/26/2017	Nadine Brooks	1906436, 1906437, 1906438, 1906439, 1906440
	06/14/2017	06/19/2017	Elliott D. Healy	06/29/2017	Nadine Brooks	1906436, 1906437, 1906440
EPA 300.0 Rev. 2.1	06/14/2017			06/20/2017	Julia Storbeck	1906416, 1906417, 1906418, 1906419, 1906420
EPA 350.1 Rev. 2.0	06/14/2017			06/16/2017	Sofia Elnemr	1906421, 1906422, 1906423, 1906424, 1906425
EPA 351.2 Rev. 2.0	06/14/2017	06/19/2017	Adrian Shelby	06/19/2017	Joseph Suarez	1906421, 1906422, 1906423, 1906424, 1906425
EPA 353.2 Rev. 2.0	06/14/2017			06/16/2017	Beverly Y. Sanders	1906421, 1906422, 1906423, 1906424
	06/14/2017			06/21/2017	Beverly Y. Sanders	1906425
EPA 365.1 Rev. 2.0	06/14/2017	06/16/2017	Vijayalakshmi Reddy	06/19/2017	Lipi Saha	1906421, 1906422, 1906423, 1906424, 1906425
EPA 365.1 Rev. 2.0 dissolved	06/14/2017			06/15/2017 15:02	Anthony C. Onicha	1906426, 1906429
	06/14/2017			06/15/2017 15:08	Anthony C. Onicha	1906427, 1906428
	06/14/2017			06/15/2017 15:09	Anthony C. Onicha	1906430
SM 2120 B	06/14/2017			06/15/2017 15:21	Tanya Welborn	1906416, 1906417
	06/14/2017			06/15/2017 15:22	Tanya Welborn	1906418
	06/14/2017			06/15/2017 15:23	Tanya Welborn	1906419
	06/14/2017			06/15/2017 15:24	Tanya Welborn	1906420
SM 2320 B-97	06/14/2017			06/21/2017	Dale L. Simmons	1906420
	06/14/2017			06/22/2017	Dale L. Simmons	1906416, 1906417, 1906418, 1906419
SM 2540 C-97	06/14/2017			06/16/2017	Yijie Li	1906416, 1906417, 1906418, 1906419, 1906420
SM 2540 D-97	06/14/2017			06/16/2017	Yijie Li	1906416, 1906417, 1906418, 1906419, 1906420
SM 4500 F-C-97	06/14/2017			06/17/2017	Elisa J Lutz	1906416, 1906417, 1906418, 1906419
	06/14/2017			06/27/2017	Dale L. Simmons	1906420
SM 5310 B-00	06/14/2017			06/16/2017	Ping Hua	1906421, 1906422, 1906423, 1906424, 1906425