Chemical Analysis Report

WQAP-2016-10-05-01

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

Event Description: **East River, St. Marks River and Chicken Branch**
Request ID: **RQ-2016-10-03-48**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
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2600 Blair Stone Rd
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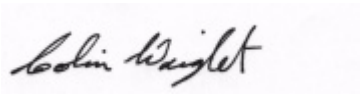
Certified by: Colin Wright, Environmental Administrator

Date Certified: 02-NOV-2016 11:46



Case Narrative

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

Results for the following analytical group are included in this report: Nutrients.

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Chicken Branch at Old Plank Rd **Collection Date/Time: 10/05/2016 08:40**

Field ID: G1WA0031_10052016 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1838567	EPA 180.1 Rev. 2.0	Turbidity	0.50		NTU	P312571	
	EPA 300.0 Rev. 2.1	Chloride	5.2		mg Cl/L	P313074	
		Sulfate	9.3		mg SO4/L	P313077	
	SM 2120 B	Color (true)	110		PCU	P312543	
	SM 2320 B-97	Total Alkalinity	109		mg CaCO3/L	P312765	
	SM 2540 C-97	TDS	146		mg/L	P313255	
	SM 2540 D-97	TSS	2	U	mg/L	P313279	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P312769	
1838569	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P313239	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.48		mg N/L	P313295	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.091		mg N/L	P312977	
	EPA 365.1 Rev. 2.0	Total-P	0.043		mg P/L	P313373	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P312845	
1838571	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.030		mg P/L	P312585	

Ref. Method and Comment:
EPA 180.1 Rev. 2.0: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Moriah Creek 100 meters upstream of Newport Rd **Collection Date/Time: 10/05/2016 09:18**

Field ID: G1WA0057_10052016 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1838568	EPA 180.1 Rev. 2.0	Turbidity	0.70	A	NTU	P312571	
	EPA 300.0 Rev. 2.1	Chloride	4.1		mg Cl/L	P313078	
		Sulfate	0.71		mg SO4/L	P313076	MS
	SM 2120 B	Color (true)	71		PCU	P312543	
	SM 2320 B-97	Total Alkalinity	197		mg CaCO3/L	P312765	
	SM 2540 C-97	TDS	227		mg/L	P313255	
	SM 2540 D-97	TSS	2	I	mg/L	P313279	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P312769	
1838570	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P313466	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P313365	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P313099	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P313373	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P312845	
1838572	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P312585	

Ref. Method and Comment:
EPA 180.1 Rev. 2.0: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 300.0 Rev. 2.1: Sulfate:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: St.Marks River at Channel Marker 60 **Collection Date/Time: 10/05/2016 10:15**

Field ID: G1WA0055_10052016 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Field ID: G1WA0055_10052016 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1838555	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P312570	
	SM 2320 B-97	Total Alkalinity	140		mg CaCO3/L	P312765	
	SM 2540 D-97	TSS	4	I	mg/L	P313282	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P312769	
1838559	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P313466	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.20	I	mg N/L	P313365	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.26		mg N/L	P313215	
	EPA 365.1 Rev. 2.0	Total-P	0.037		mg P/L	P313373	
	SM 5310 B-00	Organic Carbon	2.9		mg C/L	P312845	
1838563	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.031		mg P/L	P312585	

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: St.Marks River at Channel Marker 22 **Collection Date/Time: 10/05/2016 10:45**

Field ID: G1WA0008_10052016 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1838556	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P312570	
	SM 2320 B-97	Total Alkalinity	130	A	mg CaCO3/L	P312814	
	SM 2540 D-97	TSS	6	I	mg/L	P313282	
	SM 4500 F-C-97	Fluoride	0.35		mg F/L	P312816	
1838560	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P313469	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36	I	mg N/L	P313364	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P313014	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P313769	
	SM 5310 B-00	Organic Carbon	4.6		mg C/L	P312845	
1838564	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.021		mg P/L	P312639	

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: Mouth of East River **Collection Date/Time: 10/05/2016 11:10**

Field ID: G1WA0011_10052016 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1838557	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P312570	
	SM 2320 B-97	Total Alkalinity	118		mg CaCO3/L	P312814	
	SM 2540 D-97	TSS	7	I	mg/L	P313283	
	SM 4500 F-C-97	Fluoride	0.69		mg F/L	P312816	
1838561	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P313469	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38	I	mg N/L	P313364	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P313015	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P313769	
	SM 5310 B-00	Organic Carbon	6.3		mg C/L	P313094	
1838565	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P312639	

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: East River Downstream of Boggy Bayou **Collection Date/Time: 10/05/2016 11:30**

Field ID: G1WA0056_10052016 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1838558	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P312570	
	SM 2320 B-97	Total Alkalinity	117		mg CaCO3/L	P312814	
	SM 2540 D-97	TSS	8	I	mg/L	P313284	
	SM 4500 F-C-97	Fluoride	0.55		mg F/L	P312816	
1838562	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P313469	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.59		mg N/L	P313364	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P313015	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P313769	
	SM 5310 B-00	Organic Carbon	9.1		mg C/L	P313094	
1838566	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P312639	

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P312570

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P312571

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313074

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313076

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313077

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313078

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313239

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313466

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313469

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313295

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313364

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313365

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P312977

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313014

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313015

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313099

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313215

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313373

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313769

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312585

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312639

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

Reference Method: SM 2120 B
Batch ID: P312543

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P312765

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

Reference Method: SM 2320 B-97
Batch ID: P312814

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P313255

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P313279

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P313282

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P313283

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P313284

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P312769

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P312816

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P312845

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

Reference Method: SM 5310 B-00
Batch ID: P313094

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313074

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313076

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	93.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313077

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313078

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313239

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313466

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313469

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: P313295

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313364

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.6		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313365

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P312977

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313014

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313015

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313099

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313215

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313373

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313769

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312585

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312639

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

Reference Method: SM 2320 B-97
Batch ID: P312765

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

Reference Method: SM 2320 B-97
Batch ID: P312814

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

Reference Method: SM 4500 F-C-97
Batch ID: P312769

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P312816

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P312845

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.2		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P313094

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313074

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838310	Chloride	102		P	90 - 110
1838411	Chloride	101		P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838414	Sulfate	87.9		F	90 - 110
1838416	Sulfate	83.0		F	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313077

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838310	Sulfate	98.8		P	90 - 110
1838411	Sulfate	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313078

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838414	Chloride	97.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313239

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838493	Ammonia-N	109	108	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838570	Ammonia-N	98.2	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313469

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838560	Ammonia-N	96.9	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313295

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838466	Kjeldahl Nitrogen	96.7	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313364

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838645	Kjeldahl Nitrogen	94.3	95.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313365

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838821	Kjeldahl Nitrogen	102	111	P/F	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P312977

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838491	NO2NO3-N	106	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313014

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1837972	NO2NO3-N	101	98.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313015

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838561	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313099

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838570	NO2NO3-N	107	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313215

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1836346	NO2NO3-N	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313373

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838491	Total-P	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838560	Total-P	100	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312585

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838571	O-Phosphate-P	97.2	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312639

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838564	O-Phosphate-P	97.8	98.0	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P312769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838655	Fluoride	101	101	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P312816

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838556	Fluoride	99.4	98.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P312845

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838494	Organic Carbon	95.4	99.0	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P313094

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838561	Organic Carbon	97.0	98.9	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P312570

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838435	Turbidity	3.25	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313074

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838310	Chloride	0.732	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313076

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838414	Sulfate	7.97	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313077

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838310	Sulfate	3.14	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313078

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838414	Chloride	0.396	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838493	Ammonia-N	0.776	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838570	Ammonia-N	2.64	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838560	Ammonia-N	3.01	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313295

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838466	Kjeldahl Nitrogen	3.01	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313364

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838645	Kjeldahl Nitrogen	1.12	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838821	Kjeldahl Nitrogen	6.62	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P312977

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838491	NO2NO3-N	0.291	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1837972	NO2NO3-N	2.00	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313015

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838561	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313099

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838570	NO2NO3-N	0.445	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313215

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1836346	NO2NO3-N	0.943	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838491	Total-P	0.626	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313769

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838560	Total-P	0.601	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838571	O-Phosphate-P	1.41	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312639

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838564	O-Phosphate-P	0.168	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 2120 B
Batch ID: P312543

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838435	Color (true)	1.99	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P312765

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838655	Total Alkalinity	0.988	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P312814

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838556	Total Alkalinity	0.00655	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P313255

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838309	TDS	3.88	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P312769

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838655	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P312816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838556	Fluoride	0.473	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P312845

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838494	Organic Carbon	1.85	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P313094

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838561	Organic Carbon	1.63	Spike	P	0 - 20

Quality Assurance Report
Precision

* 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: A72039
Included Lab Sample IDs: 1838567, 1838568

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	105	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A72045
Included Lab Sample IDs: 1838555, 1838556, 1838557, 1838558, 1838567, 1838568

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A72049
Included Lab Sample IDs: 1838563, 1838571, 1838572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.7	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A72067
Included Lab Sample IDs: 1838564, 1838565, 1838566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.1	97.4	P/P	90 - 110
O-Phosphate-P	96.8	99.8	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A72105
Included Lab Sample IDs: 1838555, 1838567, 1838568

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

Reference Method: SM 4500 F-C-97
Run ID: A72105
Included Lab Sample IDs: 1838555, 1838567, 1838568

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

Reference Method: SM 2320 B-97
Run ID: A72127
Included Lab Sample IDs: 1838556, 1838557, 1838558

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

Quality Assurance Report
Calibration Verification

Reference Method: SM 4500 F-C-97
Run ID: A72127
Included Lab Sample IDs: 1838556, 1838557, 1838558

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.0	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A72136
Included Lab Sample IDs: 1838559, 1838560, 1838569, 1838570

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A72155
Included Lab Sample IDs: 1838569

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A72181
Included Lab Sample IDs: 1838560, 1838561, 1838562

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A72200
Included Lab Sample IDs: 1838567, 1838568

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	98.9	P/P	90 - 110
Chloride	96.9	97.8	P/P	90 - 110
Sulfate	101	99.0	P/P	90 - 110
Sulfate	100	98.2	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A72203
Included Lab Sample IDs: 1838561, 1838562

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	98.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A72206
Included Lab Sample IDs: 1838570

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A72235
Included Lab Sample IDs: 1838559

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A72241
Included Lab Sample IDs: 1838569

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A72311
Included Lab Sample IDs: 1838559, 1838560, 1838561, 1838562, 1838570

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	98.9	P/P	90 - 110
Ammonia-N	98.6	97.3	P/P	90 - 110
Ammonia-N	98.9	100	P/P	90 - 110
Ammonia-N	99.0	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A72339
Included Lab Sample IDs: 1838569

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A72345
Included Lab Sample IDs: 1838559, 1838569, 1838570

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A72366
Included Lab Sample IDs: 1838559, 1838560, 1838561, 1838562, 1838570

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.8	98.2	P/P	90 - 110
Kjeldahl Nitrogen	97.4	96.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A72440
Included Lab Sample IDs: 1838560, 1838561, 1838562

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	98.2	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		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					3.25	
EPA 300.0 Rev. 2.1	Chloride	99.9	102	101		0.732	
	Chloride	98.0	97.5			0.396	
	Sulfate	93.9	87.9	83.0		7.97	
	Sulfate	98.0	98.8	98.4		3.14	
EPA 350.1 Rev. 2.0	Ammonia-N	107	109	108			0.776
	Ammonia-N	106	98.2	102			2.64
	Ammonia-N	102	96.9	101			3.01
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.0	96.7	100			3.01
	Kjeldahl Nitrogen	97.6	94.3	95.8			1.12
	Kjeldahl Nitrogen	99.1	102	111			6.62
EPA 353.2 Rev. 2.0	NO2NO3-N	105	106	106			0.291
	NO2NO3-N	104	101	98.9			2.00
	NO2NO3-N	104	104	104			0.0
	NO2NO3-N	104	107	106			0.445
	NO2NO3-N	104	106	106			0.943
EPA 365.1 Rev. 2.0	Total-P	100	102	101			0.626
	Total-P	103	100	99.9			0.601
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	97.2	99.0			1.41
	O-Phosphate-P	104	97.8	98.0			0.168
SM 2120 B	Color (true)					1.99	
SM 2320 B-97	Total Alkalinity	103				0.988	
	Total Alkalinity	103				0.0065	
SM 2540 C-97	TDS					3.88	
SM 4500 F-C-97	Fluoride	100	101	101			0.0
	Fluoride	97.8	99.4	98.7			0.473
SM 5310 B-00	Organic Carbon	96.2	95.4	99.0			1.85
	Organic Carbon	98.8	97.0	98.9			1.63

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1838555, 1838556, 1838557, 1838558, 1838567, 1838568
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1838567, 1838568
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1838567, 1838568
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1838559, 1838560, 1838561, 1838562, 1838569, 1838570
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1838559, 1838560, 1838561, 1838562, 1838569, 1838570
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1838559, 1838560, 1838561, 1838562, 1838569, 1838570
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1838559, 1838560, 1838561, 1838562, 1838569, 1838570
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1838563, 1838564, 1838565, 1838566, 1838571, 1838572
SM 2120 B / E31780	True Color measured at 450 nm	1838567, 1838568
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1838555, 1838556, 1838557, 1838558, 1838567, 1838568
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1838567, 1838568
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1838555, 1838556, 1838557, 1838558, 1838567, 1838568

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1838555, 1838556, 1838557, 1838558, 1838567, 1838568
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1838559, 1838560, 1838561, 1838562, 1838569, 1838570

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	10/05/2016			10/05/2016 16:18	Sima Feizi	1838555, 1838556, 1838557, 1838558, 1838567, 1838568
EPA 300.0 Rev. 2.1	10/05/2016			10/13/2016	Ping Hua	1838567, 1838568
EPA 350.1 Rev. 2.0	10/05/2016			10/13/2016	Sofia Elnemr	1838569
	10/05/2016			10/18/2016	Sofia Elnemr	1838559, 1838560, 1838561, 1838562, 1838570
EPA 351.2 Rev. 2.0	10/05/2016	10/17/2016	Adrian Shelby	10/20/2016	Joseph Suarez	1838569
	10/05/2016	10/18/2016	Adrian Shelby	10/20/2016	Joseph Suarez	1838559, 1838560, 1838561, 1838562, 1838570
EPA 353.2 Rev. 2.0	10/05/2016			10/11/2016	Beverly Y. Sanders	1838569
	10/05/2016			10/12/2016	Beverly Y. Sanders	1838560, 1838561, 1838562
	10/05/2016			10/13/2016	Beverly Y. Sanders	1838570
	10/05/2016			10/14/2016	Beverly Y. Sanders	1838559
EPA 365.1 Rev. 2.0	10/05/2016	10/18/2016	Vijayalakshmi Reddy	10/20/2016	Lipi Saha	1838559, 1838569, 1838570
	10/05/2016	10/25/2016	Vijayalakshmi Reddy	10/26/2016	Lipi Saha	1838560, 1838561, 1838562
EPA 365.1 Rev. 2.0 dissolved	10/05/2016			10/05/2016 18:19	Julia Storbeck	1838571
	10/05/2016			10/05/2016 18:24	Julia Storbeck	1838563
	10/05/2016			10/05/2016 18:25	Julia Storbeck	1838572
	10/05/2016			10/06/2016 15:08	Julia Storbeck	1838564
	10/05/2016			10/06/2016 15:59	Julia Storbeck	1838565
	10/05/2016			10/06/2016 16:00	Julia Storbeck	1838566
SM 2120 B	10/05/2016			10/05/2016 17:24	Julie Michelle Frank	1838567, 1838568
SM 2320 B-97	10/05/2016			10/09/2016	Dale L. Simmons	1838555, 1838567, 1838568
	10/05/2016			10/11/2016	Dale L. Simmons	1838556, 1838557, 1838558
SM 2540 C-97	10/05/2016			10/08/2016	Yijie Li	1838567, 1838568
SM 2540 D-97	10/05/2016			10/08/2016	Yijie Li	1838555, 1838556, 1838557, 1838558, 1838567, 1838568
SM 4500 F-C-97	10/05/2016			10/09/2016	Dale L. Simmons	1838555, 1838567, 1838568
	10/05/2016			10/11/2016	Dale L. Simmons	1838556, 1838557, 1838558
SM 5310 B-00	10/05/2016			10/10/2016	Julie Michelle Frank	1838559, 1838560, 1838569, 1838570
	10/05/2016			10/13/2016	Julie Michelle Frank	1838561, 1838562