

Chemical Analysis Report

WQ-ASSESS-2017-03-21-01

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

Event Description: **St. Marks, Gulf Of Mexico**
Request ID: **RQ-2017-03-20-22**
Customer: **WQ-ASSESS**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
Division Of Water Facilities, FL DEP
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400
Attn: curtis musson

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Certified by: Colin Wright, Program Administrator

Date Certified: 13-APR-2017 11:41

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light-colored rectangular 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 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: Dickson Bay North

Collection Date/Time: 03/21/2017 09:30

Field ID: G1WA0062-03212017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881804	EPA 180.1 Rev. 2.0	Turbidity	1.7	A	NTU	P322006	
	SM 2320 B-97	Total Alkalinity	111		mg CaCO3/L	P322239	
	SM 2540 D-97	TSS	3	I	mg/L	P322628	
	SM 4500 F-C-97	Fluoride	0.92		mg F/L	P322244	
1881811	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P321983	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23	I	mg N/L	P322081	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P322044	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P322098	MS
	SM 5310 B-00	Organic Carbon	4.1		mg C/L	P321944	
1881818	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P321904	

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: Dickson Bay South

Collection Date/Time: 03/21/2017 09:49

Field ID: G1WA0063-03212017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881805	EPA 180.1 Rev. 2.0	Turbidity	5.9		NTU	P322006	
	SM 2320 B-97	Total Alkalinity	112		mg CaCO3/L	P322239	
	SM 2540 D-97	TSS	15		mg/L	P322628	
	SM 4500 F-C-97	Fluoride	0.92		mg F/L	P322244	
1881812	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P321983	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35	I	mg N/L	P321931	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P322044	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P321971	
	SM 5310 B-00	Organic Carbon	4.2		mg C/L	P322060	
1881819	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P321904	

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: 03/21/2017 11:44

Field ID: G1WA0011-03212017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881806	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P322006	
	SM 2320 B-97	Total Alkalinity	130		mg CaCO3/L	P322239	
	SM 2540 D-97	TSS	7	I	mg/L	P322628	
	SM 4500 F-C-97	Fluoride	0.60		mg F/L	P322244	
1881813	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P321983	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23	I	mg N/L	P321931	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P322044	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P321971	
	SM 5310 B-00	Organic Carbon	2.9		mg C/L	P322060	
1881820	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P321904	

Field ID: G1WA0011-03212017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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: 03/21/2017 12:01

Field ID: G1WA0056-03212017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881807	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P322006	
	SM 2320 B-97	Total Alkalinity	128		mg CaCO3/L	P322239	
	SM 2540 D-97	TSS	6	I	mg/L	P322628	
	SM 4500 F-C-97	Fluoride	0.62		mg F/L	P322244	
1881814	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P321983	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30	I	mg N/L	P321931	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.018		mg N/L	P322044	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P321971	
	SM 5310 B-00	Organic Carbon	3.1		mg C/L	P322060	
1881821	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P321904	
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: Apalachee Bay South of St. Marks River

Collection Date/Time: 03/21/2017 12:31

Field ID: G1WA0048-03212017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881808	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P322006	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P322241	
	SM 2540 D-97	TSS	3	U	mg/L	P322628	
	SM 4500 F-C-97	Fluoride	0.96		mg F/L	P322245	
1881815	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P321983	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22	I	mg N/L	P321931	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P322044	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P321971	
	SM 5310 B-00	Organic Carbon	2.8		mg C/L	P322060	
1881822	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P321904	
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: 03/21/2017 12:55

Field ID: G1WA0008-03212017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881809	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P322006	
	SM 2320 B-97	Total Alkalinity	137		mg CaCO3/L	P322241	
	SM 2540 D-97	TSS	7	I	mg/L	P322629	
	SM 4500 F-C-97	Fluoride	0.35		mg F/L	P322692	
1881816	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P321983	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	U	mg N/L	P322081	

Field ID: G1WA0008-03212017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881816	EPA 353.2 Rev. 2.0	NO2NO3-N	0.074		mg N/L	P322044	
	EPA 365.1 Rev. 2.0	Total-P	0.023	J	mg P/L	P322098	MS
	SM 5310 B-00	Organic Carbon	2.3		mg C/L	P322060	
1881823	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P321904	

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: Refer to the narrative for an explanation of QC Codes.

Sample Location: St. Marks River at Channel Marker 60

Collection Date/Time: 03/21/2017 13:29

Field ID: G1WA0055-03212017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881810	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P322006	
	SM 2320 B-97	Total Alkalinity	147		mg CaCO3/L	P322690	
	SM 2540 D-97	TSS	3	I	mg/L	P322625	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P322417	
1881817	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P321982	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.14	I	mg N/L	P322014	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.23		mg N/L	P322116	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P322024	
	SM 5310 B-00	Organic Carbon	1.4		mg C/L	P321943	
1881824	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.018		mg P/L	P321903	

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 60

Collection Date/Time: 03/21/2017 13:29

DUPLICATE

Field ID: G1WA0055-03212017D DUPLICATE

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881828	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P322006	
	SM 2320 B-97	Total Alkalinity	148		mg CaCO3/L	P322690	
	SM 2540 D-97	TSS	3	I	mg/L	P322625	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P322417	
1881829	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P321982	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P322014	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.23		mg N/L	P322116	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P322024	
	SM 5310 B-00	Organic Carbon	1.4		mg C/L	P321943	
1881830	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.019		mg P/L	P321903	

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

Collection Date/Time: 03/21/2017 13:15

Field ID: G1WA0055-03212017B

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: G1WA0055-03212017B

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1881825	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P322006	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P322690	
	SM 2540 D-97	TSS	2	U	mg/L	P322625	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P322417	
1881826	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P321982	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P322014	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P322116	
	EPA 365.1 Rev. 2.0	Total-P	0.002	I	mg P/L	P322024	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P321943	
1881827	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P321903	

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 03/30/2017.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P322006

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P321982

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P321983

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P321931

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P322014

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P322081

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322044

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322116

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P321971

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322024

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322098

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321903

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321904

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

Reference Method: SM 2320 B-97
Batch ID: P322239

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

Reference Method: SM 2320 B-97
Batch ID: P322241

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P322690

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

Reference Method: SM 2540 D-97
Batch ID: P322625

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P322628

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P322629

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P322244

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P322245

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P322417

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P322692

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P321943

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

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P321944

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

Reference Method: SM 5310 B-00
Batch ID: P322060

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321982

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321983

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321931

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322014

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322081

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322044

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: P322116

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322116

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: P321971

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322024

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322098

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321903

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321904

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

Reference Method: SM 2320 B-97
Batch ID: P322239

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

Reference Method: SM 2320 B-97
Batch ID: P322241

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

Reference Method: SM 2320 B-97
Batch ID: P322690

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P322244

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.3		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P322245

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.3		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P322417

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.6		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P322692

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P321943

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.7		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P321944

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.9		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P322060

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881817	Ammonia-N	102	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321983

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321983

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881811	Ammonia-N	106	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881815	Kjeldahl Nitrogen	90.4	93.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322014

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881838	Kjeldahl Nitrogen	94.8	94.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322081

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882432	Kjeldahl Nitrogen	98.7	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322044

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881644	NO2NO3-N	103	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881829	NO2NO3-N	98.0	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P321971

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881576	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322024

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881817	Total-P	99.0	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881816	Total-P	112	106	F/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881842	O-Phosphate-P	99.6	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321904

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881818	O-Phosphate-P	96.7	99.1	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P322244

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881572	Fluoride	95.9	96.5	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P322245

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1882599	Fluoride	95.6	97.6	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P322417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881691	Fluoride	97.3	96.1	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P322692

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1883858	Fluoride	94.3	96.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P321943

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881540	Organic Carbon	96.7	98.4	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P321944

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881554	Organic Carbon	97.9	96.7	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P322060

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1881812	Organic Carbon	97.9	98.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P322006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881804	Turbidity	11.1	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881817	Ammonia-N	2.45	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321983

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881811	Ammonia-N	1.29	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881815	Kjeldahl Nitrogen	2.72	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881838	Kjeldahl Nitrogen	0.387	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322081

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882432	Kjeldahl Nitrogen	1.70	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881644	NO2NO3-N	0.487	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881829	NO2NO3-N	1.91	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P321971

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881576	Total-P	0.742	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881817	Total-P	1.28	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881816	Total-P	5.40	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881842	O-Phosphate-P	2.18	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881818	O-Phosphate-P	2.45	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P322239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881572	Total Alkalinity	0.0349	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P322241

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882599	Total Alkalinity	0.432	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P322690

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881691	Total Alkalinity	0.179	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P322244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881572	Fluoride	0.473	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P322245

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1882599	Fluoride	1.42	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P322417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881691	Fluoride	1.01	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P322692

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1883858	Fluoride	1.47	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P321943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881540	Organic Carbon	0.896	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P321944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881554	Organic Carbon	1.18	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P322060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1881812	Organic Carbon	0.368	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 365.1 Rev. 2.0 dissolved

Run ID: A75242

Included Lab Sample IDs: 1881818, 1881819, 1881820, 1881821, 1881822, 1881823, 1881824, 1881827, 1881830

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	99.8	P/P	90 - 110
O-Phosphate-P	98.8	98.1	P/P	90 - 110
O-Phosphate-P	99.8	98.8	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A75258

Included Lab Sample IDs: 1881811, 1881817, 1881826, 1881829

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.3	94.7	P/P	90 - 110
Organic Carbon	96.1	96.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A75279

Included Lab Sample IDs: 1881811, 1881812, 1881813, 1881814, 1881815, 1881816, 1881817, 1881826, 1881829

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A75286

Included Lab Sample IDs: 1881804, 1881805, 1881806, 1881807, 1881808, 1881809, 1881810, 1881825, 1881828

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A75295

Included Lab Sample IDs: 1881811, 1881812, 1881813, 1881814, 1881815, 1881816

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A75299

Included Lab Sample IDs: 1881812, 1881813, 1881814, 1881815

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A75304

Included Lab Sample IDs: 1881812, 1881813, 1881814, 1881815

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.2	92.9	P/P	90 - 110
Kjeldahl Nitrogen	92.4	94.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A75305

Included Lab Sample IDs: 1881812, 1881813, 1881814, 1881815, 1881816

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.8	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A75324

Included Lab Sample IDs: 1881817, 1881826, 1881829

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.1	106	P/P	90 - 110
Kjeldahl Nitrogen	98.5	95.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A75325

Included Lab Sample IDs: 1881817, 1881826, 1881829

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A75331

Included Lab Sample IDs: 1881817, 1881826, 1881829

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A75378

Included Lab Sample IDs: 1881804, 1881805, 1881806, 1881807, 1881808, 1881809

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	106	P/P	90 - 110
Total Alkalinity	106	104	P/P	90 - 110
Total Alkalinity	106	105	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A75378

Included Lab Sample IDs: 1881804, 1881805, 1881806, 1881807, 1881808

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.0	96.7	P/P	90 - 110
Fluoride	97.0	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A75381

Included Lab Sample IDs: 1881811, 1881816

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A75386

Included Lab Sample IDs: 1881811, 1881816

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.8	96.6	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A75433

Included Lab Sample IDs: 1881810, 1881825, 1881828

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	100	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A75542

Included Lab Sample IDs: 1881810, 1881825, 1881828

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A75542

Included Lab Sample IDs: 1881809

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	97.5	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				11.1	
EPA 350.1 Rev. 2.0	Ammonia-N	100	102 98.5			2.45
	Ammonia-N	98.6	106 105			1.29
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.7	90.4 93.1			2.72
	Kjeldahl Nitrogen	101	94.8 94.2			0.387
	Kjeldahl Nitrogen	101	98.7 101			1.70
EPA 353.2 Rev. 2.0	NO2NO3-N	104	103 102			0.487
	NO2NO3-N	104	98.0 101			1.91
EPA 365.1 Rev. 2.0	Total-P	101	101 101			0.742
	Total-P	99.6	99.0 100			1.28
	Total-P	101	112 106			5.40
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.8	99.6 102			2.18
	O-Phosphate-P	99.1	96.7 99.1			2.45
SM 2320 B-97	Total Alkalinity	104			0.0349	
	Total Alkalinity	104			0.432	
	Total Alkalinity	104			0.179	
SM 4500 F-C-97	Fluoride	95.3	95.9 96.5			0.473
	Fluoride	94.3	95.6 97.6			1.42

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 4500 F-C-97	Fluoride	95.6	97.3	96.1		1.01
	Fluoride	96.4	94.3	96.7		1.47
SM 5310 B-00	Organic Carbon	98.7	96.7	98.4		0.896
	Organic Carbon	99.9	97.9	96.7		1.18
	Organic Carbon	99.2	97.9	98.3		0.368

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1881804, 1881805, 1881806, 1881807, 1881808, 1881809, 1881810, 1881825, 1881828
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1881811, 1881812, 1881813, 1881814, 1881815, 1881816, 1881817, 1881826, 1881829
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1881811, 1881812, 1881813, 1881814, 1881815, 1881816, 1881817, 1881826, 1881829
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1881811, 1881812, 1881813, 1881814, 1881815, 1881816, 1881817, 1881826, 1881829
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1881811, 1881812, 1881813, 1881814, 1881815, 1881816, 1881817, 1881826, 1881829
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1881818, 1881819, 1881820, 1881821, 1881822, 1881823, 1881824, 1881827, 1881830
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1881804, 1881805, 1881806, 1881807, 1881808, 1881809, 1881810, 1881825, 1881828
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1881804, 1881805, 1881806, 1881807, 1881808, 1881809, 1881810, 1881825, 1881828
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1881804, 1881805, 1881806, 1881807, 1881808, 1881809, 1881810, 1881825, 1881828
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1881811, 1881812, 1881813, 1881814, 1881815, 1881816, 1881817, 1881826, 1881829

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	03/21/2017			03/22/2017 16:01	Blanca Fach	1881804, 1881805, 1881806, 1881807, 1881808, 1881809, 1881810, 1881825, 1881828
EPA 350.1 Rev. 2.0	03/21/2017			03/22/2017	Julie Michelle Frank	1881811, 1881812, 1881813, 1881814, 1881815, 1881816, 1881817, 1881826, 1881829
EPA 351.2 Rev. 2.0	03/21/2017	03/22/2017	Adrian Shelby	03/23/2017	Joseph Suarez	1881812, 1881813, 1881814, 1881815
		03/23/2017	Adrian Shelby	03/24/2017	Joseph Suarez	1881817, 1881826, 1881829
		03/24/2017	Adrian Shelby	03/27/2017	Joseph Suarez	1881811, 1881816
EPA 353.2 Rev. 2.0	03/21/2017			03/23/2017	Beverly Y. Sanders	1881811, 1881812, 1881813, 1881814, 1881815, 1881816
	03/21/2017			03/24/2017	Beverly Y. Sanders	1881817, 1881826, 1881829
EPA 365.1 Rev. 2.0	03/21/2017	03/22/2017	Vijayalakshmi Reddy	03/23/2017	Lipi Saha	1881812, 1881813, 1881814, 1881815
		03/23/2017	Adrian Shelby	03/24/2017	Lipi Saha	1881817, 1881826, 1881829
		03/24/2017	Vijayalakshmi Reddy	03/27/2017	Lipi Saha	1881811, 1881816
EPA 365.1 Rev. 2.0 dissolved	03/21/2017			03/21/2017 16:03	Julia Storbeck	1881818
	03/21/2017			03/21/2017 16:10	Julia Storbeck	1881824, 1881827
	03/21/2017			03/21/2017 16:11	Julia Storbeck	1881830
	03/21/2017			03/21/2017 16:15	Julia Storbeck	1881819
	03/21/2017			03/21/2017 16:16	Julia Storbeck	1881820, 1881821
	03/21/2017			03/21/2017 16:17	Julia Storbeck	1881822
	03/21/2017			03/21/2017 16:22	Julia Storbeck	1881823
SM 2320 B-97	03/21/2017			03/24/2017	Dale L. Simmons	1881804
	03/21/2017			03/25/2017	Dale L. Simmons	1881805, 1881806, 1881807, 1881808, 1881809
	03/21/2017			03/31/2017	Dale L. Simmons	1881810, 1881825, 1881828
SM 2540 D-97	03/21/2017			03/24/2017	Yijie Li	1881804, 1881805, 1881806, 1881807, 1881808, 1881809, 1881810, 1881825, 1881828
SM 4500 F-C-97	03/21/2017			03/24/2017	Dale L. Simmons	1881804, 1881805, 1881806, 1881807
	03/21/2017			03/25/2017	Dale L. Simmons	1881808
	03/21/2017			03/28/2017	Dale L. Simmons	1881810, 1881825, 1881828
	03/21/2017			03/30/2017	Dale L. Simmons	1881809
SM 5310 B-00	03/21/2017			03/22/2017	Christopher Armour	1881811, 1881817, 1881826, 1881829
	03/21/2017			03/23/2017	Julie Michelle Frank	1881812, 1881813, 1881814, 1881815, 1881816