

Chemical Analysis Report

SO-DIST-2019-02-15-01

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

Event Description: **GOM**
Request ID: **RQ-2019-02-11-34**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: Maryann Dugan

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 05-MAR-2019 14:43

A handwritten signature in black ink, appearing to read "Liang Lin", is shown 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 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 by the Florida Department of Health Environmental Laboratory Certification Program 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: 3259M-ENRE8 Tripod Key

Collection Date/Time: 02/14/2019 10:55

Field ID: G1SD0054

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2062775	EPA 180.1 Rev. 2.0	Turbidity	10		NTU	P359010	
	EPA 300.0	Bromide	70		mg Br/L	P359658	
	SM 2320 B-97	Total Alkalinity	132		mg CaCO3/L	P359386	
	SM 2540 D-97	TSS	16		mg/L	P359297	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P359395	
2062781	EPA 350.1 Rev. 2.0	Ammonia-N	0.075		mg N/L	P359376	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P359085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P359217	
	EPA 365.1 Rev. 2.0	Total-P	0.047		mg P/L	P359093	
	SM 5310 B-00	Organic Carbon	3.7		mg C/L	P359407	
2062787	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.018		mg P/L	P359024	

Sample Location: 3259M-ENRE8 Tripod Key

Collection Date/Time: 02/14/2019 11:00

Field ID: FB_02142019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2062766	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P359010	
	EPA 300.0	Bromide	0.013	U	mg Br/L	P359658	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P359382	
	SM 2540 D-97	TSS	2	U	mg/L	P359438	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P359389	
2062769	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P359241	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P359086	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P359356	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P359091	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P359416	
2062772	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P359023	

Ref. Method and Comment:

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: ENRE 8 Off Shell Key

Collection Date/Time: 02/14/2019 11:15

Field ID: G1SD0076

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2062776	EPA 180.1 Rev. 2.0	Turbidity	9.2		NTU	P359010	
	EPA 300.0	Bromide	72		mg Br/L	P359658	
	SM 2320 B-97	Total Alkalinity	138		mg CaCO3/L	P359386	
	SM 2540 D-97	TSS	14		mg/L	P359297	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P359395	
2062782	EPA 350.1 Rev. 2.0	Ammonia-N	0.050		mg N/L	P359376	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P359085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P359217	
	EPA 365.1 Rev. 2.0	Total-P	0.049		mg P/L	P359093	
	SM 5310 B-00	Organic Carbon	4.3		mg C/L	P359407	
2062788	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P359024	

Sample Location: ENRE 6 Site 2

Collection Date/Time: 02/14/2019 11:30

Field ID: G1SD0077

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2062767	EPA 180.1 Rev. 2.0	Turbidity	9.9		NTU	P359010	
	EPA 300.0	Bromide	72		mg Br/L	P359658	
	SM 2320 B-97	Total Alkalinity	131		mg CaCO3/L	P359386	
	SM 2540 D-97	TSS	16		mg/L	P359297	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P359395	
2062770	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P359376	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39	I	mg N/L	P359085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P359217	
	EPA 365.1 Rev. 2.0	Total-P	0.038		mg P/L	P359093	
	SM 5310 B-00	Organic Carbon	3.9		mg C/L	P359407	
2062773	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.011		mg P/L	P359024	

Sample Location: ENRE 6

Collection Date/Time: 02/14/2019 11:50

Field ID: G1SD0065

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2062768	EPA 180.1 Rev. 2.0	Turbidity	7.7		NTU	P359010	
	EPA 300.0	Bromide	72		mg Br/L	P359658	
	SM 2320 B-97	Total Alkalinity	130		mg CaCO3/L	P359386	
	SM 2540 D-97	TSS	13		mg/L	P359297	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P359395	
2062771	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P359376	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P359085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P359217	
	EPA 365.1 Rev. 2.0	Total-P	0.037		mg P/L	P359093	
	SM 5310 B-00	Organic Carbon	3.9		mg C/L	P359407	
2062774	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.011		mg P/L	P359024	

Sample Location: ENRE 2 Big Marco Pass

Collection Date/Time: 02/14/2019 13:00

Field ID: G1SD0078

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2062777	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P359011	
	EPA 300.0	Bromide	74		mg Br/L	P359658	
	SM 2320 B-97	Total Alkalinity	119		mg CaCO3/L	P359386	
	SM 2540 D-97	TSS	14		mg/L	P359297	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P359395	
2062783	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P359376	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I	mg N/L	P359085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P359217	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P359093	
	SM 5310 B-00	Organic Carbon	2.4		mg C/L	P359407	
2062789	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P359024	

Sample Location: ENRE 2 North Site

Collection Date/Time: 02/14/2019 13:25

Field ID: G1SD0079

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2062778	EPA 180.1 Rev. 2.0	Turbidity	17	A	NTU	P359011	
	EPA 300.0	Bromide	74		mg Br/L	P359658	
	SM 2320 B-97	Total Alkalinity	119		mg CaCO3/L	P359386	
	SM 2540 D-97	TSS	18		mg/L	P359297	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P359395	
2062784	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P359376	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37	I	mg N/L	P359085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P359217	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P359093	
	SM 5310 B-00	Organic Carbon	2.5		mg C/L	P359407	
2062790	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P359024	

Sample Location: ENRE 2

Collection Date/Time: 02/14/2019 13:35

Field ID: G1SD0066

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2062779	EPA 180.1 Rev. 2.0	Turbidity	25	A	NTU	P359010	
	EPA 300.0	Bromide	74		mg Br/L	P359658	
	SM 2320 B-97	Total Alkalinity	119		mg CaCO3/L	P359386	
	SM 2540 D-97	TSS	28		mg/L	P359297	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P359395	
2062785	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P359345	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P359085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P359217	
	EPA 365.1 Rev. 2.0	Total-P	0.056		mg P/L	P359093	
	SM 5310 B-00	Organic Carbon	3.0		mg C/L	P359419	
2062791	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P359024	

Sample Location: ENRE 2 Site 2

Collection Date/Time: 02/14/2019 13:50

Field ID: G1SD0080

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2062780	EPA 180.1 Rev. 2.0	Turbidity	8.9		NTU	P359011	
	EPA 300.0	Bromide	76		mg Br/L	P359658	
	SM 2320 B-97	Total Alkalinity	119		mg CaCO3/L	P359386	
	SM 2540 D-97	TSS	16	A	mg/L	P359297	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P359395	
2062786	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P359345	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I	mg N/L	P359085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P359217	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P359093	
	SM 5310 B-00	Organic Carbon	1.2		mg C/L	P359685	
2062792	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P359024	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P359010

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P359011

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P359658

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359241

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359345

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359376

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359085

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359086

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359217

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: P359356

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359091

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359093

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359023

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359024

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

Reference Method: SM 2320 B-97
Batch ID: P359382

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

Reference Method: SM 2320 B-97
Batch ID: P359386

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

Reference Method: SM 2540 D-97
Batch ID: P359297

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P359438

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P359389

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P359395

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P359407

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

Reference Method: SM 5310 B-00
Batch ID: P359416

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

Reference Method: SM 5310 B-00
Batch ID: P359419

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

Reference Method: SM 5310 B-00
Batch ID: P359685

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0
Batch ID: P359658

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359241

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359345

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359376

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359085

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359086

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: P359217

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359356

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359091

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359093

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359023

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359024

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

Reference Method: SM 2320 B-97
Batch ID: P359382

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P359386

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P359389

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P359395

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P359407

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.2		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P359416

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P359419

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.2		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P359685

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P359658

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062993	Bromide	100	100	P/P	90 - 110
2062994	Bromide	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359241

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062748	Ammonia-N	105	107	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359345

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062785	Ammonia-N	102	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359376

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062649	Ammonia-N	104	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359085

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062771	Kjeldahl Nitrogen	97.5	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359086

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062800	Kjeldahl Nitrogen	101	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359217

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062845	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359356

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062702	NO2NO3-N	97.5	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062944	Total-P	102	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359093

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062770	Total-P	97.4	92.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062801	O-Phosphate-P	93.9	94.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359024

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062842	O-Phosphate-P	94.0	95.5	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P359395

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062546	Fluoride	96.7	96.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P359407

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062132	Organic Carbon	97.3	96.9	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P359416

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062702	Organic Carbon	96.6	96.4	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P359419

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062785	Organic Carbon	96.2	96.6	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P359685

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062786	Organic Carbon	98.5	99.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P359010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062779	Turbidity	14.5	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P359011

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062778	Turbidity	2.33	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P359658

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062993	Bromide	0.0576	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359241

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062748	Ammonia-N	1.53	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359345

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062785	Ammonia-N	2.22	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359376

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062649	Ammonia-N	0.858	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062771	Kjeldahl Nitrogen	2.37	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062800	Kjeldahl Nitrogen	2.68	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359217

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062845	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062702	NO2NO3-N	0.323	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062944	Total-P	1.82	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359093

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062770	Total-P	5.25	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062801	O-Phosphate-P	0.954	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062842	O-Phosphate-P	1.58	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P359382

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062955	Total Alkalinity	0.238	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P359386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062546	Total Alkalinity	0.674	Sample	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 2540 D-97
Batch ID: P359297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062780	TSS	7.59	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P359389

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062955	Fluoride	0.470	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P359395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062546	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P359407

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062132	Organic Carbon	0.328	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P359416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062702	Organic Carbon	0.221	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P359419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062785	Organic Carbon	0.337	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P359685

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062786	Organic Carbon	0.541	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A89446

Included Lab Sample IDs: 2062766, 2062767, 2062768, 2062775, 2062776, 2062777, 2062778, 2062779, 2062780

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A89450

Included Lab Sample IDs: 2062772, 2062773, 2062774, 2062787, 2062788, 2062789, 2062790, 2062791, 2062792

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.5	98.6	P/P	90 - 110
O-Phosphate-P	98.6	98.2	P/P	90 - 110
O-Phosphate-P	98.9	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89505

Included Lab Sample IDs: 2062769

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89525

Included Lab Sample IDs: 2062770, 2062771, 2062781, 2062782, 2062783, 2062784, 2062785, 2062786

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A89532

Included Lab Sample IDs: 2062769, 2062770, 2062771, 2062781, 2062782, 2062783, 2062784, 2062785, 2062786

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	98.8	P/P	90 - 110
Total-P	98.8	99.0	P/P	90 - 110
Total-P	99.0	98.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A89534

Included Lab Sample IDs: 2062769

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89541

Included Lab Sample IDs: 2062770, 2062771, 2062781, 2062782, 2062783, 2062784, 2062785, 2062786

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A89577

Included Lab Sample IDs: 2062785, 2062786

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89586

Included Lab Sample IDs: 2062769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A89592

Included Lab Sample IDs: 2062770, 2062771, 2062781, 2062782, 2062783, 2062784

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

Reference Method: SM 2320 B-97

Run ID: A89593

Included Lab Sample IDs: 2062766, 2062767, 2062768, 2062775, 2062776, 2062777, 2062778, 2062779, 2062780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.6	P/P	90 - 110
Total Alkalinity	99.7	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A89593

Included Lab Sample IDs: 2062766, 2062767, 2062768, 2062775, 2062776, 2062777, 2062778, 2062779, 2062780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	98.6	P/P	90 - 110
Fluoride	99.0	99.5	P/P	90 - 110
Fluoride	99.5	99.0	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A89598

Included Lab Sample IDs: 2062770, 2062771, 2062781, 2062782, 2062783, 2062784

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.4	96.8	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A89603

Included Lab Sample IDs: 2062769, 2062785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.5	93.5	P/P	90 - 110
Organic Carbon	93.5	94.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0

Run ID: A89711

Included Lab Sample IDs: 2062766, 2062767, 2062768, 2062775, 2062776, 2062777, 2062778, 2062779, 2062780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	102	103	P/P	90 - 110
Bromide	103	105	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A89721

Included Lab Sample IDs: 2062786

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.0	94.4	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	MS
EPA 180.1 Rev. 2.0	Turbidity					14.5	
	Turbidity					2.33	
EPA 300.0	Bromide	107	100	100	102		0.0576
EPA 350.1 Rev. 2.0	Ammonia-N	99.9	105	107			1.53
	Ammonia-N	98.9	102	105			2.22
	Ammonia-N	98.9	104	103			0.858
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	97.5	100			2.37
	Kjeldahl Nitrogen	105	101	105			2.68
EPA 353.2 Rev. 2.0	NO2NO3-N	101	101	101			0.0
	NO2NO3-N	99.0	97.5	97.0			0.323
EPA 365.1 Rev. 2.0	Total-P	103	102	104			1.82
	Total-P	104	97.4	92.2			5.25
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.9	93.9	94.8			0.954
	O-Phosphate-P	101	94.0	95.5			1.58
SM 2320 B-97	Total Alkalinity	102				0.238	
	Total Alkalinity	101				0.674	
SM 2540 D-97	TSS					7.59	
SM 4500 F-C-97	Fluoride	96.9					0.470
	Fluoride	96.9	96.7	96.7			0.0
SM 5310 B-00	Organic Carbon	98.2	97.3	96.9			0.328
	Organic Carbon	96.2	96.6	96.4			0.221
	Organic Carbon	97.2	96.2	96.6			0.337
	Organic Carbon	95.9	98.5	99.0			0.541

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2062766, 2062767, 2062768, 2062775, 2062776, 2062777, 2062778, 2062779, 2062780
EPA 300.0 / E31780	Bromide in aqueous matrices	2062766, 2062767, 2062768, 2062775, 2062776, 2062777, 2062778, 2062779, 2062780
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2062769, 2062770, 2062771, 2062781, 2062782, 2062783, 2062784, 2062785, 2062786
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2062769, 2062770, 2062771, 2062781, 2062782, 2062783, 2062784, 2062785, 2062786
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2062769, 2062770, 2062771, 2062781, 2062782, 2062783, 2062784, 2062785, 2062786
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2062769, 2062770, 2062771, 2062781, 2062782, 2062783, 2062784, 2062785, 2062786
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2062772, 2062773, 2062774, 2062787, 2062788, 2062789, 2062790, 2062791, 2062792
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2062766, 2062767, 2062768, 2062775, 2062776, 2062777, 2062778, 2062779, 2062780
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2062766, 2062767, 2062768, 2062775, 2062776, 2062777, 2062778, 2062779, 2062780
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2062766, 2062767, 2062768, 2062775, 2062776, 2062777, 2062778, 2062779, 2062780

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2062769, 2062770, 2062771, 2062781, 2062782, 2062783, 2062784, 2062785, 2062786

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	02/15/2019			02/15/2019 16:26	Adrian Shelby	2062766, 2062767, 2062768, 2062775, 2062776, 2062777, 2062778, 2062779, 2062780
EPA 300.0	02/15/2019			02/27/2019 22:01	Lipi Saha	2062766
	02/15/2019			02/27/2019 22:18	Lipi Saha	2062767
	02/15/2019			02/27/2019 22:35	Lipi Saha	2062768
	02/15/2019			02/27/2019 22:52	Lipi Saha	2062775
	02/15/2019			02/27/2019 23:43	Lipi Saha	2062776
	02/15/2019			02/28/2019 00:00	Lipi Saha	2062777
	02/15/2019			02/28/2019 00:17	Lipi Saha	2062778
	02/15/2019			02/28/2019 00:34	Lipi Saha	2062779
	02/15/2019			02/28/2019 00:51	Lipi Saha	2062780
EPA 350.1 Rev. 2.0	02/15/2019			02/20/2019 12:44	Adrian Shelby	2062769
	02/15/2019			02/21/2019 12:15	Ping Hua	2062785
	02/15/2019			02/21/2019 12:20	Ping Hua	2062786
	02/15/2019			02/22/2019 10:38	Ping Hua	2062770
	02/15/2019			02/22/2019 10:40	Ping Hua	2062771
	02/15/2019			02/22/2019 10:41	Ping Hua	2062781
	02/15/2019			02/22/2019 10:43	Ping Hua	2062782
	02/15/2019			02/22/2019 10:44	Ping Hua	2062783
	02/15/2019			02/22/2019 10:46	Ping Hua	2062784
EPA 351.2 Rev. 2.0	02/15/2019	02/18/2019 13:50	Adrian Shelby	02/19/2019 12:18	Joseph Suarez	2062769
	02/15/2019	02/18/2019 13:50	Adrian Shelby	02/19/2019 14:50	Joseph Suarez	2062770
	02/15/2019	02/18/2019 13:50	Adrian Shelby	02/19/2019 14:51	Joseph Suarez	2062771
	02/15/2019	02/18/2019 13:50	Adrian Shelby	02/19/2019 14:56	Joseph Suarez	2062781
	02/15/2019	02/18/2019 13:50	Adrian Shelby	02/19/2019 14:57	Joseph Suarez	2062782
	02/15/2019	02/18/2019 13:50	Adrian Shelby	02/19/2019 15:02	Joseph Suarez	2062783
	02/15/2019	02/18/2019 13:50	Adrian Shelby	02/19/2019 15:04	Joseph Suarez	2062784
	02/15/2019	02/18/2019 13:50	Adrian Shelby	02/19/2019 15:05	Joseph Suarez	2062785
	02/15/2019	02/18/2019 13:50	Adrian Shelby	02/19/2019 15:07	Joseph Suarez	2062786
EPA 353.2 Rev. 2.0	02/15/2019			02/20/2019 10:50	Beverly Y. Sanders	2062770
	02/15/2019			02/20/2019 10:52	Beverly Y. Sanders	2062771
	02/15/2019			02/20/2019 10:53	Beverly Y. Sanders	2062781
	02/15/2019			02/20/2019 10:54	Beverly Y. Sanders	2062782
	02/15/2019			02/20/2019 10:55	Beverly Y. Sanders	2062783
	02/15/2019			02/20/2019 10:56	Beverly Y. Sanders	2062784
	02/15/2019			02/20/2019 10:57	Beverly Y. Sanders	2062785
	02/15/2019			02/20/2019 10:59	Beverly Y. Sanders	2062786
	02/15/2019			02/22/2019 10:10	Beverly Y. Sanders	2062769
EPA 365.1 Rev. 2.0	02/15/2019	02/18/2019 13:35	Sima Feizi	02/20/2019 14:21	Rosalyn Ballman	2062769

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0	02/15/2019	02/18/2019 13:35	Sima Feizi	02/20/2019 14:40	Rosalyn Ballman	2062770
	02/15/2019	02/18/2019 13:35	Sima Feizi	02/20/2019 14:41	Rosalyn Ballman	2062771
	02/15/2019	02/18/2019 13:35	Sima Feizi	02/20/2019 14:42	Rosalyn Ballman	2062781
	02/15/2019	02/18/2019 13:35	Sima Feizi	02/20/2019 14:43	Rosalyn Ballman	2062782
	02/15/2019	02/18/2019 13:35	Sima Feizi	02/20/2019 14:44	Rosalyn Ballman	2062783
	02/15/2019	02/18/2019 13:35	Sima Feizi	02/20/2019 14:45	Rosalyn Ballman	2062784
	02/15/2019	02/18/2019 13:35	Sima Feizi	02/20/2019 14:53	Rosalyn Ballman	2062785
	02/15/2019	02/18/2019 13:35	Sima Feizi	02/20/2019 14:54	Rosalyn Ballman	2062786
EPA 365.1 Rev. 2.0 dissolved	02/15/2019			02/15/2019 17:39	Jhamieka S. Greenwood	2062772
	02/15/2019			02/15/2019 18:09	Jhamieka S. Greenwood	2062790, 2062791
	02/15/2019			02/15/2019 18:10	Jhamieka S. Greenwood	2062792
	02/15/2019			02/15/2019 18:11	Jhamieka S. Greenwood	2062789
	02/15/2019			02/15/2019 18:12	Jhamieka S. Greenwood	2062773
	02/15/2019			02/15/2019 18:17	Jhamieka S. Greenwood	2062774
	02/15/2019			02/15/2019 18:18	Jhamieka S. Greenwood	2062787
	02/15/2019			02/15/2019 18:19	Jhamieka S. Greenwood	2062788
SM 2320 B-97	02/15/2019			02/21/2019 01:02	Dale L. Simmons	2062766
	02/15/2019			02/21/2019 15:24	Dale L. Simmons	2062767
	02/15/2019			02/21/2019 15:36	Dale L. Simmons	2062768
	02/15/2019			02/21/2019 15:48	Dale L. Simmons	2062775
	02/15/2019			02/21/2019 16:00	Dale L. Simmons	2062776
	02/15/2019			02/21/2019 16:12	Dale L. Simmons	2062777
	02/15/2019			02/21/2019 16:24	Dale L. Simmons	2062778
	02/15/2019			02/21/2019 16:35	Dale L. Simmons	2062779
SM 2540 D-97	02/15/2019			02/21/2019 16:47	Dale L. Simmons	2062780
	02/15/2019			02/20/2019 15:05	Mariam Hanna	2062767, 2062768, 2062775, 2062776, 2062777, 2062778, 2062779, 2062780
SM 4500 F-C-97	02/15/2019			02/20/2019 16:21	Yijie Li	2062766
	02/15/2019			02/21/2019 01:02	Dale L. Simmons	2062766
	02/15/2019			02/21/2019 10:49	Dale L. Simmons	2062767
	02/15/2019			02/21/2019 10:54	Dale L. Simmons	2062768
	02/15/2019			02/21/2019 11:39	Dale L. Simmons	2062775
	02/15/2019			02/21/2019 11:43	Dale L. Simmons	2062776
	02/15/2019			02/21/2019 11:47	Dale L. Simmons	2062777
	02/15/2019			02/21/2019 11:52	Dale L. Simmons	2062778
SM 5310 B-00	02/15/2019			02/21/2019 11:56	Dale L. Simmons	2062779
	02/15/2019			02/21/2019 12:00	Dale L. Simmons	2062780
	02/15/2019			02/23/2019 10:59	Julia Storbeck	2062770
	02/15/2019			02/23/2019 11:12	Julia Storbeck	2062771
	02/15/2019			02/23/2019 11:43	Julia Storbeck	2062781

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	02/15/2019			02/23/2019 11:58	Julia Storbeck	2062782
	02/15/2019			02/23/2019 12:11	Julia Storbeck	2062783
	02/15/2019			02/23/2019 12:27	Julia Storbeck	2062784
	02/15/2019			02/24/2019 01:25	Julia Storbeck	2062769
	02/15/2019			02/24/2019 07:28	Julia Storbeck	2062785
	02/15/2019			02/28/2019 06:14	Chelsea Hernandez	2062786