

Chemical Analysis Report

NE-DIST-2018-07-12-02

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

Event Description: **GTM NERR-Guana River SMP = 7 Sites + 1 Field Blank**
Request ID: **RQ-2018-07-09-08**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd.
MS 3560
Tallahassee, FL 32399-2400
Attn: Alicia Hogue

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: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 04-AUG-2018 13:22



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: DEP GR3

Collection Date/Time: 07/11/2018 09:03

Field ID: GTMGR3NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2006767	EPA 180.1 Rev. 2.0	Turbidity	6.0	A	NTU	P348340	
	SM 2320 B-97	Total Alkalinity	115		mg CaCO3/L	P348681	
	SM 2540 D-97	TSS	9	I	mg/L	P348620	
	SM 4500 F-C-97	Fluoride	1.0		mg F/L	P348685	
2006774	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P348725	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P348481	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P348574	
	EPA 365.1 Rev. 2.0	Total-P	0.067		mg P/L	P348591	MS
	SM 5310 B-00	Organic Carbon	8.4		mg C/L	P348459	
2006781	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.62		mg N/L	P348481	

Sample Location: DEP GR2

Collection Date/Time: 07/11/2018 09:35

Field ID: GTMGRNUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2006768	EPA 180.1 Rev. 2.0	Turbidity	7.9		NTU	P348340	
	SM 2320 B-97	Total Alkalinity	113		mg CaCO3/L	P348681	
	SM 2540 D-97	TSS	12		mg/L	P348620	
	SM 4500 F-C-97	Fluoride	0.94		mg F/L	P348685	
2006775	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P348725	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.75		mg N/L	P348481	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P348574	
	EPA 365.1 Rev. 2.0	Total-P	0.082		mg P/L	P348591	MS
	SM 5310 B-00	Organic Carbon	9.5		mg C/L	P348459	
2006782	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.59		mg N/L	P348612	

Sample Location: DEP GR1

Collection Date/Time: 07/11/2018 09:59

Field ID: GTMGR1NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2006769	EPA 180.1 Rev. 2.0	Turbidity	6.8		NTU	P348340	
	SM 2320 B-97	Total Alkalinity	116		mg CaCO3/L	P348681	
	SM 2540 D-97	TSS	10	A	mg/L	P348620	
	SM 4500 F-C-97	Fluoride	0.91		mg F/L	P348685	
2006776	EPA 350.1 Rev. 2.0	Ammonia-N	0.052		mg N/L	P348725	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P348481	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P348574	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P348591	MS
	SM 5310 B-00	Organic Carbon	12		mg C/L	P348459	
2006783	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.73		mg N/L	P348612	

Sample Location: DEP GL4

Collection Date/Time: 07/11/2018 11:10

Field ID: GTMGL4NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2006770	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P348340	
	SM 2320 B-97	Total Alkalinity	103	A	mg CaCO3/L	P348681	
	SM 2540 D-97	TSS	18		mg/L	P348617	
	SM 4500 F-C-97	Fluoride	0.59		mg F/L	P348685	
2006777	EPA 350.1 Rev. 2.0	Ammonia-N	0.084		mg N/L	P348725	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P348481	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P348574	
	EPA 365.1 Rev. 2.0	Total-P	0.060		mg P/L	P348591	MS
	SM 5310 B-00	Organic Carbon	20		mg C/L	P348459	
2006784	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.4		mg N/L	P348612	

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: DEP GL3

Collection Date/Time: 07/11/2018 11:45

Field ID: GTMLMNUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2006771	EPA 180.1 Rev. 2.0	Turbidity	20	A	NTU	P348341	
	SM 2320 B-97	Total Alkalinity	108		mg CaCO3/L	P348512	
	SM 2540 D-97	TSS	24		mg/L	P348617	
	SM 4500 F-C-97	Fluoride	0.43		mg F/L	P348516	
2006778	EPA 350.1 Rev. 2.0	Ammonia-N	0.25		mg N/L	P348775	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P348481	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.078		mg N/L	P348575	
	EPA 365.1 Rev. 2.0	Total-P	0.064		mg P/L	P348662	
	SM 5310 B-00	Organic Carbon	22		mg C/L	P348459	
2006785	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.7		mg N/L	P348612	

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: DEP GL2

Collection Date/Time: 07/11/2018 12:22

Field ID: GTMGL2NUT

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2006772	EPA 180.1 Rev. 2.0	Turbidity	15		NTU	P348341	
	SM 2320 B-97	Total Alkalinity	134		mg CaCO3/L	P348512	
	SM 2540 D-97	TSS	26		mg/L	P348617	
	SM 4500 F-C-97	Fluoride	0.27		mg F/L	P348516	
2006779	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P348777	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.0		mg N/L	P348480	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P348418	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P348582	
	SM 5310 B-00	Organic Carbon	30		mg C/L	P348458	
2006786	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	2.0		mg N/L	P348469	

Ref. Method and Comment:

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

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

Sample Location: DEP GL1

Collection Date/Time: 07/11/2018 12:50

Field ID: GTMGL1NUT

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2006773	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P348341	
	SM 2320 B-97	Total Alkalinity	130		mg CaCO3/L	P348512	
	SM 2540 D-97	TSS	2	I	mg/L	P348617	
	SM 4500 F-C-97	Fluoride	0.24		mg F/L	P348516	
2006780	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P348777	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P348480	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P348418	
	EPA 365.1 Rev. 2.0	Total-P	0.056		mg P/L	P348582	
	SM 5310 B-00	Organic Carbon	24		mg C/L	P348458	
2006787	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.1		mg N/L	P348469	

Ref. Method and Comment:

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

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

Sample Location: Field Blank

Collection Date/Time: 07/11/2018 09:03

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2006788	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P348341	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P348512	
	SM 2540 D-97	TSS	2	U	mg/L	P348617	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P348516	
2006789	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P348777	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P348568	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P348418	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P348592	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P348458	

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: P348340

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P348341

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P348725

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P348775

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P348777

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348480

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348481

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348568

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P348469

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P348481

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P348612

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P348418

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P348574

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P348575

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348582

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348591

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348592

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348662

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P348512

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

Reference Method: SM 2320 B-97
Batch ID: P348681

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

Reference Method: SM 2540 D-97
Batch ID: P348617

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P348620

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P348516

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P348685

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P348458

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

Reference Method: SM 5310 B-00
Batch ID: P348459

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: P348725

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P348775

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P348777

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: P348480

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348481

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348568

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P348469

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P348481

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P348612

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P348418

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: P348574

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: P348575

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348582

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	95.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348591

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	91.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348592

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348662

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

Reference Method: SM 2320 B-97
Batch ID: P348512

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

Reference Method: SM 2320 B-97
Batch ID: P348681

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P348516

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

Reference Method: SM 4500 F-C-97
Batch ID: P348685

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

Reference Method: SM 5310 B-00
Batch ID: P348458

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

Reference Method: SM 5310 B-00
Batch ID: P348459

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 350.1 Rev. 2.0
Batch ID: P348725

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006707	Ammonia-N	99.5	98.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P348775

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2007453	Ammonia-N	99.7	98.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P348777

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006780	Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348480

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006753	Kjeldahl Nitrogen	90.2	94.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348481

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006781	Kjeldahl Nitrogen	91.5	92.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348568

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006831	Kjeldahl Nitrogen	105	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P348481

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006781	Kjeldahl Nitrogen	91.5	92.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P348612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006784	Kjeldahl Nitrogen	94.6	98.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P348418

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006754	NO2NO3-N	100	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P348574

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006565	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P348575

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006778	NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348582

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006753	Total-P	91.5	93.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006566	Total-P	87.6	87.1	F/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348592

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006814	Total-P	109	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2007453	Total-P	99.7	91.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P348516

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006737	Fluoride	99.5	100	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P348685

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006770	Fluoride	96.3	97.1	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P348458

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006666	Organic Carbon	97.4	99.0	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P348459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2006565	Organic Carbon	96.5	97.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P348340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006767	Turbidity	2.66	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P348341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006771	Turbidity	1.49	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P348725

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006707	Ammonia-N	0.329	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P348775

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2007453	Ammonia-N	0.767	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P348777

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006780	Ammonia-N	1.12	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006753	Kjeldahl Nitrogen	2.55	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348481

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006781	Kjeldahl Nitrogen	0.475	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006831	Kjeldahl Nitrogen	2.06	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P348469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006786	Kjeldahl Nitrogen	3.64	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P348481

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006781	Kjeldahl Nitrogen	0.475	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P348612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006784	Kjeldahl Nitrogen	2.65	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P348418

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006754	NO2NO3-N	1.35	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P348574

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006565	NO2NO3-N	0.980	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P348575

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006778	NO2NO3-N	0.707	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348582

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006753	Total-P	1.79	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006566	Total-P	0.618	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348592

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006814	Total-P	7.98	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P348662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2007453	Total-P	7.09	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P348512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006737	Total Alkalinity	0.472	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P348681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006770	Total Alkalinity	0.204	Sample	P	0 - 1.6

Reference Method: SM 2540 D-97
Batch ID: P348620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006769	TSS	3.92	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P348516

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006737	Fluoride	0.519	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P348685

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006770	Fluoride	0.476	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P348458

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006666	Organic Carbon	1.05	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P348459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2006565	Organic Carbon	0.530	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: A85185

Included Lab Sample IDs: 2006767, 2006768, 2006769, 2006770, 2006771, 2006772, 2006773, 2006788

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.0	P/P	95 - 105
Turbidity	99.0	98.5	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A85220

Included Lab Sample IDs: 2006779, 2006780, 2006789

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

Reference Method: SM 5310 B-00

Run ID: A85237

Included Lab Sample IDs: 2006774, 2006775, 2006776, 2006777, 2006778, 2006779, 2006780, 2006789

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	101	P/P	90 - 110
Organic Carbon	101	101	P/P	90 - 110
Organic Carbon	99.8	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A85254

Included Lab Sample IDs: 2006771, 2006772, 2006773, 2006788

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

Reference Method: SM 4500 F-C-97

Run ID: A85254

Included Lab Sample IDs: 2006771, 2006772, 2006773, 2006788

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A85268

Included Lab Sample IDs: 2006774, 2006775, 2006776, 2006777, 2006778

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A85285

Included Lab Sample IDs: 2006786, 2006787

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.2	105	P/P	90 - 110
Kjeldahl Nitrogen	96.5	95.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A85298
Included Lab Sample IDs: 2006779, 2006780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	96.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A85302
Included Lab Sample IDs: 2006774, 2006775, 2006777, 2006789

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	100	P/P	90 - 110
Total-P	99.0	98.8	P/P	90 - 110
Total-P	99.5	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A85303
Included Lab Sample IDs: 2006776

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	99.0	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A85314
Included Lab Sample IDs: 2006767, 2006768, 2006769, 2006770

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

Reference Method: SM 4500 F-C-97
Run ID: A85314
Included Lab Sample IDs: 2006767, 2006768, 2006769, 2006770

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A85322
Included Lab Sample IDs: 2006774, 2006775, 2006776, 2006777, 2006778, 2006779, 2006780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.4	94.4	P/P	90 - 110
Kjeldahl Nitrogen	95.9	93.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Run ID: A85322
Included Lab Sample IDs: 2006781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.4	94.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A85324

Included Lab Sample IDs: 2006774, 2006775, 2006776, 2006777

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: A85346

Included Lab Sample IDs: 2006778, 2006779, 2006780, 2006789

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.3	P/P	90 - 110
Ammonia-N	99.3	101	P/P	90 - 110
Ammonia-N	99.7	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A85352

Included Lab Sample IDs: 2006782, 2006783, 2006784, 2006785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.9	93.9	P/P	90 - 110
Kjeldahl Nitrogen	94.7	93.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A85364

Included Lab Sample IDs: 2006789

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.2	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A85367

Included Lab Sample IDs: 2006778

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.5	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		Precision	
					LCS	MS
EPA 180.1 Rev. 2.0	Turbidity				2.66	
	Turbidity				1.49	
EPA 350.1 Rev. 2.0	Ammonia-N	102	99.5	98.9		0.329
	Ammonia-N	99.0	99.7	98.9		0.767
	Ammonia-N	102	101	103		1.12
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.4	90.2	94.2		2.55
	Kjeldahl Nitrogen	97.0	91.5	92.1		0.475
	Kjeldahl Nitrogen	108	105	102		2.06
EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	97.0				3.64
	Kjeldahl Nitrogen	97.0	91.5	92.1		0.475
	Kjeldahl Nitrogen	101	94.6	98.7		2.65
EPA 353.2 Rev. 2.0	NO2NO3-N	101	100	102		1.35
	NO2NO3-N	101	102	102		0.980
	NO2NO3-N	99.5	102	103		0.707
EPA 365.1 Rev. 2.0	Total-P	95.5	91.5	93.2		1.79
	Total-P	91.8	87.6	87.1		0.618
	Total-P	108	109	99.6		7.98
	Total-P	101	99.7	91.4		7.09
SM 2320 B-97	Total Alkalinity	102			0.472	
	Total Alkalinity	103			0.204	
SM 2540 D-97	TSS				3.92	
SM 4500 F-C-97	Fluoride	99.4	99.5	100		0.519
	Fluoride	97.6	96.3	97.1		0.476
SM 5310 B-00	Organic Carbon	99.9	97.4	99.0		1.05
	Organic Carbon	98.8	96.5	97.2		0.530

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2006767, 2006768, 2006769, 2006770, 2006771, 2006772, 2006773, 2006788
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2006774, 2006775, 2006776, 2006777, 2006778, 2006779, 2006780, 2006789
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2006774, 2006775, 2006776, 2006777, 2006778, 2006779, 2006780, 2006789
EPA 351.2 Rev. 2.0 dissolved / E31780	Total Kjeldahl Nitrogen, dissolved, in filtered, aqueous matrices	2006781, 2006782, 2006783, 2006784, 2006785, 2006786, 2006787
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2006774, 2006775, 2006776, 2006777, 2006778, 2006779, 2006780, 2006789
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2006774, 2006775, 2006776, 2006777, 2006778, 2006779, 2006780, 2006789
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2006767, 2006768, 2006769, 2006770, 2006771, 2006772, 2006773, 2006788
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2006767, 2006768, 2006769, 2006770, 2006771, 2006772, 2006773, 2006788
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2006767, 2006768, 2006769, 2006770, 2006771, 2006772, 2006773, 2006788
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2006774, 2006775, 2006776, 2006777, 2006778, 2006779, 2006780, 2006789

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	07/12/2018			07/12/2018 17:20	William L. Brown IV	2006767, 2006768, 2006769, 2006770, 2006771, 2006772, 2006773, 2006788
EPA 350.1 Rev. 2.0	07/12/2018			07/18/2018 12:57	Ping Hua	2006774
	07/12/2018			07/18/2018 12:58	Ping Hua	2006775
	07/12/2018			07/18/2018 13:00	Ping Hua	2006776
	07/12/2018			07/18/2018 13:01	Ping Hua	2006777
	07/12/2018			07/19/2018 12:20	Ping Hua	2006789
	07/12/2018			07/19/2018 12:27	Ping Hua	2006779
	07/12/2018			07/19/2018 12:29	Ping Hua	2006780
	07/12/2018			07/19/2018 12:53	Ping Hua	2006778
EPA 351.2 Rev. 2.0	07/12/2018	07/16/2018 11:30	Adrian Shelby	07/18/2018 13:08	Joseph Suarez	2006779
	07/12/2018	07/16/2018 11:30	Adrian Shelby	07/18/2018 13:09	Joseph Suarez	2006780
	07/12/2018	07/16/2018 11:30	Adrian Shelby	07/18/2018 13:15	Joseph Suarez	2006774
	07/12/2018	07/16/2018 11:30	Adrian Shelby	07/18/2018 13:20	Joseph Suarez	2006775
	07/12/2018	07/16/2018 11:30	Adrian Shelby	07/18/2018 13:22	Joseph Suarez	2006776
	07/12/2018	07/16/2018 11:30	Adrian Shelby	07/18/2018 13:23	Joseph Suarez	2006777
	07/12/2018	07/16/2018 11:30	Adrian Shelby	07/18/2018 13:25	Joseph Suarez	2006778
	07/12/2018	07/17/2018 10:30	Adrian Shelby	07/18/2018 16:23	Joseph Suarez	2006789
EPA 351.2 Rev. 2.0 dissolved	07/12/2018	07/16/2018 11:30	Adrian Shelby	07/18/2018 01:08	Joseph Suarez	2006786
	07/12/2018	07/16/2018 11:30	Adrian Shelby	07/18/2018 01:16	Joseph Suarez	2006787
	07/12/2018	07/16/2018 11:30	Adrian Shelby	07/18/2018 13:26	Joseph Suarez	2006781
	07/12/2018	07/18/2018 15:30	Adrian Shelby	07/19/2018 11:51	Joseph Suarez	2006782
	07/12/2018	07/18/2018 15:30	Adrian Shelby	07/19/2018 11:53	Joseph Suarez	2006783
	07/12/2018	07/18/2018 15:30	Adrian Shelby	07/19/2018 11:54	Joseph Suarez	2006784
	07/12/2018	07/18/2018 15:30	Adrian Shelby	07/19/2018 12:02	Joseph Suarez	2006785
EPA 353.2 Rev. 2.0	07/12/2018			07/13/2018 13:24	Lauren Bottorf	2006789
	07/12/2018			07/13/2018 13:28	Lauren Bottorf	2006779
	07/12/2018			07/13/2018 13:30	Lauren Bottorf	2006780
	07/12/2018			07/17/2018 11:37	Lauren Bottorf	2006774
	07/12/2018			07/17/2018 11:38	Lauren Bottorf	2006775
	07/12/2018			07/17/2018 11:40	Lauren Bottorf	2006776
	07/12/2018			07/17/2018 11:41	Lauren Bottorf	2006777
	07/12/2018			07/17/2018 11:48	Lauren Bottorf	2006778
EPA 365.1 Rev. 2.0	07/12/2018	07/17/2018 13:30	Sima Feizi	07/18/2018 08:28	Beverly Y. Sanders	2006779
	07/12/2018	07/17/2018 13:30	Sima Feizi	07/18/2018 08:30	Beverly Y. Sanders	2006780
	07/12/2018	07/17/2018 13:30	Sima Feizi	07/18/2018 11:27	Beverly Y. Sanders	2006774
	07/12/2018	07/17/2018 13:30	Sima Feizi	07/18/2018 11:28	Beverly Y. Sanders	2006775
	07/12/2018	07/17/2018 13:30	Sima Feizi	07/18/2018 11:37	Beverly Y. Sanders	2006789
	07/12/2018	07/17/2018 13:30	Sima Feizi	07/18/2018 11:57	Beverly Y. Sanders	2006777
	07/12/2018	07/17/2018 13:30	Sima Feizi	07/18/2018 12:45	Beverly Y. Sanders	2006776

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 SM 2320 B-97	07/12/2018	07/18/2018 14:10	Sima Feizi	07/20/2018 12:01	Beverly Y. Sanders	2006778
	07/12/2018			07/14/2018 06:36	Dale L. Simmons	2006773
	07/12/2018			07/14/2018 06:49	Dale L. Simmons	2006788
	07/12/2018			07/14/2018 09:33	Dale L. Simmons	2006772
	07/12/2018			07/14/2018 09:54	Dale L. Simmons	2006771
	07/12/2018			07/18/2018 08:06	Dale L. Simmons	2006770
	07/12/2018			07/18/2018 08:17	Dale L. Simmons	2006767
	07/12/2018			07/18/2018 08:27	Dale L. Simmons	2006768
	07/12/2018			07/18/2018 08:37	Dale L. Simmons	2006769
SM 2540 D-97	07/12/2018			07/13/2018 17:35	William L. Brown IV	2006767, 2006768, 2006769, 2006770, 2006771, 2006772, 2006773, 2006788
SM 4500 F-C-97	07/12/2018			07/14/2018 06:36	Dale L. Simmons	2006773
	07/12/2018			07/14/2018 06:49	Dale L. Simmons	2006788
	07/12/2018			07/14/2018 09:33	Dale L. Simmons	2006772
	07/12/2018			07/14/2018 09:54	Dale L. Simmons	2006771
	07/12/2018			07/18/2018 06:39	Dale L. Simmons	2006770
	07/12/2018			07/18/2018 06:51	Dale L. Simmons	2006767
	07/12/2018			07/18/2018 06:54	Dale L. Simmons	2006768
	07/12/2018			07/18/2018 06:58	Dale L. Simmons	2006769
SM 5310 B-00	07/12/2018			07/14/2018 01:15	Megan Treadwell	2006779
	07/12/2018			07/14/2018 01:28	Megan Treadwell	2006780
	07/12/2018			07/14/2018 01:40	Megan Treadwell	2006789
	07/12/2018			07/14/2018 05:08	Megan Treadwell	2006774
	07/12/2018			07/14/2018 05:44	Megan Treadwell	2006775
	07/12/2018			07/14/2018 05:56	Megan Treadwell	2006776
	07/12/2018			07/14/2018 06:09	Megan Treadwell	2006777
	07/12/2018			07/14/2018 06:23	Megan Treadwell	2006778