

Chemical Analysis Report

NE-DIST-2020-11-17-03

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-2020-11-23-01**
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
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Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 09-DEC-2020 10:09

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

NON-CONFORMANCE REPORT INCLUDED

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: DEPGR3

Collection Date/Time: 11/16/2020 10:06

Field ID: GTMGR3NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2208182	EPA 180.1 Rev. 2.0	Turbidity	6.2		NTU	P390183	
	EPA 300.0 Rev. 2.1	Bromide	64		mg Br/L	P390373	
	SM 2320 B-2011	Total Alkalinity	115		mg CaCO3/L	P390266	
	SM 2540 D-2011	TSS	10		mg/L	P390458	
	SM 4500 F-C-2011	Fluoride	1.2		mg F/L	P390378	
2208188	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P390354	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37	I	mg N/L	P390519	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P390509	
	EPA 365.1 Rev. 2.0	Total-P	0.041		mg P/L	P390319	
	SM 5310 B-2011	Organic Carbon	2.6		mg C/L	P390309	
2208194	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.013		mg P/L	P390191	
2208200	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.38	I	mg N/L	P390519	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: DEPGR2

Collection Date/Time: 11/16/2020 10:28

Field ID: GTMGRNUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2208183	EPA 180.1 Rev. 2.0	Turbidity	5.9		NTU	P390183	
	EPA 300.0 Rev. 2.1	Bromide	62		mg Br/L	P390373	
	SM 2320 B-2011	Total Alkalinity	114		mg CaCO3/L	P390266	
	SM 2540 D-2011	TSS	12	A	mg/L	P390459	
	SM 4500 F-C-2011	Fluoride	1.2		mg F/L	P390378	
2208189	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P390354	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P390519	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P390509	
	EPA 365.1 Rev. 2.0	Total-P	0.045		mg P/L	P390319	
	SM 5310 B-2011	Organic Carbon	4.0		mg C/L	P390370	
2208195	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.020		mg P/L	P390191	
2208201	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.37	I	mg N/L	P390519	

Sample Location: DEPGR1

Collection Date/Time: 11/16/2020 10:48

Field ID: GTMGR1NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2208184	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P390183	
	EPA 300.0 Rev. 2.1	Bromide	52		mg Br/L	P390373	
	SM 2320 B-2011	Total Alkalinity	112		mg CaCO3/L	P390266	
	SM 2540 D-2011	TSS	8	I	mg/L	P390459	
	SM 4500 F-C-2011	Fluoride	1.0		mg F/L	P390378	
2208190	EPA 350.1 Rev. 2.0	Ammonia-N	0.045		mg N/L	P390354	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P390245	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P390509	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P390319	
	SM 5310 B-2011	Organic Carbon	7.0		mg C/L	P390370	
2208196	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.030		mg P/L	P390191	
2208202	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.55		mg N/L	P390245	

Sample Location: DEPLGL4

Collection Date/Time: 11/16/2020 12:15

Field ID: GTMGL4NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2208185	EPA 180.1 Rev. 2.0	Turbidity	13	A	NTU	P390184	
	EPA 300.0 Rev. 2.1	Bromide	36		mg Br/L	P390373	
	SM 2320 B-2011	Total Alkalinity	106		mg CaCO3/L	P390266	
	SM 2540 D-2011	TSS	22		mg/L	P390459	
	SM 4500 F-C-2011	Fluoride	0.81		mg F/L	P390378	
2208191	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P390354	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P390245	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P390509	
	EPA 365.1 Rev. 2.0	Total-P	0.061		mg P/L	P390319	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P390370	
2208197	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P390191	
2208203	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.84		mg N/L	P390245	

Sample Location: DEPGL3

Collection Date/Time: 11/16/2020 12:44

Field ID: GTMLMNUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2208186	EPA 180.1 Rev. 2.0	Turbidity	18		NTU	P390184	
	EPA 300.0 Rev. 2.1	Bromide	23		mg Br/L	P390373	
	SM 2320 B-2011	Total Alkalinity	102	A	mg CaCO3/L	P390266	
	SM 2540 D-2011	TSS	47		mg/L	P390459	
	SM 4500 F-C-2011	Fluoride	0.57		mg F/L	P390378	
2208192	EPA 350.1 Rev. 2.0	Ammonia-N	0.084		mg N/L	P390354	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P390245	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P390509	
	EPA 365.1 Rev. 2.0	Total-P	0.068		mg P/L	P390319	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P390411	
2208198	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P390191	
2208204	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.4		mg N/L	P390245	

Sample Location: DEPGL2

Collection Date/Time: 11/16/2020 13:09

Field ID: GTMGL2NUT

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2208187	EPA 180.1 Rev. 2.0	Turbidity	14		NTU	P390184	
	EPA 300.0 Rev. 2.1	Bromide	9.9		mg Br/L	P390373	
	SM 2320 B-2011	Total Alkalinity	120		mg CaCO3/L	P390265	
	SM 2540 D-2011	TSS	28	A	mg/L	P390457	
	SM 4500 F-C-2011	Fluoride	0.37		mg F/L	P390400	
2208193	EPA 350.1 Rev. 2.0	Ammonia-N	0.092		mg N/L	P390354	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.1		mg N/L	P390245	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P390509	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P390319	
	SM 5310 B-2011	Organic Carbon	22		mg C/L	P390368	
2208199	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P390191	
2208205	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.4		mg N/L	P390245	

Sample Location: Field Blank

Collection Date/Time: 11/16/2020 09:54

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2208206	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P390184	
	EPA 300.0 Rev. 2.1	Bromide	0.013	U	mg Br/L	P390373	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P390265	
	SM 2540 D-2011	TSS	2	U	mg/L	P390456	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P390400	
2208207	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	UY	mg N/L	P390353	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	UY	mg N/L	P390339	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	UY	mg N/L	P390417	
	EPA 365.1 Rev. 2.0	Total-P	0.002	UY	mg P/L	P390320	
	SM 5310 B-2011	Organic Carbon	0.50	UY	mg C/L	P390368	
2208208	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P390192	
2208209	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.080	U	mg N/L	P390339	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 350.1 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 351.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 353.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 365.1 Rev. 2.0: Total-P: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

SM 5310 B-2011: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

Non-Conformance Report

NCR ID: 8522

Event(s)

NE-DIST-2020-11-17-03

Job(s)

TLH-2020-11-17-74

Sample(s)

2208207

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Sample not preserved to pH < 2.

Resolution: Sample preserved in the laboratory with sulfuric acid.
H2SO4 Lot# SA0293040 | Expiration Date: 10/19/2021

Authorized by/Date: Joshua Ayres 11/23/2020

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P390183

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P390184

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390373

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390353

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390354

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390245

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390339

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390519

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P390245

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: P390339

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P390519

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390417

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390509

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390319

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390320

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390191

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390192

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

Reference Method: SM 2320 B-2011
Batch ID: P390265

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P390266

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

Reference Method: SM 2540 D-2011
Batch ID: P390456

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P390457

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P390458

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P390459

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P390378

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P390400

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P390309

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

Reference Method: SM 5310 B-2011
Batch ID: P390368

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P390370

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

Reference Method: SM 5310 B-2011
Batch ID: P390411

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390373

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390353

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390354

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390245

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: P390339

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390519

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P390245

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P390339

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P390519

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: P390417

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390509

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390319

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390320

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390191

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390192

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

Reference Method: SM 2320 B-2011
Batch ID: P390265

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.4		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P390266

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P390378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.5		P	90 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P390400

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.9		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P390309

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	103		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P390368

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P390370

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	104		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P390411

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390373

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208661	Bromide	99.9	99.4	P/P	90 - 110
2208690	Bromide	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390353

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208247	Ammonia-N	101	97.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390354

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208188	Ammonia-N	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390245

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208193	Kjeldahl Nitrogen	100	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208247	Kjeldahl Nitrogen	100	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390519

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208139	Kjeldahl Nitrogen	104	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P390245

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208193	Kjeldahl Nitrogen	100	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P390339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208247	Kjeldahl Nitrogen	100	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P390519

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208139	Kjeldahl Nitrogen	104	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208778	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390509

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208190	NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390319

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208188	Total-P	93.6	96.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390320

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208247	Total-P	106	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390191

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2207980	O-Phosphate-P	97.9	97.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390192

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208098	O-Phosphate-P	97.3	97.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P390378

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208186	Fluoride	102	103	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P390400

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208929	Fluoride	98.5	98.5	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P390309

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208134	Organic Carbon	97.5	97.3	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P390368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208224	Organic Carbon	103	103	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P390370

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208190	Organic Carbon	95.2	102	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P390411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208614	Organic Carbon	99.1	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P390183

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208016	Turbidity	5.41	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P390184

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208185	Turbidity	11.4	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208661	Bromide	0.482	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390353

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208247	Ammonia-N	3.76	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390354

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208188	Ammonia-N	0.0359	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390245

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208193	Kjeldahl Nitrogen	0.700	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208247	Kjeldahl Nitrogen	1.33	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390519

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208139	Kjeldahl Nitrogen	2.63	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P390245

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208193	Kjeldahl Nitrogen	0.700	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P390339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208247	Kjeldahl Nitrogen	1.33	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P390519

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208139	Kjeldahl Nitrogen	2.63	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208778	NO2NO3-N	0.323	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390509

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208190	NO2NO3-N	0.462	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390319

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208188	Total-P	3.04	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390320

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208247	Total-P	1.40	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390191

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207980	O-Phosphate-P	0.821	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390192

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208098	O-Phosphate-P	0.178	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P390265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208099	Total Alkalinity	0.919	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P390266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208186	Total Alkalinity	1.17	Sample	P	0 - 8.1

Reference Method: SM 2540 D-2011
Batch ID: P390457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208187	TSS	5.71	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P390459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208183	TSS	3.39	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P390378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208186	Fluoride	0.940	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P390400

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208929	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P390309

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208134	Organic Carbon	0.190	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P390368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208224	Organic Carbon	0.154	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P390370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208190	Organic Carbon	6.20	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P390411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208614	Organic Carbon	1.82	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A102164

Included Lab Sample IDs: 2208182, 2208183, 2208184, 2208185, 2208186, 2208187, 2208206

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	97.2	98.4	P/P	90 - 110
Bromide	97.6	97.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A102180

Included Lab Sample IDs: 2208182, 2208183, 2208184, 2208185, 2208186, 2208187, 2208206

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A102182

Included Lab Sample IDs: 2208194, 2208195, 2208196, 2208197, 2208198, 2208199, 2208208

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	99.0	P/P	90 - 110
O-Phosphate-P	98.5	98.4	P/P	90 - 110
O-Phosphate-P	99.0	98.6	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A102207

Included Lab Sample IDs: 2208182, 2208183, 2208184, 2208185, 2208186, 2208187, 2208206

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	98.5	P/P	90 - 110
Total Alkalinity	97.6	102	P/P	90 - 110
Total Alkalinity	98.5	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102213

Included Lab Sample IDs: 2208190, 2208191, 2208192, 2208193

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	106	P/P	90 - 110
Kjeldahl Nitrogen	104	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A102213

Included Lab Sample IDs: 2208202, 2208203, 2208204, 2208205

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

Reference Method: SM 5310 B-2011

Run ID: A102227

Included Lab Sample IDs: 2208188

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.9	98.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A102243

Included Lab Sample IDs: 2208188, 2208189, 2208190, 2208191, 2208192, 2208193, 2208207

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

Reference Method: SM 5310 B-2011

Run ID: A102251

Included Lab Sample IDs: 2208189, 2208190, 2208191, 2208193, 2208207

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	103	P/P	90 - 110
Organic Carbon	103	99.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A102258

Included Lab Sample IDs: 2208182, 2208183, 2208184, 2208185, 2208186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.7	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102264

Included Lab Sample IDs: 2208207

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	99.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A102264

Included Lab Sample IDs: 2208209

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A102267

Included Lab Sample IDs: 2208188, 2208189, 2208190, 2208191, 2208192, 2208193, 2208207

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	99.2	P/P	90 - 110
Total-P	99.2	98.5	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A102272

Included Lab Sample IDs: 2208187, 2208206

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.0	96.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A102280

Included Lab Sample IDs: 2208192

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102282

Included Lab Sample IDs: 2208207

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102329

Included Lab Sample IDs: 2208188, 2208189, 2208190, 2208191, 2208192, 2208193

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102350

Included Lab Sample IDs: 2208188, 2208189

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.0	95.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A102350

Included Lab Sample IDs: 2208200, 2208201

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.9	98.7	P/P	90 - 110
Kjeldahl Nitrogen	97.0	95.9	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					5.41	
	Turbidity					11.4	
EPA 300.0 Rev. 2.1	Bromide	100	99.9	99.4	100		0.482
EPA 350.1 Rev. 2.0	Ammonia-N	99.7	101	97.3			3.76
	Ammonia-N	99.4	102	102			0.0359
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	100	102			0.700
	Kjeldahl Nitrogen	104	100	102			1.33
	Kjeldahl Nitrogen	101	104	101			2.63
EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	105	100	102			0.700
	Kjeldahl Nitrogen	104	100	102			1.33
	Kjeldahl Nitrogen	101	104	101			2.63
EPA 353.2 Rev. 2.0	NO2NO3-N	103	101	102			0.323
	NO2NO3-N	100	100	101			0.462
EPA 365.1 Rev. 2.0	Total-P	103	93.6	96.6			3.04
	Total-P	103	106	105			1.40
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	97.9	97.1			0.821
	O-Phosphate-P	99.0	97.3	97.6			0.178
SM 2320 B-2011	Total Alkalinity	99.4				0.919	
	Total Alkalinity	103				1.17	
SM 2540 D-2011	TSS					5.71	
	TSS					3.39	
SM 4500 F-C-2011	Fluoride	94.5	102	103			0.940
	Fluoride	95.9	98.5	98.5			0.0
SM 5310 B-2011	Organic Carbon	103	97.5	97.3			0.190
	Organic Carbon	102	103	103			0.154
	Organic Carbon	104	95.2	102			6.20
	Organic Carbon	101	99.1	101			1.82

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2208182, 2208183, 2208184, 2208185, 2208186, 2208187, 2208206
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2208182, 2208183, 2208184, 2208185, 2208186, 2208187, 2208206
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2208188, 2208189, 2208190, 2208191, 2208192, 2208193, 2208207
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2208188, 2208189, 2208190, 2208191, 2208192, 2208193, 2208207
EPA 351.2 Rev. 2.0 dissolved	Total Kjeldahl Nitrogen, dissolved, in filtered, aqueous matrices	2208200, 2208201, 2208202, 2208203, 2208204, 2208205, 2208209
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2208188, 2208189, 2208190, 2208191, 2208192, 2208193, 2208207
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2208188, 2208189, 2208190, 2208191, 2208192, 2208193, 2208207
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2208194, 2208195, 2208196, 2208197, 2208198, 2208199, 2208208
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2208182, 2208183, 2208184, 2208185, 2208186, 2208187, 2208206
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2208182, 2208183, 2208184, 2208185, 2208186, 2208187, 2208206
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2208182, 2208183, 2208184, 2208185, 2208186, 2208187, 2208206
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2208188, 2208189, 2208190, 2208191, 2208192, 2208193, 2208207

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	11/17/2020			11/17/2020 16:56	Yen Ta	2208182, 2208183, 2208184, 2208185, 2208186, 2208187, 2208206
EPA 300.0 Rev. 2.1	11/17/2020			11/20/2020 15:03	Lipi Saha	2208182
	11/17/2020			11/20/2020 15:21	Lipi Saha	2208183
	11/17/2020			11/20/2020 15:39	Lipi Saha	2208184
	11/17/2020			11/20/2020 15:57	Lipi Saha	2208185
	11/17/2020			11/20/2020 16:15	Lipi Saha	2208186
	11/17/2020			11/20/2020 17:10	Lipi Saha	2208187
	11/17/2020			11/20/2020 17:28	Lipi Saha	2208206
EPA 350.1 Rev. 2.0	11/17/2020			11/21/2020 13:34	Ping Hua	2208207
	11/17/2020			11/21/2020 13:40	Ping Hua	2208188
	11/17/2020			11/21/2020 13:51	Ping Hua	2208189
	11/17/2020			11/21/2020 13:52	Ping Hua	2208190
	11/17/2020			11/21/2020 13:54	Ping Hua	2208191
	11/17/2020			11/21/2020 13:55	Ping Hua	2208192
	11/17/2020			11/21/2020 13:57	Ping Hua	2208193
EPA 351.2 Rev. 2.0	11/17/2020	11/18/2020 14:20	David Boose	11/19/2020 12:11	Elliott Rodriguez	2208193
	11/17/2020	11/18/2020 14:20	David Boose	11/19/2020 12:23	Elliott Rodriguez	2208190
	11/17/2020	11/18/2020 14:20	David Boose	11/19/2020 12:24	Elliott Rodriguez	2208191
	11/17/2020	11/18/2020 14:20	David Boose	11/19/2020 12:26	Elliott Rodriguez	2208192
	11/17/2020	11/20/2020 13:20	David Boose	11/23/2020 12:27	Elliott Rodriguez	2208207
	11/17/2020	11/30/2020 12:45	Elliott Rodriguez	12/01/2020 12:26	Elliott Rodriguez	2208188
	11/17/2020	11/30/2020 12:45	Elliott Rodriguez	12/01/2020 12:28	Elliott Rodriguez	2208189
EPA 351.2 Rev. 2.0 dissolved	11/17/2020	11/18/2020 14:20	David Boose	11/19/2020 12:28	Elliott Rodriguez	2208202
	11/17/2020	11/18/2020 14:20	David Boose	11/19/2020 12:29	Elliott Rodriguez	2208203
	11/17/2020	11/18/2020 14:20	David Boose	11/19/2020 12:31	Elliott Rodriguez	2208204
	11/17/2020	11/18/2020 14:20	David Boose	11/19/2020 12:33	Elliott Rodriguez	2208205
	11/17/2020	11/20/2020 13:20	David Boose	11/23/2020 12:29	Elliott Rodriguez	2208209
	11/17/2020	11/30/2020 12:45	Elliott Rodriguez	12/01/2020 12:30	Elliott Rodriguez	2208200
	11/17/2020	11/30/2020 12:45	Elliott Rodriguez	12/01/2020 12:35	Elliott Rodriguez	2208201
EPA 353.2 Rev. 2.0	11/17/2020			11/24/2020 11:55	Beverly Y. Sanders	2208207
	11/17/2020			11/30/2020 10:23	Beverly Y. Sanders	2208190
	11/17/2020			11/30/2020 10:29	Beverly Y. Sanders	2208188
	11/17/2020			11/30/2020 10:30	Beverly Y. Sanders	2208189
	11/17/2020			11/30/2020 10:31	Beverly Y. Sanders	2208191
	11/17/2020			11/30/2020 10:32	Beverly Y. Sanders	2208192
	11/17/2020			11/30/2020 10:33	Beverly Y. Sanders	2208193
EPA 365.1 Rev. 2.0	11/17/2020	11/20/2020 12:57	Yen Ta	11/23/2020 13:39	Shengyu Wang	2208188
	11/17/2020	11/20/2020 12:57	Yen Ta	11/23/2020 13:40	Shengyu Wang	2208189
	11/17/2020	11/20/2020 12:57	Yen Ta	11/23/2020 13:41	Shengyu Wang	2208190

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	11/17/2020	11/20/2020 12:57	Yen Ta	11/23/2020 13:42	Shengyu Wang	2208191
	11/17/2020	11/20/2020 12:57	Yen Ta	11/23/2020 13:43	Shengyu Wang	2208192
	11/17/2020	11/20/2020 12:57	Yen Ta	11/23/2020 13:44	Shengyu Wang	2208193
	11/17/2020	11/20/2020 12:57	Yen Ta	11/23/2020 13:55	Shengyu Wang	2208207
EPA 365.1 Rev. 2.0 dissolved	11/17/2020			11/17/2020 16:32	Virginia P. Brown	2208194
	11/17/2020			11/17/2020 16:33	Virginia P. Brown	2208195
	11/17/2020			11/17/2020 16:34	Virginia P. Brown	2208196, 2208197
	11/17/2020			11/17/2020 16:40	Virginia P. Brown	2208198, 2208199
	11/17/2020			11/17/2020 17:00	Virginia P. Brown	2208208
SM 2320 B-2011	11/17/2020			11/19/2020 04:22	Dale L. Simmons	2208206
	11/17/2020			11/19/2020 04:44	Dale L. Simmons	2208187
	11/17/2020			11/19/2020 07:06	Dale L. Simmons	2208186
	11/17/2020			11/19/2020 08:26	Dale L. Simmons	2208182
	11/17/2020			11/19/2020 08:38	Dale L. Simmons	2208183
	11/17/2020			11/19/2020 08:51	Dale L. Simmons	2208184
	11/17/2020			11/19/2020 09:04	Dale L. Simmons	2208185
SM 2540 D-2011	11/17/2020			11/19/2020 15:12	Yijie Li	2208182, 2208183, 2208184, 2208185, 2208186, 2208187, 2208206
SM 4500 F-C-2011	11/17/2020			11/20/2020 20:53	Dale L. Simmons	2208186
	11/17/2020			11/20/2020 21:17	Dale L. Simmons	2208182
	11/17/2020			11/20/2020 21:22	Dale L. Simmons	2208183
	11/17/2020			11/20/2020 21:27	Dale L. Simmons	2208184
	11/17/2020			11/20/2020 21:32	Dale L. Simmons	2208185
	11/17/2020			11/23/2020 15:20	Dale L. Simmons	2208206
	11/17/2020			11/23/2020 15:30	Dale L. Simmons	2208187
SM 5310 B-2011	11/17/2020			11/19/2020 11:27	Touraj Touran	2208188
	11/17/2020			11/20/2020 21:35	Touraj Touran	2208193
	11/17/2020			11/20/2020 21:47	Touraj Touran	2208207
	11/17/2020			11/21/2020 07:42	Touraj Touran	2208190
	11/17/2020			11/21/2020 08:23	Touraj Touran	2208189
	11/17/2020			11/21/2020 08:35	Touraj Touran	2208191
	11/17/2020			11/23/2020 22:36	Touraj Touran	2208192