

Chemical Analysis Report

NE-DIST-2019-12-17-03

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-2019-12-09-12**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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2600 Blair Stone Rd.
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 14-JAN-2020 15:01



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: 12/16/2019 13:08

Field ID: GTMGR3NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144578	EPA 180.1 Rev. 2.0	Turbidity	5.3		NTU	P376034	
	EPA 300.0	Bromide	64		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	118		mg CaCO3/L	P376366	
	SM 2540 D-97	TSS	9	I	mg/L	P376499	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P376369	
2144585	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P376349	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P376070	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P376401	
	EPA 365.1 Rev. 2.0	Total-P	0.042		mg P/L	P376083	
	SM 5310 B-00	Organic Carbon	3.5		mg C/L	P376384	
2144592	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.36	I	mg N/L	P376143	

Ref. Method and Comment:

EPA 300.0: Bromide: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

SM 2540 D-97: The result was confirmed on 12/30/2019.

Sample Location: DEPGR2

Collection Date/Time: 12/16/2019 13:30

Field ID: GTMGRNUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144579	EPA 180.1 Rev. 2.0	Turbidity	6.0		NTU	P376033	
	EPA 300.0	Bromide	63		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	118		mg CaCO3/L	P376366	
	SM 2540 D-97	TSS	7	I	mg/L	P376499	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P376369	
2144586	EPA 350.1 Rev. 2.0	Ammonia-N	0.034		mg N/L	P376352	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51		mg N/L	P376070	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P376400	
	EPA 365.1 Rev. 2.0	Total-P	0.048		mg P/L	P376083	
	SM 5310 B-00	Organic Carbon	4.6		mg C/L	P376384	
2144593	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.48		mg N/L	P376143	

Ref. Method and Comment:

EPA 300.0: Bromide: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

Sample Location: DEPGR1

Collection Date/Time: 12/16/2019 13:48

Field ID: GTMGR1NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144580	EPA 180.1 Rev. 2.0	Turbidity	8.9		NTU	P376033	
	EPA 300.0	Bromide	45	Q	mg Br/L	P377010	
	SM 2320 B-97	Total Alkalinity	124		mg CaCO3/L	P376366	
	SM 2540 D-97	TSS	15		mg/L	P376500	
	SM 4500 F-C-97	Fluoride	0.88		mg F/L	P376369	
2144587	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P376352	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P376070	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P376401	
	EPA 365.1 Rev. 2.0	Total-P	0.066		mg P/L	P376083	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P376384	
2144594	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.88		mg N/L	P376143	

Ref. Method and Comment:

EPA 300.0: Bromide: Sample expired prior to analysis because of analytical difficulties.

Sample Location: DEPGL4

Collection Date/Time: 12/16/2019 09:42

Field ID: GTMGL4NUT

Matrix: W-BRACKISH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144581	EPA 180.1 Rev. 2.0	Turbidity	7.6		NTU	P376033	
	EPA 300.0	Bromide	40		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P376366	
	SM 2540 D-97	TSS	15		mg/L	P376500	
	SM 4500 F-C-97	Fluoride	0.76		mg F/L	P376369	
2144588	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P376352	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P376070	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376401	
	EPA 365.1 Rev. 2.0	Total-P	0.037		mg P/L	P376086	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P376384	
2144595	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.1		mg N/L	P376143	

Ref. Method and Comment:

EPA 300.0: Bromide: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

Sample Location: DEPGL3

Collection Date/Time: 12/16/2019 10:12

Field ID: GTMLMNUT

Matrix: W-BRACKISH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144582	EPA 180.1 Rev. 2.0	Turbidity	10		NTU	P376033	
	EPA 300.0	Bromide	33		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	119		mg CaCO3/L	P376366	
	SM 2540 D-97	TSS	14		mg/L	P376500	
	SM 4500 F-C-97	Fluoride	0.66		mg F/L	P376369	
2144589	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P376352	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P376143	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P376401	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P376086	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P376384	
2144596	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.1		mg N/L	P376143	

Ref. Method and Comment:

EPA 300.0: Bromide: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

Sample Location: DEPGL2

Collection Date/Time: 12/16/2019 10:30

Field ID: GTMGL2NUT

Matrix: W-BRACKISH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144583	EPA 180.1 Rev. 2.0	Turbidity	4.7	A	NTU	P376034	
	EPA 300.0	Bromide	15		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	132	A	mg CaCO3/L	P376365	
	SM 2540 D-97	TSS	10		mg/L	P376500	
	SM 4500 F-C-97	Fluoride	0.41		mg F/L	P376368	
2144590	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P376352	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P376143	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376401	
	EPA 365.1 Rev. 2.0	Total-P	0.056		mg P/L	P376086	
	SM 5310 B-00	Organic Carbon	21		mg C/L	P376382	
2144597	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.2		mg N/L	P376143	

Ref. Method and Comment:

EPA 300.0: Bromide: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

Sample Location: DEPGL1

Collection Date/Time: 12/16/2019 10:53

Field ID: GTMGL1NUT

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144584	EPA 180.1 Rev. 2.0	Turbidity	0.90		NTU	P376034	
	EPA 300.0	Bromide	0.28		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	129		mg CaCO3/L	P376376	
	SM 2540 D-97	TSS	5	I	mg/L	P376498	
	SM 4500 F-C-97	Fluoride	0.22		mg F/L	P376673	
2144591	EPA 350.1 Rev. 2.0	Ammonia-N	0.038		mg N/L	P376351	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P376079	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376243	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P376084	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P376382	
2144598	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.0		mg N/L	P376079	

Ref. Method and Comment:

EPA 300.0: Bromide: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: Field Blank

Collection Date/Time: 12/16/2019 09:42

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144599	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P376034	
	EPA 300.0	Bromide	0.013	U	mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P376376	
	SM 2540 D-97	TSS	2	U	mg/L	P376498	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P376673	
2144600	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P376351	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P376079	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376245	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P376085	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P376382	
2144601	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.080	U	mg N/L	P376051	

Ref. Method and Comment:

EPA 300.0: Bromide: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: DEPGR3

Collection Date/Time: 12/16/2019 13:13

Field ID: GTMGR3NUT_Dup

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144602	EPA 180.1 Rev. 2.0	Turbidity	5.2		NTU	P376034	
	EPA 300.0	Bromide	66		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	118		mg CaCO3/L	P376366	
	SM 2540 D-97	TSS	16	A	mg/L	P376500	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P376369	
2144603	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P376352	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P376143	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P376401	
	EPA 365.1 Rev. 2.0	Total-P	0.038		mg P/L	P376086	
	SM 5310 B-00	Organic Carbon	3.5		mg C/L	P376384	
2144604	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.47		mg N/L	P376143	

Ref. Method and Comment:

EPA 300.0: Bromide: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

SM 2540 D-97: The sample was reanalyzed on 12/30 /2019. The result was 10 IQ mg/L.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P376033

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P376034

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P376612

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0
Batch ID: P377010

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376349

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376351

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376352

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376070

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376079

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
Batch ID: P376143

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P376051

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P376079

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P376143

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376243

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376245

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376400

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376401

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376083

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376084

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376085

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376086

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

Reference Method: SM 2320 B-97
Batch ID: P376365

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

Reference Method: SM 2320 B-97
Batch ID: P376366

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

Reference Method: SM 2320 B-97
Batch ID: P376376

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

Reference Method: SM 2540 D-97
Batch ID: P376498

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P376499

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P376500

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P376368

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P376369

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P376673

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P376382

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

Reference Method: SM 5310 B-00
Batch ID: P376384

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: P376612

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

Reference Method: EPA 300.0
Batch ID: P377010

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376349

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376351

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376352

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376070

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: P376079

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376143

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P376051

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	109		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P376079

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P376143

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376243

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376245

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376400

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376401

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: P376083

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376084

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376085

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376086

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

Reference Method: SM 2320 B-97
Batch ID: P376365

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P376366

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P376376

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P376368

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P376369

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.4		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P376673

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P376382

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.4		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P376384

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P376612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144584	Bromide	101	101	P/P	90 - 110

Reference Method: EPA 300.0
Batch ID: P377010

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2147390	Bromide	101	101	P/P	90 - 110
2147464	Bromide	99.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376349

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144413	Ammonia-N	104	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376351

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144676	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376352

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144903	Ammonia-N	106	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376070

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144457	Kjeldahl Nitrogen	102	98.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376079

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144560	Kjeldahl Nitrogen	108	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376143

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144592	Kjeldahl Nitrogen	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P376051

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144325	Kjeldahl Nitrogen	105	106	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P376079

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144560	Kjeldahl Nitrogen	108	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P376143

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144592	Kjeldahl Nitrogen	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376243

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144544	NO2NO3-N	98.5	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376245

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144676	NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376400

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144457	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376401

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144587	NO2NO3-N	98.6	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376083

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144456	Total-P	98.8	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376084

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144527	Total-P	106	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376085

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144661	Total-P	104	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376086

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144588	Total-P	106	105	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P376368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144583	Fluoride	99.2	99.9	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P376369

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144892	Fluoride	94.3	95.1	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P376673

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145099	Fluoride	98.2	98.2	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P376382

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144813	Organic Carbon	95.8	95.1	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P376384

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144586	Organic Carbon	99.1	98.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P376033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144323	Turbidity	6.49	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P376034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144583	Turbidity	2.76	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P376612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144584	Bromide	0.513	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P377010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2147390	Bromide	0.378	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376349

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144413	Ammonia-N	1.51	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376351

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144676	Ammonia-N	0.906	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376352

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144903	Ammonia-N	1.10	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376070

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144457	Kjeldahl Nitrogen	2.33	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376079

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144560	Kjeldahl Nitrogen	0.904	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144592	Kjeldahl Nitrogen	1.44	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P376051

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144325	Kjeldahl Nitrogen	1.20	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P376079

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144560	Kjeldahl Nitrogen	0.904	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P376143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144592	Kjeldahl Nitrogen	1.44	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376243

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144544	NO2NO3-N	0.509	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376245

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144676	NO2NO3-N	0.222	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376400

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144457	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376401

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144587	NO2NO3-N	0.487	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144456	Total-P	0.691	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376084

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144527	Total-P	2.14	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144661	Total-P	0.149	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144588	Total-P	0.958	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P376365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144583	Total Alkalinity	0.128	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P376366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144892	Total Alkalinity	0.00436	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P376376

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145099	Total Alkalinity	0.105	Sample	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 2540 D-97
Batch ID: P376499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144427	TSS	5.71	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P376500

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144602	TSS	2.53	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P376368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144583	Fluoride	0.464	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P376369

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144892	Fluoride	0.464	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P376673

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145099	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P376382

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144813	Organic Carbon	0.685	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P376384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144586	Organic Carbon	0.271	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A96416

Included Lab Sample IDs: 2144578, 2144579, 2144580, 2144581, 2144582, 2144583, 2144584, 2144599, 2144602

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105
Turbidity	101	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96461

Included Lab Sample IDs: 2144591

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96486

Included Lab Sample IDs: 2144585, 2144586, 2144587, 2144588, 2144589, 2144590, 2144600, 2144603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.5	99.0	P/P	90 - 110
Total-P	98.2	97.5	P/P	90 - 110
Total-P	99.0	98.0	P/P	90 - 110
Total-P	99.5	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96499

Included Lab Sample IDs: 2144585, 2144586, 2144587, 2144588

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	107	P/P	90 - 110
Kjeldahl Nitrogen	107	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A96499

Included Lab Sample IDs: 2144601

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96500

Included Lab Sample IDs: 2144591, 2144600

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A96500

Included Lab Sample IDs: 2144598

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A96503

Included Lab Sample IDs: 2144591, 2144600

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A96549

Included Lab Sample IDs: 2144585, 2144586, 2144587, 2144588, 2144589, 2144590, 2144591, 2144600, 2144603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	99.5	P/P	90 - 110
Ammonia-N	101	101	P/P	90 - 110
Ammonia-N	101	100	P/P	90 - 110
Ammonia-N	101	101	P/P	90 - 110
Ammonia-N	102	101	P/P	90 - 110
Ammonia-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96553

Included Lab Sample IDs: 2144589, 2144590, 2144603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	105	P/P	90 - 110
Kjeldahl Nitrogen	96.6	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A96553

Included Lab Sample IDs: 2144592, 2144593, 2144594, 2144595, 2144596, 2144597, 2144604

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	105	P/P	90 - 110
Kjeldahl Nitrogen	96.6	104	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A96556

Included Lab Sample IDs: 2144578, 2144579, 2144580, 2144581, 2144582, 2144583, 2144602

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110
Total Alkalinity	102	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A96556

Included Lab Sample IDs: 2144578, 2144579, 2144580, 2144581, 2144582, 2144583, 2144602

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A96559

Included Lab Sample IDs: 2144584, 2144599

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

Reference Method: SM 5310 B-00

Run ID: A96560

Included Lab Sample IDs: 2144585, 2144586, 2144587, 2144588, 2144589, 2144590, 2144591, 2144600, 2144603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	95.8	P/P	90 - 110
Organic Carbon	97.2	98.2	P/P	90 - 110
Organic Carbon	98.8	97.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A96568

Included Lab Sample IDs: 2144585, 2144586, 2144587, 2144588, 2144589, 2144590, 2144603

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

Reference Method: EPA 300.0

Run ID: A96678

Included Lab Sample IDs: 2144578, 2144579, 2144581, 2144582, 2144583, 2144584, 2144599, 2144602

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	102	103	P/P	90 - 110
Bromide	103	109	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A96714

Included Lab Sample IDs: 2144584, 2144599

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

Reference Method: EPA 300.0

Run ID: A96846

Included Lab Sample IDs: 2144580

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	100	94.3	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					6.49	
	Turbidity					2.76	
EPA 300.0	Bromide	102	101	101	99.3		0.513
	Bromide	102	101	101			0.378
EPA 350.1 Rev. 2.0	Ammonia-N	101	104	105			1.51
	Ammonia-N	100	100	101			0.906
	Ammonia-N	100	106	105			1.10
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.4	102	98.7			2.33
	Kjeldahl Nitrogen	110	108	107			0.904
	Kjeldahl Nitrogen	98.4	102	101			1.44
EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	109	105	106			1.20
	Kjeldahl Nitrogen	110	108	107			0.904
	Kjeldahl Nitrogen	98.4	102	101			1.44
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5	98.5	98.0			0.509
	NO ₂ NO ₃ -N	100	98.5				0.222
	NO ₂ NO ₃ -N	100	100	100			0.0
	NO ₂ NO ₃ -N	100	98.6	98.1			0.487
EPA 365.1 Rev. 2.0	Total-P	104	98.8	99.5			0.691
	Total-P	106	106	102			2.14
	Total-P	104	104	104			0.149
	Total-P	106	106	105			0.958
SM 2320 B-97	Total Alkalinity	102				0.128	
	Total Alkalinity	103				0.0043	
	Total Alkalinity	102				0.105	
SM 2540 D-97	TSS					5.71	
	TSS					2.53	
SM 4500 F-C-97	Fluoride	97.9	99.2	99.9			0.464
	Fluoride	99.4	94.3	95.1			0.464
	Fluoride	99.9	98.2	98.2			0.0
SM 5310 B-00	Organic Carbon	99.4	95.8	95.1			0.685
	Organic Carbon	98.2	99.1	98.8			0.271

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2144578, 2144579, 2144580, 2144581, 2144582, 2144583, 2144584, 2144599, 2144602
EPA 300.0 / E31780	Bromide in aqueous matrices	2144578, 2144579, 2144580, 2144581, 2144582, 2144583, 2144584, 2144599, 2144602
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2144585, 2144586, 2144587, 2144588, 2144589, 2144590, 2144591, 2144600, 2144603
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2144585, 2144586, 2144587, 2144588, 2144589, 2144590, 2144591, 2144600, 2144603
EPA 351.2 Rev. 2.0 dissolved / E31780	Total Kjeldahl Nitrogen, dissolved, in filtered, aqueous matrices	2144592, 2144593, 2144594, 2144595, 2144596, 2144597, 2144598, 2144601, 2144604
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2144585, 2144586, 2144587, 2144588, 2144589, 2144590, 2144591, 2144600, 2144603

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2144585, 2144586, 2144587, 2144588, 2144589, 2144590, 2144591, 2144600, 2144603
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2144578, 2144579, 2144580, 2144581, 2144582, 2144583, 2144584, 2144599, 2144602
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2144578, 2144579, 2144580, 2144581, 2144582, 2144583, 2144584, 2144599, 2144602
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2144578, 2144579, 2144580, 2144581, 2144582, 2144583, 2144584, 2144599, 2144602
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2144585, 2144586, 2144587, 2144588, 2144589, 2144590, 2144591, 2144600, 2144603

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	12/17/2019			12/17/2019 17:24	Blanca Fach	2144578, 2144579, 2144580, 2144581, 2144582, 2144583, 2144584, 2144599, 2144602
EPA 300.0	12/17/2019			01/02/2020 20:08	Jhamieka S. Greenwood	2144584
	12/17/2019			01/02/2020 21:51	Jhamieka S. Greenwood	2144578
	12/17/2019			01/02/2020 22:08	Jhamieka S. Greenwood	2144579
	12/17/2019			01/02/2020 23:17	Jhamieka S. Greenwood	2144581
	12/17/2019			01/02/2020 23:34	Jhamieka S. Greenwood	2144582
	12/17/2019			01/02/2020 23:51	Jhamieka S. Greenwood	2144583
	12/17/2019			01/03/2020 00:08	Jhamieka S. Greenwood	2144599
	12/17/2019			01/03/2020 00:26	Jhamieka S. Greenwood	2144602
	12/17/2019			01/13/2020 22:00	Lipi Saha	2144580
EPA 350.1 Rev. 2.0	12/17/2019			12/23/2019 12:48	Ping Hua	2144585
	12/17/2019			12/23/2019 13:33	Ping Hua	2144591
	12/17/2019			12/23/2019 13:48	Ping Hua	2144600
	12/17/2019			12/23/2019 14:03	Ping Hua	2144586
	12/17/2019			12/23/2019 14:05	Ping Hua	2144587
	12/17/2019			12/23/2019 14:08	Ping Hua	2144589
	12/17/2019			12/23/2019 14:09	Ping Hua	2144590
	12/17/2019			12/23/2019 14:49	Ping Hua	2144603
	12/17/2019			12/23/2019 15:02	Ping Hua	2144588
EPA 351.2 Rev. 2.0	12/17/2019	12/18/2019 10:14	Sima Feizi	12/19/2019 18:40	Jhamieka S. Greenwood	2144591
	12/17/2019	12/18/2019 10:14	Sima Feizi	12/19/2019 18:44	Jhamieka S. Greenwood	2144600
	12/17/2019	12/18/2019 11:30	Sima Feizi	12/19/2019 15:24	Jhamieka S. Greenwood	2144585
	12/17/2019	12/18/2019 11:30	Sima Feizi	12/19/2019 15:25	Jhamieka S. Greenwood	2144586
	12/17/2019	12/18/2019 11:30	Sima Feizi	12/19/2019 15:27	Jhamieka S. Greenwood	2144587
	12/17/2019	12/18/2019 11:30	Sima Feizi	12/19/2019 15:32	Jhamieka S. Greenwood	2144588
	12/17/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:15	Jhamieka S. Greenwood	2144589
	12/17/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:17	Jhamieka S. Greenwood	2144590
	12/17/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:29	Jhamieka S. Greenwood	2144603
EPA 351.2 Rev. 2.0 dissolved	12/17/2019	12/18/2019 10:14	Sima Feizi	12/19/2019 16:00	Jhamieka S. Greenwood	2144601
	12/17/2019	12/18/2019 10:14	Sima Feizi	12/19/2019 18:42	Jhamieka S. Greenwood	2144598
	12/17/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:11	Jhamieka S. Greenwood	2144592
	12/17/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:18	Jhamieka S. Greenwood	2144593
	12/17/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:23	Jhamieka S. Greenwood	2144594
	12/17/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:25	Jhamieka S. Greenwood	2144595
	12/17/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:26	Jhamieka S. Greenwood	2144596
	12/17/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:28	Jhamieka S. Greenwood	2144597
	12/17/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:31	Jhamieka S. Greenwood	2144604
EPA 353.2 Rev. 2.0	12/17/2019			12/20/2019 11:44	Beverly Y. Sanders	2144591

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 353.2 Rev. 2.0	12/17/2019			12/20/2019 11:57	Beverly Y. Sanders	2144600
	12/17/2019			12/26/2019 10:34	Beverly Y. Sanders	2144586
	12/17/2019			12/26/2019 10:41	Beverly Y. Sanders	2144587
	12/17/2019			12/26/2019 10:47	Beverly Y. Sanders	2144585
	12/17/2019			12/26/2019 10:49	Beverly Y. Sanders	2144603
	12/17/2019			12/26/2019 10:50	Beverly Y. Sanders	2144588
	12/17/2019			12/26/2019 10:51	Beverly Y. Sanders	2144589
	12/17/2019			12/26/2019 10:52	Beverly Y. Sanders	2144590
	12/17/2019					
EPA 365.1 Rev. 2.0	12/17/2019	12/18/2019 14:20	Lipi Saha	12/19/2019 12:19	Benjamin T. Nordmann	2144591
	12/17/2019	12/18/2019 14:20	Lipi Saha	12/19/2019 16:21	Benjamin T. Nordmann	2144585
	12/17/2019	12/18/2019 14:20	Lipi Saha	12/19/2019 16:22	Benjamin T. Nordmann	2144586
	12/17/2019	12/18/2019 14:20	Lipi Saha	12/19/2019 16:23	Benjamin T. Nordmann	2144587
	12/17/2019	12/18/2019 14:20	Lipi Saha	12/19/2019 16:39	Benjamin T. Nordmann	2144600
	12/17/2019	12/18/2019 14:20	Lipi Saha	12/19/2019 16:55	Benjamin T. Nordmann	2144588
	12/17/2019	12/18/2019 14:20	Lipi Saha	12/19/2019 16:56	Benjamin T. Nordmann	2144589
	12/17/2019	12/18/2019 14:20	Lipi Saha	12/19/2019 16:57	Benjamin T. Nordmann	2144590
	12/17/2019	12/18/2019 14:20	Lipi Saha	12/19/2019 17:12	Benjamin T. Nordmann	2144603
SM 2320 B-97	12/17/2019			12/20/2019 22:28	Dale L. Simmons	2144583
	12/17/2019			12/21/2019 07:04	Dale L. Simmons	2144578
	12/17/2019			12/21/2019 07:16	Dale L. Simmons	2144579
	12/17/2019			12/21/2019 07:28	Dale L. Simmons	2144580
	12/17/2019			12/21/2019 07:40	Dale L. Simmons	2144581
	12/17/2019			12/21/2019 07:52	Dale L. Simmons	2144582
	12/17/2019			12/21/2019 08:04	Dale L. Simmons	2144602
	12/17/2019			12/24/2019 13:18	Dale L. Simmons	2144584
	12/17/2019			12/24/2019 13:32	Dale L. Simmons	2144599
SM 2540 D-97	12/17/2019			12/19/2019 14:11	Yijie Li	2144578, 2144579, 2144580, 2144581, 2144582, 2144583, 2144584, 2144599, 2144602
SM 4500 F-C-97	12/17/2019			01/07/2020 02:09	Dale L. Simmons	2144584
	12/17/2019			01/07/2020 02:17	Dale L. Simmons	2144599
	12/17/2019			12/20/2019 20:29	Dale L. Simmons	2144583
	12/17/2019			12/21/2019 02:29	Dale L. Simmons	2144578
	12/17/2019			12/21/2019 02:33	Dale L. Simmons	2144579
	12/17/2019			12/21/2019 02:38	Dale L. Simmons	2144580
	12/17/2019			12/21/2019 02:42	Dale L. Simmons	2144581
	12/17/2019			12/21/2019 02:46	Dale L. Simmons	2144582
	12/17/2019			12/21/2019 03:44	Dale L. Simmons	2144602
SM 5310 B-00	12/17/2019			12/23/2019 22:28	Madeline Funaro	2144590
	12/17/2019			12/23/2019 22:41	Madeline Funaro	2144591

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	12/17/2019			12/23/2019 22:54	Madeline Funaro	2144600
	12/17/2019			12/24/2019 08:51	Madeline Funaro	2144586
	12/17/2019			12/24/2019 09:30	Madeline Funaro	2144585
	12/17/2019			12/24/2019 09:42	Madeline Funaro	2144587
	12/17/2019			12/24/2019 10:07	Madeline Funaro	2144588
	12/17/2019			12/24/2019 10:45	Madeline Funaro	2144589
	12/17/2019			12/24/2019 10:57	Madeline Funaro	2144603