

Chemical Analysis Report

SO-DIST-2019-12-18-01

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

Event Description: **2019 SMP : KEYS**

Request ID: **RQ-2019-12-16-35**

Customer: **SO-DIST**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 15-JAN-2020 09:52

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

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: 8073@ENRG4 WofKeywest#2

Collection Date/Time: 12/17/2019 09:15

Field ID: G5SD0081

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144889	EPA 180.1 Rev. 2.0	Turbidity	8.7	A	NTU	P376122	
	EPA 300.0	Bromide	82		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P376366	
	SM 2540 D-97	TSS	6	I	mg/L	P376500	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P376369	
2144903	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P376352	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I	mg N/L	P376157	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376402	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P376436	
	SM 5310 B-00	Organic Carbon	1.3	I	mg C/L	P376384	
2144917	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376102	

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: 8073@ENRG4 WofKeywest#1

Collection Date/Time: 12/17/2019 09:30

Field ID: G5SD0063

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144890	EPA 180.1 Rev. 2.0	Turbidity	5.9		NTU	P376122	
	EPA 300.0	Bromide	76		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P376366	
	SM 2540 D-97	TSS	5	I	mg/L	P376500	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P376369	
2144904	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P376352	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30	I	mg N/L	P376157	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376402	
	EPA 365.1 Rev. 2.0	Total-P	0.009	I	mg P/L	P376436	
	SM 5310 B-00	Organic Carbon	1.2	I	mg C/L	P376384	
2144918	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376102	

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: 8073 @ENRG6 Out@Reef #2

Collection Date/Time: 12/17/2019 09:55

Field ID: G5SD0083

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144891	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P376122	
	EPA 300.0	Bromide	77		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	123		mg CaCO3/L	P376366	
	SM 2540 D-97	TSS	3	I	mg/L	P376500	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P376369	
2144905	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P376352	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23	I	mg N/L	P376157	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376402	
	EPA 365.1 Rev. 2.0	Total-P	0.006	I	mg P/L	P376436	
	SM 5310 B-00	Organic Carbon	1.0	U	mg C/L	P376384	
2144919	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376102	

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: 8073 @ENRG6 Out@Reef #1

Collection Date/Time: 12/17/2019 10:05

Field ID: G5SD0064

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144892	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P376122	
	EPA 300.0	Bromide	77		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	124	A	mg CaCO3/L	P376366	
	SM 2540 D-97	TSS	3	I	mg/L	P376500	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P376369	
2144906	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P376353	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.20	I	mg N/L	P376157	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376402	
	EPA 365.1 Rev. 2.0	Total-P	0.006	I	mg P/L	P376436	
	SM 5310 B-00	Organic Carbon	1.0	U	mg C/L	P376384	
2144920	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376102	

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: 8079 @ENRG6 Out@Reef#1

Collection Date/Time: 12/17/2019 10:50

Field ID: G5SD0068

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144893	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P376122	
	EPA 300.0	Bromide	76		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	123		mg CaCO3/L	P376366	
	SM 2540 D-97	TSS	3	U	mg/L	P376500	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P376369	
2144907	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P376353	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34	I	mg N/L	P376157	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376402	
	EPA 365.1 Rev. 2.0	Total-P	0.006	I	mg P/L	P376436	
	SM 5310 B-00	Organic Carbon	1.0	U	mg C/L	P376384	
2144921	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376102	

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: 8079 @ENRG6 Out@Reef#2

Collection Date/Time: 12/17/2019 11:05

Field ID: G5SD0085

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144894	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P376122	
	EPA 300.0	Bromide	77		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	123		mg CaCO3/L	P376366	
	SM 2540 D-97	TSS	3	I	mg/L	P376501	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P376369	
2144908	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P376353	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24	I	mg N/L	P376157	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376402	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P376436	
	SM 5310 B-00	Organic Carbon	1.0	U	mg C/L	P376384	
2144922	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376102	

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: 8079 @ENRG3 StockIsland

Collection Date/Time: 12/17/2019 11:20

Field ID: G5SD0067

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144895	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P376122	
	EPA 300.0	Bromide	79		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P376366	
	SM 2540 D-97	TSS	4	I	mg/L	P376501	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P376369	
2144909	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P376353	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31	I	mg N/L	P376158	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376402	
	EPA 365.1 Rev. 2.0	Total-P	0.006	I	mg P/L	P376436	
	SM 5310 B-00	Organic Carbon	1.2	I	mg C/L	P376384	
2144923	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376102	

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: 8079 @ENRG3 Nearshore#2

Collection Date/Time: 12/17/2019 11:35

Field ID: G5SD0084

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144896	EPA 180.1 Rev. 2.0	Turbidity	4.4		NTU	P376122	
	EPA 300.0	Bromide	77		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	120		mg CaCO3/L	P376365	
	SM 2540 D-97	TSS	4	I	mg/L	P376501	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P376368	
2144910	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P376353	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.29	I	mg N/L	P376158	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376402	
	EPA 365.1 Rev. 2.0	Total-P	0.008	I	mg P/L	P376436	
	SM 5310 B-00	Organic Carbon	1.4	I	mg C/L	P376384	
2144924	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376102	

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: 8073#1 S of Ft. Zach

Collection Date/Time: 12/17/2019 11:55

Field ID: G5SD0062

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144897	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P376122	
	EPA 300.0	Bromide	78		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	122		mg CaCO3/L	P376365	
	SM 2540 D-97	TSS	3	I	mg/L	P376501	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P376368	
2144911	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P376353	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I	mg N/L	P376158	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376402	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P376436	
	SM 5310 B-00	Organic Carbon	1.1	I	mg C/L	P376384	
2144925	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376102	

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: 8073#2 S of FtZachENRG3

Collection Date/Time: 12/17/2019 12:05

Field ID: G5SD0095

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144898	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P376122	
	EPA 300.0	Bromide	78		mg Br/L	P376633	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P376365	
	SM 2540 D-97	TSS	4	I	mg/L	P376501	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P376368	
2144912	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P376353	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28	I	mg N/L	P376158	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376402	
	EPA 365.1 Rev. 2.0	Total-P	0.006	I	mg P/L	P376436	
	SM 5310 B-00	Organic Carbon	1.0	I	mg C/L	P376572	
2144926	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376102	

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: 8073 @ENRG2 Bayside #2

Collection Date/Time: 12/17/2019 12:40

Field ID: G5SD0082

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144899	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P376123	
	EPA 300.0	Bromide	82		mg Br/L	P376633	
	SM 2320 B-97	Total Alkalinity	120		mg CaCO3/L	P376365	
	SM 2540 D-97	TSS	4	I	mg/L	P376501	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P376368	
2144913	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P376353	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27	I	mg N/L	P376158	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376403	
	EPA 365.1 Rev. 2.0	Total-P	0.006	I	mg P/L	P376437	
	SM 5310 B-00	Organic Carbon	1.0	I	mg C/L	P376572	
2144927	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376103	

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: 8073 @ENRG2 Bayside #1

Collection Date/Time: 12/17/2019 12:50

Field ID: G5SD0065

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144900	EPA 180.1 Rev. 2.0	Turbidity	0.50		NTU	P376123	
	EPA 300.0	Bromide	80		mg Br/L	P376633	
	SM 2320 B-97	Total Alkalinity	119		mg CaCO3/L	P376365	
	SM 2540 D-97	TSS	3	U	mg/L	P376501	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P376368	
2144914	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P376353	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28	I	mg N/L	P376158	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376403	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P376437	
	SM 5310 B-00	Organic Carbon	1.0	U	mg C/L	P376572	
2144928	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376103	

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: 8073 @ENRG1 Dredgers#2

Collection Date/Time: 12/17/2019 14:36

Field ID: G5SD0096

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144901	EPA 180.1 Rev. 2.0	Turbidity	0.95		NTU	P376123	
	EPA 300.0	Bromide	82		mg Br/L	P376633	
	SM 2320 B-97	Total Alkalinity	118		mg CaCO3/L	P376365	
	SM 2540 D-97	TSS	3	U	mg/L	P376501	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P376368	
2144915	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P376353	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39	I	mg N/L	P376158	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376403	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P376437	
	SM 5310 B-00	Organic Carbon	1.7	I	mg C/L	P376572	
2144929	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376103	

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: 8073 @ENRG1 DredgersKey

Collection Date/Time: 12/17/2019 14:40

Field ID: G5SD0066

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144902	EPA 180.1 Rev. 2.0	Turbidity	0.90		NTU	P376123	
	EPA 300.0	Bromide	75		mg Br/L	P377010	
	SM 2320 B-97	Total Alkalinity	118		mg CaCO3/L	P376365	
	SM 2540 D-97	TSS	3	IA	mg/L	P376501	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P376368	
2144916	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P376466	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36	I	mg N/L	P376158	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P376403	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P376437	
	SM 5310 B-00	Organic Carbon	1.8	I	mg C/L	P376572	
2144930	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P376103	

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: P376122

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P376123

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: P376633

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: P376352

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376353

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376466

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376157

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: P376158

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376402

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376403

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376436

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376437

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376102

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376103

Component	Result	Code	Units
O-Phosphate-P	0.004	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

Quality Assurance Report

Method Blank Results

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

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P376501

Component	Result	Code	Units
TSS	3	U	mg/L

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 5310 B-00
Batch ID: P376384

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

Reference Method: SM 5310 B-00
Batch ID: P376572

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: P376633

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	107		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: P376352

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: P376353

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376466

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: P376157

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: P376158

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376402

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376403

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376436

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376437

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376102

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376103

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

Quality Assurance Report Laboratory Control Sample Accuracy

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

Reference Method: SM 5310 B-00
Batch ID: P376572

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		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: P376633

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145253	Bromide	102	104	P/P	90 - 110
2146158	Bromide	103		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: P376352

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376353

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144906	Ammonia-N	104	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144916	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376157

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144906	Kjeldahl Nitrogen	96.4	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376158

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144912	Kjeldahl Nitrogen	102	99.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376402

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144909	NO2NO3-N	102	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376403

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144913	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376436

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144903	Total-P	104	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376437

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144913	Total-P	96.6	93.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376102

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144917	O-Phosphate-P	95.3	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376103

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144927	O-Phosphate-P	99.9	95.7	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 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

Reference Method: SM 5310 B-00
Batch ID: P376572

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145860	Organic Carbon	101	99.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P376122

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144889	Turbidity	6.81	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P376123

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144809	Turbidity	6.60	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: P376633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145253	Bromide	1.42	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: 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 350.1 Rev. 2.0
Batch ID: P376353

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144906	Ammonia-N	0.289	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144916	Ammonia-N	1.24	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376157

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144906	Kjeldahl Nitrogen	2.82	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144912	Kjeldahl Nitrogen	2.39	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144909	NO2NO3-N	0.494	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144913	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376436

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144903	Total-P	4.54	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376437

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144913	Total-P	3.40	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144917	O-Phosphate-P	1.15	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376103

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144927	O-Phosphate-P	4.29	Spike	P	0 - 20

Quality Assurance Report Precision

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 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 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

Reference Method: SM 5310 B-00
Batch ID: P376572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145860	Organic Carbon	1.10	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A96435

Included Lab Sample IDs: 2144917, 2144918, 2144919, 2144920, 2144921, 2144922, 2144923, 2144924, 2144925, 2144926, 2144927, 2144928, 2144929, 2144930

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.4	98.0	P/P	90 - 110
O-Phosphate-P	98.0	98.8	P/P	90 - 110
O-Phosphate-P	98.5	97.3	P/P	90 - 110
O-Phosphate-P	98.8	98.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A96446

Included Lab Sample IDs: 2144889, 2144890, 2144891, 2144892, 2144893, 2144894, 2144895, 2144896, 2144897, 2144898, 2144899, 2144900, 2144901, 2144902

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A96549

Included Lab Sample IDs: 2144903, 2144904, 2144905, 2144906, 2144907, 2144908, 2144909, 2144910, 2144911, 2144912, 2144913, 2144914, 2144915

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96553

Included Lab Sample IDs: 2144903, 2144904, 2144905, 2144906, 2144907, 2144908, 2144909, 2144910, 2144911, 2144912, 2144913, 2144914, 2144915, 2144916

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

Reference Method: SM 2320 B-97

Run ID: A96556

Included Lab Sample IDs: 2144889, 2144890, 2144891, 2144892, 2144893, 2144894, 2144895, 2144896, 2144897, 2144898, 2144899, 2144900, 2144901, 2144902

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
Total Alkalinity	102	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A96556

Included Lab Sample IDs: 2144889, 2144890, 2144891, 2144892, 2144893, 2144894, 2144895, 2144896, 2144897, 2144898, 2144899, 2144900, 2144901, 2144902

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

Reference Method: SM 5310 B-00

Run ID: A96560

Included Lab Sample IDs: 2144903, 2144904, 2144905, 2144906, 2144907, 2144908, 2144909, 2144910, 2144911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.2	98.2	P/P	90 - 110
Organic Carbon	98.2	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A96568

Included Lab Sample IDs: 2144903, 2144904, 2144905, 2144906, 2144907, 2144908, 2144909, 2144910, 2144911, 2144912, 2144913, 2144914, 2144915, 2144916

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: A96586

Included Lab Sample IDs: 2144916

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

Reference Method: SM 5310 B-00

Run ID: A96639

Included Lab Sample IDs: 2144912, 2144913, 2144914, 2144915, 2144916

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96645

Included Lab Sample IDs: 2144903, 2144904, 2144905, 2144906, 2144907, 2144908, 2144909, 2144910, 2144911, 2144912, 2144913, 2144914, 2144915, 2144916

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	99.5	P/P	90 - 110
Total-P	99.8	98.5	P/P	90 - 110

Reference Method: EPA 300.0

Run ID: A96678

Included Lab Sample IDs: 2144889, 2144890, 2144891, 2144892, 2144893, 2144894, 2144895, 2144896, 2144897, 2144898, 2144899, 2144900, 2144901

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	103	109	P/P	90 - 110
Bromide	109	107	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0

Run ID: A96678

Included Lab Sample IDs: 2144889, 2144890, 2144891, 2144892, 2144893, 2144894, 2144895, 2144896, 2144897, 2144898, 2144899, 2144900, 2144901

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

Reference Method: EPA 300.0

Run ID: A96846

Included Lab Sample IDs: 2144902

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			Precision LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						6.81	
	Turbidity						6.60	
EPA 300.0	Bromide	102	101	101				0.513
	Bromide	107	102	104	103			1.42
	Bromide	102	101	101	99.3			0.378
EPA 350.1 Rev. 2.0	Ammonia-N	100	106	105				1.10
	Ammonia-N	99.3	104	104				0.289
	Ammonia-N	100	103	104				1.24
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.4	96.4	99.4				2.82
	Kjeldahl Nitrogen	107	102	99.2				2.39
EPA 353.2 Rev. 2.0	NO2NO3-N	101	102	101				0.494
	NO2NO3-N	102	102	102				0.0
EPA 365.1 Rev. 2.0	Total-P	110	104	99.6				4.54
	Total-P	105	96.6	93.4				3.40
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.0	95.3	96.4				1.15
	O-Phosphate-P	101	99.9	95.7				4.29
SM 2320 B-97	Total Alkalinity	102					0.128	
	Total Alkalinity	103					0.0043	
SM 2540 D-97	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
SM 5310 B-00	Organic Carbon	98.2	99.1	98.8				0.271
	Organic Carbon	102	101	99.7				1.10

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2144889, 2144890, 2144891, 2144892, 2144893, 2144894, 2144895, 2144896, 2144897, 2144898, 2144899, 2144900, 2144901, 2144902
EPA 300.0 / E31780	Bromide in aqueous matrices	2144889, 2144890, 2144891, 2144892, 2144893, 2144894, 2144895, 2144896, 2144897, 2144898, 2144899, 2144900, 2144901, 2144902
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2144903, 2144904, 2144905, 2144906, 2144907, 2144908, 2144909, 2144910, 2144911, 2144912, 2144913, 2144914, 2144915, 2144916
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2144903, 2144904, 2144905, 2144906, 2144907, 2144908, 2144909, 2144910, 2144911, 2144912, 2144913, 2144914, 2144915, 2144916
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2144903, 2144904, 2144905, 2144906, 2144907, 2144908, 2144909, 2144910, 2144911, 2144912, 2144913, 2144914, 2144915, 2144916
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2144903, 2144904, 2144905, 2144906, 2144907, 2144908, 2144909, 2144910, 2144911, 2144912, 2144913, 2144914, 2144915, 2144916
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2144917, 2144918, 2144919, 2144920, 2144921, 2144922, 2144923, 2144924, 2144925, 2144926, 2144927, 2144928, 2144929, 2144930

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2144889, 2144890, 2144891, 2144892, 2144893, 2144894, 2144895, 2144896, 2144897, 2144898, 2144899, 2144900, 2144901, 2144902
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2144889, 2144890, 2144891, 2144892, 2144893, 2144894, 2144895, 2144896, 2144897, 2144898, 2144899, 2144900, 2144901, 2144902
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2144889, 2144890, 2144891, 2144892, 2144893, 2144894, 2144895, 2144896, 2144897, 2144898, 2144899, 2144900, 2144901, 2144902
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2144903, 2144904, 2144905, 2144906, 2144907, 2144908, 2144909, 2144910, 2144911, 2144912, 2144913, 2144914, 2144915, 2144916

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	12/18/2019			12/18/2019 16:50	Blanca Fach	2144889, 2144890, 2144891, 2144892, 2144893, 2144894, 2144895, 2144896, 2144897, 2144898, 2144899, 2144900, 2144901, 2144902
EPA 300.0	12/18/2019			01/03/2020 01:00	Jhamieka S. Greenwood	2144890
	12/18/2019			01/03/2020 01:17	Jhamieka S. Greenwood	2144891
	12/18/2019			01/03/2020 01:34	Jhamieka S. Greenwood	2144892
	12/18/2019			01/03/2020 01:51	Jhamieka S. Greenwood	2144893
	12/18/2019			01/03/2020 02:43	Jhamieka S. Greenwood	2144894
	12/18/2019			01/03/2020 03:00	Jhamieka S. Greenwood	2144895
	12/18/2019			01/03/2020 03:17	Jhamieka S. Greenwood	2144896
	12/18/2019			01/03/2020 03:34	Jhamieka S. Greenwood	2144897
	12/18/2019			01/03/2020 18:15	Jhamieka S. Greenwood	2144889
	12/18/2019			01/03/2020 20:50	Jhamieka S. Greenwood	2144898
	12/18/2019			01/03/2020 21:07	Jhamieka S. Greenwood	2144899
	12/18/2019			01/03/2020 21:24	Jhamieka S. Greenwood	2144900
	12/18/2019			01/03/2020 21:41	Jhamieka S. Greenwood	2144901
	12/18/2019			01/13/2020 22:17	Lipi Saha	2144902
EPA 350.1 Rev. 2.0	12/18/2019			12/23/2019 13:53	Ping Hua	2144903
	12/18/2019			12/23/2019 14:12	Ping Hua	2144904
	12/18/2019			12/23/2019 14:20	Ping Hua	2144905
	12/18/2019			12/23/2019 14:24	Ping Hua	2144906
	12/18/2019			12/23/2019 14:29	Ping Hua	2144907
	12/18/2019			12/23/2019 14:30	Ping Hua	2144908
	12/18/2019			12/23/2019 14:32	Ping Hua	2144909
	12/18/2019			12/23/2019 14:39	Ping Hua	2144910
	12/18/2019			12/23/2019 14:41	Ping Hua	2144911
	12/18/2019			12/23/2019 14:42	Ping Hua	2144912
	12/18/2019			12/23/2019 14:44	Ping Hua	2144913
	12/18/2019			12/23/2019 14:46	Ping Hua	2144914
	12/18/2019			12/23/2019 14:47	Ping Hua	2144915
	12/18/2019			12/26/2019 17:42	Ping Hua	2144916
EPA 351.2 Rev. 2.0	12/18/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:35	Jhamieka S. Greenwood	2144906
	12/18/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:49	Jhamieka S. Greenwood	2144903
	12/18/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:51	Jhamieka S. Greenwood	2144904
	12/18/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:52	Jhamieka S. Greenwood	2144905
	12/18/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:54	Jhamieka S. Greenwood	2144907
	12/18/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 16:56	Jhamieka S. Greenwood	2144908
	12/18/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 17:03	Jhamieka S. Greenwood	2144912
	12/18/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 17:08	Jhamieka S. Greenwood	2144909

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 351.2 Rev. 2.0	12/18/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 17:10	Jhamieka S. Greenwood	2144910
	12/18/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 17:11	Jhamieka S. Greenwood	2144911
	12/18/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 17:13	Jhamieka S. Greenwood	2144913
	12/18/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 17:14	Jhamieka S. Greenwood	2144914
	12/18/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 17:19	Jhamieka S. Greenwood	2144915
	12/18/2019	12/19/2019 11:18	Sima Feizi	12/20/2019 17:21	Jhamieka S. Greenwood	2144916
EPA 353.2 Rev. 2.0	12/18/2019			12/26/2019 11:04	Beverly Y. Sanders	2144909
	12/18/2019			12/26/2019 11:10	Beverly Y. Sanders	2144903
	12/18/2019			12/26/2019 11:11	Beverly Y. Sanders	2144904
	12/18/2019			12/26/2019 11:12	Beverly Y. Sanders	2144905
	12/18/2019			12/26/2019 11:13	Beverly Y. Sanders	2144906
	12/18/2019			12/26/2019 11:15	Beverly Y. Sanders	2144907
	12/18/2019			12/26/2019 11:16	Beverly Y. Sanders	2144908
	12/18/2019			12/26/2019 11:17	Beverly Y. Sanders	2144910
	12/18/2019			12/26/2019 11:18	Beverly Y. Sanders	2144911
	12/18/2019			12/26/2019 11:19	Beverly Y. Sanders	2144912
	12/18/2019			12/26/2019 11:26	Beverly Y. Sanders	2144913
	12/18/2019			12/26/2019 11:32	Beverly Y. Sanders	2144914
	12/18/2019			12/26/2019 11:34	Beverly Y. Sanders	2144915
	12/18/2019			12/26/2019 11:35	Beverly Y. Sanders	2144916
EPA 365.1 Rev. 2.0	12/18/2019	12/26/2019 15:49	Yen Ta	12/30/2019 15:34	Benjamin T. Nordmann	2144903
	12/18/2019	12/26/2019 15:49	Yen Ta	12/30/2019 15:35	Benjamin T. Nordmann	2144904
	12/18/2019	12/26/2019 15:49	Yen Ta	12/30/2019 15:36	Benjamin T. Nordmann	2144905
	12/18/2019	12/26/2019 15:49	Yen Ta	12/30/2019 15:37	Benjamin T. Nordmann	2144906
	12/18/2019	12/26/2019 15:49	Yen Ta	12/30/2019 15:38	Benjamin T. Nordmann	2144907
	12/18/2019	12/26/2019 15:49	Yen Ta	12/30/2019 15:39	Benjamin T. Nordmann	2144908
	12/18/2019	12/26/2019 15:49	Yen Ta	12/30/2019 15:40	Benjamin T. Nordmann	2144909
	12/18/2019	12/26/2019 15:49	Yen Ta	12/30/2019 15:41	Benjamin T. Nordmann	2144910
	12/18/2019	12/26/2019 15:49	Yen Ta	12/30/2019 15:42	Benjamin T. Nordmann	2144911
	12/18/2019	12/26/2019 15:49	Yen Ta	12/30/2019 15:43	Benjamin T. Nordmann	2144912
	12/18/2019	12/26/2019 15:49	Yen Ta	12/30/2019 15:51	Benjamin T. Nordmann	2144913
	12/18/2019	12/26/2019 15:49	Yen Ta	12/30/2019 15:52	Benjamin T. Nordmann	2144914
	12/18/2019	12/26/2019 15:49	Yen Ta	12/30/2019 15:53	Benjamin T. Nordmann	2144915
	12/18/2019	12/26/2019 15:49	Yen Ta	12/30/2019 15:54	Benjamin T. Nordmann	2144916
EPA 365.1 Rev. 2.0 dissolved	12/18/2019			12/18/2019 15:03	Samantha Davila	2144917
	12/18/2019			12/18/2019 15:07	Samantha Davila	2144927
	12/18/2019			12/18/2019 15:19	Samantha Davila	2144918, 2144919
	12/18/2019			12/18/2019 15:20	Samantha Davila	2144920
	12/18/2019			12/18/2019 15:22	Samantha Davila	2144922
	12/18/2019			12/18/2019 15:27	Samantha Davila	2144924

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 dissolved	12/18/2019			12/18/2019 15:28	Samantha Davila	2144925
	12/18/2019			12/18/2019 15:29	Samantha Davila	2144926
	12/18/2019			12/18/2019 15:30	Samantha Davila	2144928, 2144929
	12/18/2019			12/18/2019 15:31	Samantha Davila	2144930
	12/18/2019			12/18/2019 15:33	Samantha Davila	2144923
	12/18/2019			12/18/2019 15:41	Samantha Davila	2144921
SM 2320 B-97	12/18/2019			12/20/2019 22:41	Dale L. Simmons	2144896
	12/18/2019			12/20/2019 22:54	Dale L. Simmons	2144897
	12/18/2019			12/20/2019 23:06	Dale L. Simmons	2144898
	12/18/2019			12/20/2019 23:17	Dale L. Simmons	2144899
	12/18/2019			12/20/2019 23:29	Dale L. Simmons	2144900
	12/18/2019			12/20/2019 23:41	Dale L. Simmons	2144901
	12/18/2019			12/20/2019 23:53	Dale L. Simmons	2144902
	12/18/2019			12/21/2019 04:30	Dale L. Simmons	2144892
	12/18/2019			12/21/2019 08:16	Dale L. Simmons	2144889
	12/18/2019			12/21/2019 08:28	Dale L. Simmons	2144890
	12/18/2019			12/21/2019 08:41	Dale L. Simmons	2144891
	12/18/2019			12/21/2019 08:53	Dale L. Simmons	2144893
	12/18/2019			12/21/2019 09:05	Dale L. Simmons	2144894
	12/18/2019			12/21/2019 09:17	Dale L. Simmons	2144895
SM 2540 D-97	12/18/2019			12/19/2019 14:11	Yijie Li	2144889, 2144890, 2144891, 2144892, 2144893, 2144894, 2144895, 2144896, 2144897, 2144898, 2144899, 2144900, 2144901, 2144902
SM 4500 F-C-97	12/18/2019			12/20/2019 20:40	Dale L. Simmons	2144896
	12/18/2019			12/20/2019 20:45	Dale L. Simmons	2144897
	12/18/2019			12/20/2019 20:49	Dale L. Simmons	2144898
	12/18/2019			12/20/2019 20:53	Dale L. Simmons	2144899
	12/18/2019			12/20/2019 20:57	Dale L. Simmons	2144900
	12/18/2019			12/20/2019 21:02	Dale L. Simmons	2144901
	12/18/2019			12/20/2019 21:06	Dale L. Simmons	2144902
	12/18/2019			12/21/2019 01:48	Dale L. Simmons	2144892
	12/18/2019			12/21/2019 03:48	Dale L. Simmons	2144889
	12/18/2019			12/21/2019 03:52	Dale L. Simmons	2144890
	12/18/2019			12/21/2019 03:56	Dale L. Simmons	2144891
	12/18/2019			12/21/2019 04:00	Dale L. Simmons	2144893
	12/18/2019			12/21/2019 04:04	Dale L. Simmons	2144894
	12/18/2019			12/21/2019 04:08	Dale L. Simmons	2144895
SM 5310 B-00	12/18/2019			12/24/2019 11:09	Madeline Funaro	2144903
	12/18/2019			12/24/2019 11:22	Madeline Funaro	2144904

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	12/18/2019			12/24/2019 11:46	Madeline Funaro	2144905
	12/18/2019			12/24/2019 11:58	Madeline Funaro	2144906
	12/18/2019			12/24/2019 12:10	Madeline Funaro	2144907
	12/18/2019			12/24/2019 12:23	Madeline Funaro	2144908
	12/18/2019			12/24/2019 12:35	Madeline Funaro	2144909
	12/18/2019			12/24/2019 13:25	Madeline Funaro	2144910
	12/18/2019			12/24/2019 13:37	Madeline Funaro	2144911
	12/18/2019			12/31/2019 01:29	Madeline Funaro	2144912
	12/18/2019			12/31/2019 01:53	Madeline Funaro	2144913
	12/18/2019			12/31/2019 02:05	Madeline Funaro	2144914
	12/18/2019			12/31/2019 02:18	Madeline Funaro	2144915
	12/18/2019			12/31/2019 02:30	Madeline Funaro	2144916